

# **THE SYMPTOM INVENTORIES: AN ANNOTATED BIBLIOGRAPHY**

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## 2 ANNOTATED BIBLIOGRAPHY

### YEAR: 2020

- 20-1. Amoss, R.T., Leong, T., Evans, A.N., Ousley, O., Herrington, J.D., Lecavalier, L., Goodwin, M.S., Hofmann, S.G. & Scahill, L. (2020). A pilot study of cardiovascular reactivity in children with autism spectrum disorder. *Seminars in Pediatric Neurology*, 34. Article Number: UNSP 100807. DOI: 10.1016/j.spen.2020.100807

In preparation for a larger case-control study of children with autism spectrum disorder (ASD) and anxiety, we conducted a pilot study using a noninvasive electrocardiographic device to measure cardiovascular reactivity in 10 children (age range 9-14) with ASD. The 45-minute procedure included 6 conditions: baseline rest, an interview about school, interim rest, an unfair computerized ball-toss game followed by a fair version of the game, and a final rest. Data were successfully collected for 95% of all conditions. Omnibus Skillings-Mack tests suggested that heart rate variability variables including mean heart rate, mean RR interval, and root mean square of successive differences showed statistically significant variation across conditions. The procedure appears feasible and may be an informative biomarker of anxiety in ASD. [**Child and Adolescent Symptom Inventory-4R**].

- 20-2. Baez, A.C., Dajani, D.R., Voorhies, W., Parlade, M.V., Alessandri, M., Britton, J.C., Llabre, M.M., & Uddin, L.Q. (2020). Parsing heterogeneity of executive function in typically and atypically developing children: a conceptual replication and exploration of social function. *Journal of Autism and Developmental Disorders*, 50(3), 707-718. DOI: 10.1007/s10803-019-04290-9

Executive function (EF), the set of cognitive processes that govern goal-directed behavior, varies within developmental samples and clinical populations. Here, we perform a conceptual replication of prior work (Dajani et al. in *Sci Rep* 6:36566, 2016) in an independent sample of typically developing children (n = 183) and children with autism spectrum disorder (n = 104). Consistent with previous work, the latent profile analysis of parent-report EF measures provided evidence for three EF classes, which exhibited differential proportions of diagnostic groups. Additionally, children in the impaired EF group exhibited greater levels of social impairment. These results highlight the heterogeneity of EF ability among clinical and non-clinical populations and the link between EF and social abilities. [**Child and Adolescent Symptom Inventory-4R**]

- 20-3. Birungi, C., Ssembajjwe, W., Salisbury, T.T., Levin, J., Nakasujja, N., Mpango, R.S., Abbo, C., Seedat, S., Araya, R., Musisi, S., Gadow, K.D., Patel, V., & Kinyanda, E. (2020). Substance use among HIV-infected adolescents in Uganda: Rates and association with potential risks and outcome factors. *AIDS Care-Psychological and Socio-Medical Aspects of AIDS/HIV*. Early Access: JAN 2020. doi: 10.1080/09540121.2020.1717419

This article sets out to investigate alcohol and substance use (ASU) among adolescents living with HIV (ALWH) in the sub-Saharan African setting of Uganda. A cross-sectional analysis of the records of 479 adolescents (aged between 12 and 17 years) attending the study, "Mental health among HIV infected Children and Adolescents in Kampala and Masaka, Uganda (the CHAKA study)" was undertaken. ASU was assessed through both youth self-report and caregiver report using the Diagnostic and Statistical Manual of Mental Disorders-5 referenced instruments, the *Youth Inventory-4R* and the *Child and Adolescent Symptom Inventory-5* (CASI-5). Rates and association with potential risk and outcome factors were investigated using logistic regression models. The rate of ASU was 29/484 (5.9%) with the most frequently reported ASU being alcohol 22/484 (4.3%) and marijuana 10/484 (2.1%). Functional impairment secondary to ASU was reported by 10/484 (2.1%) of the youth. ASU was significantly associated with urban residence, caregiver psychological distress and the psychiatric diagnosis of post-traumatic stress disorder. On associations with negative outcomes, ASU was significantly associated with only "ever had sex". Health care for ALWH in sub-Saharan Africa should include ASU prevention and management strategies. [**Child and Adolescent Symptom Inventory-5; Youth's (Self-Report) Inventory-4R**, Luganda translation]

- 20-4. Bitsika, V., & Sharpley, C.F. (2020). Self- vs parent reports of generalised anxiety disorder symptomatology in mildly impaired girls with an autism spectrum disorder. *Journal of Autism and Developmental Disorders*, 50(3), 1045-1055. DOI: 10.1007/s10803-019-04339-9.

Previous data have suggested that parents of boys with autism spectrum disorder (ASD) may rate their sons' generalised anxiety disorder (GAD) more severely than the boys do themselves. However, no reports have been published to date which examine this issue in a girls-only sample. This study investigated the extent and nature of mother-daughter agreement on ratings of GAD in a sample of 53 girls with an ASD with mild impairment, aged 6 to 17 years. Mothers rated their daughters' GAD more severely than the girls did themselves, despite confounding effects from the girls' medication and menarche status. Suggestions are made for the valid assessment of GAD in girls with an ASD. [**Child and Adolescent Symptom Inventory-4R; Youth's (Self-Report) Inventory-4**]

20-5. Bitsika, V., Heyne, D.A., & Sharpley, C.F. (2020). Is bullying associated with emerging school refusal in autistic boys? *Journal of Autism and Developmental Disorders*, Early Access: JUL 2020, DOI: 10.1007/s10803-020-04610-4

The experience of being bullied is widespread among autistic youth. Relatively little empirical work has been done on the relationship between the bullying of these youth and school refusal (SR). This study of 67 school-age autistic boys (M = 11.7 years, SD = 2.3 years) examined several factors that may contribute to SR. Data regarding boys' age, generalised anxiety disorder (GAD), major depressive disorder (MDD), key ASD diagnostic criteria, and frequency of being bullied were collected. Results indicated that, while boys displaying emerging SR also had significantly higher GAD and MDD than boys without emerging SR, only the frequency of being bullied made a significant contribution to emerging SR. Implications for prevention and treatment of SR among autistic youth are discussed. [**Child and Adolescent Symptom Inventory-4**]

20-6. Bitsika, V., Arnold, W.A., & Sharpley, C.F. (2020). The role of sensory features in mediating associations between autism symptoms and anxiety in boys with autism spectrum disorder. *Journal of Autism and Developmental Disorders*, 50, 7, 2464-2474. DOI: 10.1007/s10803-019-03917-1

To investigate possible correlates of generalised anxiety disorder (GAD) in young males with ASD, a test of the mediation effects of sensory features (SF) upon the association between ASD symptoms and GAD was conducted with 150 males aged 6 to 18 years. GAD data were obtained from parents of the boys and from the boys themselves; SF and ASD data were obtained from parents. Symptoms of ASD were found to influence elevated levels of parent-rated GAD indirectly through greater levels of sensory avoiding, and auditory-specific sensory behaviours correlated with parent-rated anxiety more strongly than other sensory modalities. There were no significant effects for the boys' self-rated GAD. [**Child and Adolescent Symptom Inventory-4R, Youth's (Self-Report) Inventory-4**]

20-7. Boldt, L.J., Goffin, K.C., & Kochanska, G. (2020). The significance of early parent-child attachment for emerging regulation: a longitudinal investigation of processes and mechanisms from toddler age to preadolescence. *Developmental Psychology*, 56(3), 431-443. DOI: 10.1037/dev0000862

Eisenberg, Cumberland, and Spinrad (1998; Eisenberg, Spinrad, & Cumberland, 1998) included parent-child attachment as a key dimension of the early emotion socialization environment. We examined processes linking children's early attachment with social regulation and adjustment in preadolescence in 102 community mothers, fathers, and children. Security of attachment, assessed at 2 years, using observers' Attachment Q-Set (Waters, 1987), was posited as a significant, although indirect, predictor of children's adaptive social regulation at 10 and 12 years. We proposed that security initiated paths to future social regulation by promoting children's capacities for emotion regulation in response to frustration at 3, 4.5, and 5.5 years: having to suppress a desired behavior, observed in delay tasks, to regulate anger, observed in parent-child control contexts, and a traitlike tendency to regulate anger when frustrated, rated by parents. We conceptualized adaptive social regulation at 10 and 12 years as encompassing regulation of negative emotional tone, observed in diverse parent-child interactions, parent-rated regulation of negativity in broad social interactions, and child-reported internalization of adults' values and standards of conduct. Multiple-mediation analyses documented two paths parallel for mother- and father-child relationships: From security to emotion regulation in delay tasks to internalization of adults' values, and from security to parent-rated traitlike regulation of anger to parent-rated regulation of negativity in broad social interactions. Two additional paths were present for mothers and children only. [**Child Symptom Inventory-4, Adolescent Symptom Inventory-4**]

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- 20-8. Braaten, E.B., Ward, A.K., Forchelli, G., Vuijk, P.J., Cook, N.E., McGuinness, P., Lee, B.A., Samkavitz, A., Lind, H., O'Keefe, S.M., et al. (2020). Characteristics of child psychiatric outpatients with slow processing speed and potential mechanisms of academic impact. *European Child & Adolescent Psychiatry*. Early Access: JAN 2020. DOI: 10.1007/s00787-019-01455-w

While slow processing speed (PS) is well documented in youth with ADHD, growing evidence suggests that this difficulty affects children with other neuropsychiatric conditions. Clarifying the relationship between slow PS and different forms of psychopathology is important clinically, given the potential impact of PS on academic functioning, and conceptually. In 751 youth, ages 6-21, consecutively referred for neuropsychiatric evaluation, we examined the association between slow PS (i.e., Wechsler PS Index < 85) and seven neuropsychiatric diagnostic groups. In 492 of these youth, we also related slow PS to eight psychopathology symptom dimensions. Finally, we modeled the relationship between PS, other cognitive functions and academic achievement. Data are from the Longitudinal Study of Genetic Influences on Cognition. Analyses included one-sample t tests, ANOVA, logistic regression, mixed modeling, and structural equation modeling (SEM), controlling for age, sex, and medication. Compared to normative data, all clinical groups showed PS decrements. Compared to referred youth without full diagnoses and accounting for other psychopathology, risk for slow PS was elevated in youth with autism spectrum disorder (OR = 1.8), psychotic disorders (OR = 3.4) and ADHD-inattentive type (OR = 1.6). Having multiple comorbidities also increased risk for slow PS. Among dimensions, inattention (OR = 1.5) associated with slow PS but did not fully explain the association with autism or psychosis. In SEM, PS had direct effects on academic achievement and indirect effects through working memory. Findings extend evidence that PS relates to multiple aspects of child psychopathology and associates with academic achievement in child psychiatric outpatients. [**Child Symptom Inventory-4**]

- 20-9. Bradshaw, J., Gillespie, S., McCracken, C., King, B.H., McCracken, J.T., Johnson, C.R., Lecavalier, L., Smith, T., Swiezy, N., & Bearss, K. (2020). Predictors of caregiver strain for parents of children with autism spectrum disorder. *Journal of Autism and Developmental Disorders*, Early Access: NOV 2020. DOI:10.1007/s10803-020-04625-x.

Parents of children with autism spectrum disorder (ASD) face higher levels of caregiver strain compared to parents of children with other disabilities. This study examined child clinical features that predict high levels of caregiver strain for 374 parents of children with ASD. Caregiver strain was measured using the Caregiver Strain Questionnaire (CGSQ) objective, subjective internalized, and subjective externalized subscales. Confirmatory factor analysis indicated an acceptable fit for the original CGSQ three-factor solution. The strongest child predictors across CGSQ subscales were: disruptive behavior for objective strain, autism severity and disruptive behavior for subjective internalized strain, and oppositional behavior and hyperactivity for subjective externalized strain. Individualized interventions that attend to specific elements of parental strain may reduce strain and improve family wellbeing. [**Early Childhood Inventory-4; Child and Adolescent Symptom Inventory-4R**]

- 20-10. Brumley, L.D., Nauphal, M., Schwartz, L.A., & Jaffee, S.R. (2020). Psychosocial correlates and consequences of adolescents' self-generated academic goals and appraisals. *Journal of Research on Adolescence*, Early Access: NOV 2020. DOI:10.1111/jora.12593.

The current study examined whether characteristics of adolescents (i.e., externalizing problems) and their environments (i.e., social support, adverse childhood experiences) relate to academic goal setting, appraisals, and outcomes. Adolescents (n = 99; 87% Black/African American) 13-16 years old completed baseline interviews, and 80% also completed follow-up interviews. Adolescents with more externalizing problems set fewer academic goals, and youth with social networks characterized by greater support (and less strain) appraised their academic goals as more supported and achievable. Adolescents' appraisals of their academic goals, but not how many academic goals they had, predicted grades at follow-up. Increasing social support (and reducing social strain) may foster adolescents' positive appraisals of their academic goals, which may promote academic achievement. [**Adolescent Symptom Inventory-4**]

- 20-11. Choukas-Bradley, S., Hipwell, A.E., Roberts, S.R., Maheux, Anne J., & Stepp, S.D. (2020). Developmental trajectories of adolescent girls' borderline personality symptoms and sexual risk behaviors. *Journal of Abnormal Child Psychology*, 48(12), 1649-1658. DOI:10.1007/s10802-020-00699-4.

Adolescence is a developmental period during which youth tend to initiate sexual behavior, which may include sexual

risk behavior. Symptoms of borderline personality disorder (BPD) are associated with increased rates of risky behaviors. However, little is known about longitudinal associations between BPD symptoms and sexual risk behaviors during adolescence. This study examines developmental trajectories of adolescent girls' BPD symptoms and sexual risk behaviors in a community sample of Black and White girls from the Pittsburgh Girls Study ( $n = 1620$ ). Dual trajectory modeling provided insights into the temporal precedence and co-development of BPD symptoms and sexual risk behaviors from ages 14 to 18. In order to examine the unique association between BPD symptoms and sexual risk behaviors, analyses controlled for symptoms of depression and conduct disorder, as well as race, sexual orientation, and pubertal development. Girls with more BPD symptoms at age 14 showed steeper growth over time in sexual risk behaviors from ages 14 to 18. Additionally, adolescents who showed steeper increases in BPD symptoms over time also showed steeper increases in sexual risk behaviors across adolescence. Notably, however, sexual risk behavior at age 14 was not significantly associated with longitudinal trajectories of BPD symptoms. Results suggest that adolescent girls with early symptoms of BPD are at heightened risk for the development of sexual risk behaviors during adolescence, while the reverse association does not hold. Implications for adolescent development and sexual risk behavior are discussed. [**Child and Adolescent Symptom Inventory-4**]

- 20-12. Cleinmark, P.D., Freeman, A.N.M., McKenney, E.L.W., Kehl, L., Hupp, S.D.A., & Jewell, J.D. (2020). Social communication symptoms in children with autism spectrum disorder: predicting comorbid anxiety disorder. *Journal of Psychoeducational Assessment*. Article Number: 0734282920930539. Early Access: JUL 2020. DOI: 10.1177/0734282920930539

Relatively few measures have been examined for their psychometric properties when assessing anxiety among children with autism spectrum disorder (ASD), and the relationship between ASD and anxiety symptoms remains poorly understood. This study examined the relationship between ASD symptoms on the Social Responsiveness Scale (SRS) and comorbid clinical anxiety. In a sample of 2,435 participants, parents of children with ASD and comorbid anxiety endorsed more frequent or severe ASD symptoms than parents of children without comorbid anxiety. Severity of ASD symptoms was a significant predictor of anxiety status and approached clinical significance. Implications for measurement of anxiety among children with ASD are discussed, including that areas of symptom presentation should be carefully evaluated, and that the onset or worsening of anxiety may affect ASD symptom presentation. [**Child Symptom Inventory-4**]

- 20-13. Cornella-Font, M.G., Vinas-Poch, F., Juarez-Lopez, J.R., & Malo-Cerrato, S. (2020). Risk of addiction: its prevalence in adolescence and its relationship with security of attachment and self-concept. *Clinica Y Salud*, 31(1), 21-25. doi: 10.5093/clysa2020a1

That study aims to analyze the prevalence of risk of addiction to psychoactive substances during adolescence, study the relationship between this risk and the representations of attachment and self-concept and analyze the relationship between attachment and self-concept. The Youth Inventory 4 (YI-4) test was administered to assess risk of addiction in 668 participants between 13 and 19 years old. Representations of the attachment were evaluated with Cartes, Modeles Individuelles de Relation, reduced version (CaMir-R), and self-concept dimensions, with Autoconcepto Forma 5 (AF5). The results indicate a high risk of substance addiction in adolescence, 19.5%, both for boys and girls, CI between 15.4 and 24.3, with age being a risk factor. The prevalence of addiction risk decreases with high scores on security, which correlates  $-.22$  with such a risk and positive academic self-concept, correlating  $-.20$ . [**Youth's (Self-Report) Inventory-4**, Spanish translation]

- 20-14. da Costa, I.F., Tomaz, M.P., Pessoa, G.N., Miranda, H. de S., & Galdino, M.K. (2020). Early maladaptive schemas and harm avoidance as mediating factors between early life stress and psychiatric symptoms in adults. *Brazilian Journal of Psychiatry*, 42(5), 489-495. DOI:10.1590/1516-4446-2019-0593.

Objective: This study investigated how factors of temperament and early maladaptive schemas predict psychiatric symptoms, as well as how they mediate the relation between early life stress and psychiatric symptoms in adults. Methods: A cross-sectional study was conducted with a sample of 200 university students. Data was collected through a sociodemographic questionnaire, the Adult Self-Report Inventory, the Childhood Trauma Questionnaire, the Young Schema Questionnaire, and the Temperament and Character Inventory-Revised. Results: A model including early maladaptive schemas, harm avoidance (temperament factor), and early life stress explained 69% of the variation of the psychiatric symptoms; among the predictors, early maladaptive schemas explained 31% of psychiatric symptoms, while harm avoidance explained 25%. Most of the predictive power associated with early life stress can be better

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explained by early maladaptive schemas and, to a lesser extent, harm avoidance. Conclusion: By managing these processes therapeutically, deleterious effects associated with early life stress can be minimized. [**Adult Self Report Inventory-4**]

- 20-15. Dekkers, T.J., Rapport, M.D., Calub, C.A., Eckrich, S.J., & Irurita, C. (2020). ADHD and hyperactivity: The influence of cognitive processing demands on gross motor activity level in children. *Child Neuropsychology*. Early access July 2020. DOI: 10.1080/09297049.2020.1793924.

Excessive gross motor activity is a prominent feature of children with ADHD, and accruing evidence indicates that their gross motor activity is significantly higher in situations associated with high relative to low working memory processing demands. It remains unknown, however, whether children's gross motor activity rises to an absolute level or accelerates incrementally as a function of increasingly more difficult cognitive processing demands imposed on the limited capacity working memory (WM) system - a question of both theoretical and applied significance. The present investigation examined the activity level of 8- to 12-year-old children with ADHD ( $n = 36$ ) and Typically Developing (TD) children ( $n = 24$ ) during multiple experimental conditions: a control condition with no storage and negligible WM processing demands; a short-term memory (STM) storage condition; and a sequence of WM conditions that required both STM and incrementally more difficult higher-order cognitive processing. Relative to the control condition, all children, regardless of diagnostic status, exhibited higher levels of gross motor activity while engaged in WM tasks that required STM alone and STM combined with upper level cognitive processing demands, and children with ADHD were motorically more active under all WM conditions relative to TD children. The increase in activity as a consequence of cognitive demand was similar for all experimental conditions. Findings suggest that upregulation of physical movement rises and remains relatively stable to promote arousal related mechanisms when engaged in cognitive activities involving WM for all children, and to a greater extent for children with ADHD. [**Child Symptom Inventory-4**]

- 20-16. Derella, O.J., Burke, J.D., Romano-Verthelyi, A.M., Butler, E.J., & Johnston, O.G. (2020). Feasibility and acceptability of a brief cognitive-behavioral group intervention for chronic irritability in youth. *Clinical Child Psychology and Psychiatry*. Early Access: MAY 2020. Article Number: 1359104520918331. DOI: 10.1177/1359104520918331

Chronic irritability is a core feature of oppositional defiant disorder (ODD) and disruptive mood dysregulation disorder (DMDD), but few irritability-specific interventions have been tested. Existing evidence-based treatments for disruptive behavior problems offer a strong template. This pilot study was conducted to develop and evaluate a brief irritability-specific module of a validated cognitive-behavioral group intervention for children (Stop Now and Plan (SNAP) Program). Stop now and plan for irritability (I-SNAP) retained core elements of SNAP in a shortened 6-week format. Community families with irritable children ( $M = 8.44$  years,  $SD = 1.42$ ) were recruited for parent and child emotion regulation skills groups. Of 18 children enrolled (72% male), 14 completed (78%). Half of children attended all six sessions, though homework compliance was lower. All parents reported favorable impressions and would recommend I-SNAP to others. Significant improvements were seen from pre- to post-treatment across parent-reported irritability, ODD symptoms, emotion regulation, and disciplinary effectiveness. This pilot study provides initial support suggesting I-SNAP may be feasible to implement and acceptable to parents. In addition, pilot analyses demonstrated that this brief group intervention was associated with positive outcomes consistent with treatment targets. This preliminary evidence supports the need for further research to assess I-SNAP's effects on irritability relative to control groups. [**Child and Adolescent Symptom Inventory-5**]

- 20-17. Dini, H., Ghassemi, F., & Sendi, M.S.E. (2020). Investigation of brain functional networks in children suffering from attention deficit hyperactivity disorder. *Brain Topography*, 33(6), 733-750. DOI:10.1007/s10548-020-00794-1.

ADHD defects the recognition of facial emotions. This study assesses the neurophysiological differences between children with ADHD and matched healthy controls during a face emotional recognition task. The study also explores how brain connectivity is affected by ADHD. Electroencephalogram (EEG) signals were recorded from 64 scalp electrodes. Event-related phase coherence (ERPCOH) method was applied to pre-processed signals, and functional connectivity between any pair of electrodes was computed in different frequency bands. A logistic regression (LR) classifier with elastic net regularization (ENR) was trained to classify ADHD and HC participants using the functional connectivity of frequency bands as a potential biomarker. Subsequently, the brain network is constructed using graph-

theoretic techniques, and graph indices such as clustering coefficient (C) and shortest path length (L) were calculated. Significant intra-hemispheric and the inter-hemispheric discrepancy between ADHD and healthy control (HC) groups in the beta band was observed. The graph features indicate that the clustering coefficient is significantly higher in the ADHD group than that in the HC group. At the same time, the shortest path length is significantly lower in the beta band. ADHD's brain networks have a problem in transferring information among various neural regions, which can cause a deficiency in the processing of facial emotions. The beta band seems better to reflect the differences between ADHD and HC. The observed functional connectivity and graph differences could also be helpful in ADHD investigations. [**Child Symptom Inventory-4**]

20-18. Drabick, D.A.G., Jakubovic, R., Myerberg, L., Hardeman, J., Nachman, S., & Gadow, K.D. (2020). Family contextual factors are differentially associated with depressive symptoms among boys and girls with perinatally acquired HIV. *AIDS and Behavior*. Early Access July 2020. DOI: 10.1007/s10461-020-02966-3

Youth with perinatally acquired HIV (PHIV) are at risk for depressive symptoms, which are associated with a range of adverse outcomes. Although family contextual factors associated with depressive symptoms differ among boys and girls without PHIV, it is unclear whether this is also the case among youth with PHIV. Participants included 314 youth with PHIV (M = 12.88, SD = 3.08 years old; 51% male; 85% Black/Latinx) and their caregivers. Higher levels of caregivers' own depressive symptoms, caregiver-child detachment, and family conflict were associated with higher levels of caregiver-reported youth depressive symptoms. Less consistent discipline was associated with higher levels of youth-reported depressive symptoms. Higher youth-reported depressive symptoms were associated with greater family cohesion among boys and greater caregiver detachment among girls. Consideration of contextual variables is essential for interventions for depressive symptoms among youth with PHIV, but attention to sex differences with family contextual factors is also important. [**Child and Adolescent Symptom Inventory-4R, Youth's (Self-Report) Inventory-4R, Adult Self Report Inventory-4**]

20-19. Duan, S., Lee, M.H., Wolf, J., Naples, A.J., & McPartland, J.C. (2020). Higher depressive symptoms predict lower social adaptive functioning in children and adolescents with ASD. *Journal of Clinical Child and Adolescent Psychology*, Early Access, May 2020. DOI: 10.1080/15374416.2020.1750020

Objective: Despite the frequent occurrence of depressive symptoms in children and adolescents with autism spectrum disorder (ASD), few studies have investigated the relationship between depressive symptoms and adaptive functioning. The present study explored the impact of depressive symptoms on different domains of adaptive functioning in children and adolescents with ASD. Methods: Depressive symptoms and adaptive functioning were analyzed in 62 children and adolescents with ASD (20 females) and 36 children and adolescents (15 females) with typical development between 5 and 18 years of age. Results: After controlling for IQ, age and sex, higher depressive symptoms predicted lower functioning in the social domain among children and adolescents with ASD. Depressive symptoms did not significantly predict communication or daily living skills. Conclusions: These findings highlight the relevance of depression in social adaptive function in ASD and emphasize the importance of assessing depressive symptomatology when evaluating social skills and planning treatment for children and adolescents with ASD. [**Child and Adolescent Symptom Inventory-5**]

20-20. Fanti, K. A., & Lordos, A. (2020). Age patterns in psychopathic traits from age 9 to age 20: Testing unique associations with conduct disorder symptoms. *Current Psychology*, Early Access: OCT 2020. DOI:10.1007/s12144-020-01150-z.

The downward extension of psychopathic traits to childhood and adolescence proved to be important in both research and clinical practice. The current study investigates how distinct psychopathic traits (i.e., callous-unemotional traits, narcissism, impulsivity) contribute to the prediction of conduct disorder (CD) symptoms, and whether these associations vary as a function of age. Further, we aimed to examine the variability in mean levels of psychopathic traits from age 9 to age 20 in a large community sample (N = 9136) using cross-sectional analysis. The study's findings provided evidence for age variability in psychopathic traits, since narcissism was found to be more prevalent from age 13-15, impulsivity from age 13 to 20, and CU traits from age 15-18. These findings demonstrate that psychopathic traits are less prevalent during childhood than adolescence. Further, the pattern of association between CD symptoms and psychopathic traits also displayed variability by age. Specifically, even though the overall regression of psychopathic traits on CD symptoms suggested that the three psychopathic dimensions had comparable

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impact on CD, the separate regressions by age group suggested that impulsivity was the strongest predictor of CD in childhood and early adolescence (ages 9-14), while narcissism was the strongest predictor of CD in mid-adolescence (ages 15-17). In contrast, callous-unemotional traits had a more stable effect on CD symptoms across time. Current evidence can inform existing attempts for the developmental extension of the construct of psychopathy to childhood and adolescence. [*Youth's Inventory-4*]

- 20-21. Ford-Paz, R.E., Gouze, K.R., Kerns, C.E., Ballard, R., Parkhurst, J.T., Jha, P., & Lavigne, J. (2020). Evidence-based assessment in clinical settings: reducing assessment burden for a structured measure of child and adolescent anxiety. *Psychological Services*, 17(3), 343-354. DOI:10.1037/ser0000367.

Clinically useful and evidence-based mental health assessment requires the identification of strategies that maximize diagnostic accuracy, inform treatment planning, and make efficient use of clinician and patient time and resources. This study uses classification tree analyses to determine whether parent- and child-report instruments, alone or in combination, can accurately predict diagnoses as measured by the Anxiety Disorders Interview Schedule (ADIS). The ADIS, which is the gold-standard semi-structured interview for anxiety disorders in children and adolescents, requires formal training and lengthy administration. Data were collected as part of the standard diagnostic assessment process for 201 patients (ages 5 to 17 years) in an urban outpatient psychiatry specialty clinic. Analyses examined 2 models to determine which predictors reached an acceptable level of diagnostic accuracy for generalized anxiety, social anxiety, and separation anxiety disorders. The first model used scores on a parent- and child-report anxiety measure combined with demographic factors, and the second model incorporated a broad-band measure of child psychopathology and a depression measure into the analysis. Although demographic factors did not emerge as accurate predictors in either model, particular measures, either alone or in combination, were able to predict specific ADIS diagnoses in some cases, allowing for the potential streamlining of ADIS administration. These results suggest that a classification-tree analysis lends itself to the construction of simple algorithms that have high clinical utility and may advance the feasibility and utility of evidence-based assessment strategies in real-world practice settings by balancing cast effectiveness, administration demands, and accuracy. [*Child Symptom Inventory-4*]

- 20-22. Frasch, M.G., Shen, C., Wu, H.T., Mueller, A., Neuhaus, E., Bernier, R.A., Kamara, D., & Beauchaine, T.P. (2020). Brief report: can a composite heart rate variability biomarker shed new insights about autism spectrum disorder in school-aged children? *Journal of Autism and Developmental Disorders*, Early Access MAY 2020. DOI: 10.1007/s10803-020-04467-7

Several studies show altered heart rate variability (HRV) in autism spectrum disorder (ASD), but findings are neither universal nor specific to ASD. We apply a set of linear and nonlinear HRV measures-including phase rectified signal averaging-to segments of resting ECG data collected from school-age children with ASD, age-matched typically developing controls, and children with other psychiatric conditions characterized by altered HRV (conduct disorder, depression). We use machine learning to identify time, frequency, and geometric signal-analytical domains that are specific to ASD (receiver operating curve area = 0.89). This is the first study to differentiate children with ASD from other disorders characterized by altered HRV. Despite a small cohort and lack of external validation, results warrant larger prospective studies. [*Child Symptom Inventory-4*]

- 20-23. Friedman, L.M., Dvorsky, M.R., McBurnett, K., & Pfiffner, L.J. (2020). Do parents' ADHD symptoms affect treatment for their children? the impact of parental ADHD on adherence to behavioral parent training for childhood ADHD. *Journal of Abnormal Child Psychology*. Early access August 2020. DOI: 10.1007/s10802-020-00672-1

Nearly half of all youth with Attention-Deficit Hyperactivity Disorder (ADHD) have at least one parent who also meets criteria for the disorder, and intergenerational ADHD is a significant risk factor for poor outcomes following evidence-based behavioral parent training (BPT) programs. Given that BPT is predicated on consistent parental involvement, symptoms of ADHD in parents may be a significant barrier to effective engagement with BPT treatment. In the present investigation, we examine the effect of parental ADHD symptoms on BPT treatment engagement for children with ADHD-predominantly inattentive presentation (N = 148, ages 7-11). We examine the following parent- and clinician-rated treatment engagement domains: between-session skill adherence, in-session participation, perceived skill understanding, treatment-engagement attitudes, and session attendance. Parent- and clinician-rated between-session adherence was the only treatment engagement domain related significantly to parental ADHD symptoms. This finding was robust and remained even after accounting for symptoms of parental anxiety and depression, child ADHD



symptom severity, and various sociodemographic factors (parental education level, household income, employment status, and being a single parent). These findings suggest that targeting parental ADHD symptoms in the context of parenting interventions may be a promising approach for improving adherence and treatment outcomes for BPT interventions. [**Child Symptom Inventory-4**]

- 20-24. Ghadampour, E., Khodarahimi, S., Bougar, M.R., & Nahaboo, S. (2020). Single mothers' attachment styles and personality influences on child psychopathology. (2020). *American Journal of Family Therapy*. Early Access: JAN 2020. doi: 10.1080/01926187.2020.1716870

This study investigated the effects of single mothers' attachment styles, demographic variables and personality traits in the explanation of variations for children mental health problems based on Structural Equation Modeling (SEM). Results showed that mother's attachment styles, demographic variables and mother's personality traits explain 88.8% of child's psychopathology variations in this study. Mother's attachment styles, demographic variables and mother's personality traits have .711, .100 and .682 path coefficients with child's psychopathology in this study respectively. All subscales of mother's attachment styles and mother's personality traits and child's age had significantly indirect effects on child's psychopathology in this sample. [**Child and Adolescent Symptom Inventory-5**, Persian translation]

- 20-25. Grabell, A.S., Jones, H.M., Wilett, A.E., Bemis, L.M., Wakschlag, L.S., & Perlman, S.B. (2020). Children's facial muscular movements and risk for early psychopathology: assessing clinical utility. *Behavior Therapy*, 51(2), 253-267. DOI: 10.1016/j.beth.2019.08.004.

Standardized developmentally based assessment systems have transformed the capacity to identify transdiagnostic behavioral markers of mental disorder risk in early childhood, notably, clinically significant irritability and externalizing behaviors. However, behavior-based instruments that both differentiate risk for persistent psychopathology from normative misbehavior, and are feasible for community clinicians to implement, are in nascent phases of development. Young children's facial expressions during frustration challenges may form the basis for novel assessments tools that are flexible, quick, and easy to implement as markers of psychopathology to complement validated questionnaires. However, the accuracy of facial expressions to correctly classify young children falling above and below clinical cut-offs is unknown. Our goal was to test how facial expressions during frustration, defined by different facial muscular movements, related to individual differences in irritability and externalizing behaviors and discriminated children with clinically significant levels from peers. Participants were 79 children (ages 3-7) who completed a short, moderately frustrating computer task while facial expressions were recorded. Only negative facial expressions that included eye constriction related to irritability and externalizing behaviors and were clinically discriminating. Moreover, these expressions significantly discriminated children with and without clinically significant irritability and externalizing symptoms with high Area Under the Curve (AUC) values (>.75) indicating good clinical utility. In contrast, expressions without eye constriction showed no clinical utility. The presence of negative expressions with eye constriction in response to a short frustration prompt may serve as an indicator of early psychopathology, raising the potential for novel assessment tools that may enhance precision of early identification. [**Early Childhood Inventory-4, Child Symptom Inventory-4**]

- 20-26. Gracia, D.F.K., Lara, D.R., Ottoni, G.D., & de Araujo, R.M.F. (2020). Analysis of association between temperament and psychological symptoms using the Affective and Emotional Composite Temperament (AFECT) model: An internet-based survey. *Journal of Affective Disorders*, 264, 446-454. doi: 10.1016/j.jad.2019.11.073

Background: Temperamental characteristics have been suggested as potential vulnerability markers or could help differential diagnosis among psychiatric disorders. The current study aimed to explore whether there are specific temperament profiles related to different psychological symptoms, according to the Affective and Emotional Composite Temperament (AFECT) model. Methods: We used a cross-sectional web-based survey collected from the Brazilian Internet Study on Temperament and Psychopathology (BRAINSTeP). The sample consisted of 16,495 self-selected volunteers assessed with the Affective and Emotional Composite Temperament Scale (AFECTS), Adult Self-Report Inventory (ASRI), and Adult Self-Report Scale (ASRS). Results: All unstable affective temperaments (cyclothymic, dysphoric, and volatile) correlated, in different intensities, with all psychiatric symptoms assessed. Cyclothymic temperament was mainly related to borderline personality symptoms. Dysphoric and volatile temperament showed an association with attention deficit hyperactivity symptoms. Melancholic temperament was associated with major

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depressive symptoms, and euphoric temperament showed a positive correlation with maniac symptoms. Euthymic and hyperthymic temperaments were negatively correlated with all psychiatric symptoms. In addition, the assessment of the emotional traits of temperament showed that high volition, low anger, low sensitivity, and high control are characteristics that are not related to psychopathology. Limitations: This study had a cross-sectional design, which does not allow an exact inference of cause and consequence. Conclusions: Our results suggest that temperament assessment using AFECT model may be relevant to assess the risk of developing psychological symptoms over the time. These results strengthen the theoretical framework that psychiatric disorders may be manifestations of the extremes of affective temperaments. [**Adult Self-Report Inventory-4**, Portuguese translation]

20-27. Haack, L.M., Araujo, E.A., Meza, J., Friedman, L.M., Spiess, M., Beltran, D.K.A., Delucchi, K., Herladez, A.M., & Piffner, L. (2020). Can school mental health providers deliver psychosocial treatment improving youth attention and behavior in Mexico? A pilot randomized controlled trial of CLS-FUERTE. *Journal of Attention Disorders*, Early Access: SEP 2020. DOI:10.1177/1087054720959698.

Background: Despite well-established Evidence-Based Treatments (EBTs) for Attention-Deficit/Hyperactivity Disorder (ADHD) and Oppositional Defiant Disorder (ODD), many low-resource settings lack EBT access. Methods: We conducted a school-clustered randomized controlled pilot of CLS-FUERTE (a multicomponent behavioral EBT adapted for children in Mexico) with 58 students. We randomly assigned four schools to receive CLS-FUERTE and four to receive school services as usual. We compared groups post-treatment on parent- and teacher-rated ADHD/ODD symptoms and impairment. Results: CLS-FUERTE fidelity, attendance, engagement, and acceptability was high and students receiving CLS-FUERTE showed greater improvement in teacher-rated ADHD, ODD, and impairment, as well as parent-rated ADHD and impairment, compared to students receiving usual services. Conclusions: Pilot results suggest that psychosocial EBTs can be successfully implemented by School Mental Health Providers in Mexico. [**Child Symptom Inventory-4; ADHD Symptom Checklist-4**; Spanish translations]

20-28. Hopkins, J., Gouze, K.R., Lavigne, J.V. & Bryant, F.B. (2020). Multidomain risk factors in early childhood and depression symptoms in 6-year-olds: A longitudinal pathway model. *Development and Psychopathology*, 32(1), 57-71. doi: 10.1017/S0954579418001426

This study examined effects of risk factors in multiple domains measured in preschool and kindergarten on age 6 depression symptoms, and on changes in symptom levels between ages 4 and 6. Two models were examined in a large, diverse (N = 796) community sample of children and parents. Risk variables included SES, stress, conflict, parental depression, parental hostility, support, scaffolding, child negative affect (NA), effortful control (EC), sensory regulation (SR), and attachment security. Model 1 included effects of risk factors at ages 4 and 5 on child depression symptoms at age 6. Model 2 also included depression symptoms at all three ages to examine changes in these symptoms. Model 1 revealed that age 4 and 5 parental depression, NA, EC, and SR predicted age 6 child depression levels. Several age 4 variables had indirect pathways to age 6 depression via age 5 EC. Model 2 revealed that preschool depression was the only age 4 variable, and EC and SR were the only age 5 variables that significantly predicted increases in age 6 depression. These findings highlight the role of self-regulation in child depression and suggest that targeting self-regulation may be an effective prevention and intervention strategy. [**Early Childhood Inventory-4**]

20-29. Johnston, O.G., Cruess, D.G., & Burke, J. D. (2020). Irritability and behavioral symptom dimensions of oppositional defiant disorder in young adults: Associations with DSM-5 pathological personality traits. *Journal of Psychopathology and Behavioral Assessment*, 42(3), 424-435. DOI:10.1007/s10862-020-09786-8.

Irritability and behavioral symptom dimensions of oppositional defiant disorder (ODD) in youth exhibit differential associations with adult psychopathology. Recently, researchers have begun to examine ODD in adults, with evidence that symptoms persist into adulthood and continue to cause impairment above and beyond other types of psychopathology. Based on this emerging literature, there is a need to understand how ODD symptoms in adulthood relate to novel frameworks for characterizing adult psychopathology. Three-hundred and four young adult college students completed measures of ODD symptoms, DSM-5 pathological personality traits, ADHD, depression, and anxiety. Poisson regression was used to predict ODD severity score from the five DSM-5 personality traits, while controlling for sex, race, and comorbid psychopathology. Structural equation modeling was used to test competing models of ODD structure, and then to examine ODD dimensions and their specific associations with other psychopathology and the DSM-5 traits. Results show that ODD severity was positively associated with negative

affectivity, antagonism, and disinhibition, and negatively associated with psychoticism. The two-factor model, with correlated irritability and behavioral dimensions, fit better than the unidimensional model. Irritability was uniquely associated with anxiety, depression, negative affectivity, and detachment, while the behavioral dimension was uniquely associated with ADHD, antagonism, and disinhibition. These analyses provide evidence that symptoms of ODD in young adults are associated with DSM-5 pathological personality traits above and beyond other psychopathology. These findings provide a framework for future studies and clinical consideration of ODD among adults. [**Child and Adolescent Symptom Inventory-5**]

20-30. Johnstone, J.M., Leung, B.M.Y., Srikanth, P., Hatsu, I., Perez, L., Gracious, B., Tost, G., Aman, M.G., Gadow, K.D., Findling, R.L., et al. (2020). Development of a composite primary outcome score for children with attention-deficit/hyperactivity disorder and emotional dysregulation. *Journal of Child and Adolescent Psychopharmacology*. Early Access: FEB 2020. doi: 10.1089/cap.2019.0179

Objective: Study goals were to (1) provide a rationale for developing a composite primary outcome score that includes symptom severity for attention-deficit/hyperactivity disorder (ADHD) and emotional dysregulation, plus symptom-induced impairment; (2) demonstrate weighting methods to calculate the composite score using a sample of children diagnosed with ADHD and aggression; and (3) identify the optimal weighting method most sensitive to change, as measured by effect sizes. Methods: We conducted secondary data analyses from the previously conducted Treatment of Severe Childhood Aggression (TOSCA) study. Children aged 6-12 years were recruited through academic medical centers or community referrals. The composite primary outcome comprised the ADHD, oppositional defiant disorder, disruptive mood dysregulation disorder, and peer conflict subscales from the *Child and Adolescent Symptom Inventory* (CASI), a DSM (Diagnostic and Statistical Manual)-referenced rating scale of symptom severity and symptom-induced impairment. Five weighting methods were tested based on input from senior statisticians. Results: The composite score demonstrated a larger (Cohen's d) effect size than the individual CASI subscales, irrespective of the weighting method (10%-55% larger). Across all weighting methods, effect sizes were similar and substantial: approximately a two-standard deviation symptom reduction (range: -1.97 to -2.04), highest for equal item and equal subscale weighting, was demonstrated, from baseline to week 9, among all TOSCA participants. The composite score showed a medium positive correlation with the Clinical Global Impressions-Severity scores, 0.46-0.47 for all weighting methods. Conclusions: A composite score that included severity and impairment ratings of ADHD and emotional dysregulation demonstrated a more robust pre-post change than individual subscales. This composite may be a more useful indicator of clinically relevant improvement in heterogeneous samples with ADHD than single subscales, avoiding some of the statistical limitations associated with multiple comparisons. Among the five similar weighting methods, the two best appear to be the equal item and equal subscale weighting methods. [**Child and Adolescent Symptom Inventory-4R**]

20-31. Kaliukhovich, D.A., Manyakov, N., Bangerter, A., Ness, S., Skalkin, A., Boice, M., Goodwin, M.S., Dawson, G., Hendren, R., & Leventhal, B. (2020). Visual preference for biological motion in children and adults with autism spectrum disorder: An eye-tracking study. *Journal of Autism and Developmental Disorders*, Early Access: SEP 2020. DOI:10.1007/s10803-020-04707-w.

Participants with autism spectrum disorder (ASD) (n = 121, mean [SD] age: 14.6 [8.0] years) and typically developing (TD) controls (n = 40, 16.4 [13.3] years) were presented with a series of videos representing biological motion on one side of a computer monitor screen and non-biological motion on the other, while their eye movements were recorded. As predicted, participants with ASD spent less overall time looking at presented stimuli than TD participants ( $P < 10(-3)$ ) and showed less preference for biological motion ( $P < 10(-5)$ ). Participants with ASD also had greater average latencies than TD participants of the first fixation on both biological ( $P < 0.01$ ) and non-biological motion ( $P < 0.02$ ). Findings suggest that individuals with ASD differ from TD individuals on multiple properties of eye movements and biological motion preference. [**Adolescent Symptom Inventory-4**]

20-32. Kaliukhovich, D.A., Manyakov, N.V., Bangerter, A., Ness, S., Skalkin, A., Goodwin, M.S., Dawson, G., Hendren, R.L., Leventhal, B., Hudac, C.M., Bradshaw, J., Shic, F., & Pandina, G. (2020). Social attention to activities in children and adults with autism spectrum disorder: Effects of context and age. *Molecular Autism*, 11(1), Article Number: 79. DOI:10.1186/s13229-020-00388-5.

Background Diminished visual monitoring of faces and activities of others is an early feature of autism spectrum disorder (ASD). It is uncertain whether deficits in activity monitoring, identified using a homogeneous set of stimuli,

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persist throughout the lifespan in ASD, and thus, whether they could serve as a biological indicator ("biomarker") of ASD. We investigated differences in visual attention during activity monitoring in children and adult participants with autism compared to a control group of participants without autism. Methods Eye movements of participants with autism ( $n = 122$ ; mean age [SD] = 14.5 [8.0] years) and typically developing (TD) controls ( $n = 40$ , age = 16.4 [13.3] years) were recorded while they viewed a series of videos depicting two female actors conversing while interacting with their hands over a shared task. Actors either continuously focused their gaze on each other's face (mutual gaze) or on the shared activity area (shared focus). Mean percentage looking time was computed for the activity area, actors' heads, and their bodies. Results Compared to TD participants, participants with ASD looked longer at the activity area (mean % looking time: 58.5% vs. 53.8%,  $p < 0.005$ ) but less at the heads (15.2% vs. 23.7%,  $p < 0.0001$ ). Additionally, within-group differences in looking time were observed between the mutual gaze and shared focus conditions in both participants without ASD (activity:  $\Delta = -6.4\%$ ,  $p < 0.004$ ; heads:  $\Delta = +3.5\%$ ,  $p < 0.02$ ) and participants with ASD (bodies:  $\Delta = +1.6\%$ ,  $p < 0.002$ ). Limitations: The TD participants were not as well characterized as the participants with ASD. Inclusion criteria regarding the cognitive ability [intelligence quotient (IQ)  $> 60$ ] limited the ability to include individuals with substantial intellectual disability. Conclusions Differences in attention to faces could constitute a feature discriminative between individuals with and without ASD across the lifespan, whereas between-group differences in looking at activities may shift with development. These findings may have applications in the search for underlying biological indicators specific to ASD. Trial registration ClinicalTrials.gov identifier NCT02668991.

### [Adolescent Symptom Inventory-4]

20-33. Kang, E., Lerner, M.D., & Gadow, K.D. (2020). Atypical communication characteristics among clinic-referred youth with and without autism spectrum disorder: Stability and associations with clinical correlates. *Development and Psychopathology*, 32(4), 1240-1253. DOI:10.1017/S095457942000070X.

Atypical communication characteristics (ACCs), such as speech delay, odd pitch, and pragmatic difficulties, are common features of autism spectrum disorder (ASD) as are the symptoms of a wide range of psychiatric disorders. Using a simple retrospective method, this study aimed to better understand the relation and stability of ACCs with a broad range of psychiatric symptoms among large, well-characterized samples of clinic-referred children and adolescents with and without ASD. Youth with ASD had higher rates and a more variable pattern of developmental change in ACCs than the non-ASD diagnostic group. Latent class analysis yielded three ACC stability subgroups within ASD: Stable ACCs, Mostly Current-Only ACCs, and Little Professors. Subgroups exhibited differences in severity of ASD symptomatology, co-occurring psychiatric symptoms, and other correlates. Our findings provide support for the clinical utility of characterizing caregiver-perceived changes in ACCs in identifying children at risk for co-occurring psychopathology and other clinically relevant variables. [Child and Adolescent Symptom Inventory-4]

20-34. Kinyanda, E., Salisbury, T.T., Musingo, S.K., Ssembajjwe, W., Levin, J., Nakasujja, N., Mpango, R.S., Abbo, C., Seedat, S., Araya, R.B., Musisi, S., Gadow, K.D., & Patel, V. (2020). Major depressive disorder among HIV infected youth in Uganda: Incidence, persistence and their predictors. *AIDS and Behavior*. Early Access: FEB 2020. doi: 10.1007/s10461-020-02815-3

Incidence and persistence of major depressive disorder (MDD) in children and adolescents with HIV (CA-HIV) in Uganda is described. 1339 CA-HIV attending care were enrolled and followed up for 12 months. MDD was assessed using the DSM-5 referenced Child and Adolescent Symptom Inventory-5 (CASI-5), with a prevalence for MDD at baseline of 5% (95% CI 3.3-7.3). Kaplan-Meier method was used to estimate incidence of MDD and Cox models were fitted to investigate predictors of incident MDD. Cumulative incidence of MDD over 12 months was 7.6 per 100 person-years 95% CI (6.2-9.4) and a rate of persistent MDD of 10/105 (9.5% CI 3.9-15.1). Significant independent predictors of incident MDD were: highest educational level of CA-HIV (protective), increasing depressive scores and decreasing CD4 Nadir. These findings have implications for what should constitute components of a mental health integration model in HIV youth services and for the future development of individualised mental health care. [Child and Adolescent Symptom Inventory-5, Uganda translation]

20-35. Kofler, M.J., Sarver, D.E., & Wells, E.L. (2020). Working memory and increased activity level (hyperactivity) in ADHD: Experimental evidence for a functional relation. *Journal of Attention Disorders*, 24(9), 1330-1344. DOI: 10.1177/1087054715608439

Objective: Converging evidence indicates large magnitude deficits in the "working" component of working memory for children with ADHD. However, our understanding of the relation between these central executive deficits and ADHD

behavioral symptoms remains limited due to problems with several commonly used working memory tests. Method: Children with ADHD (n = 25) completed a counterbalanced series of working memory tasks that differed only in memory set predictability. Results: Results indicated that central executive demands increased when memory set was unpredictable, as evidenced by moderate performance decreases ( $d = 0.22-0.56$ ) and large changes in performance variability ( $d = 0.93-3.16$ ) and response times ( $d = 1.74-4.16$ ). Activity level remained relatively stable when memory set was unpredictable but decreased significantly over time when memory set was predictable. Conclusion: Results suggest that altering memory set predictability is a feasible method for increasing/maintaining central executive demands over time and suggest a positive association between working memory demands and gross motor activity for children with ADHD. [**Child Symptom Inventory-4**]

20-36. Konikkou, K., Kostantinou, N., & Fanti, K.A. (2020). Transcranial magnetic stimulation over the dorsolateral prefrontal cortex affects emotional processing: accounting for individual differences in antisocial behavior. *Journal of Experimental Criminology*, 16 (3), 349-366. Special Issue: SI. DOI: 10.1007/s11292-020-09440-z.

Objectives The study was designed to investigate the effects of transcranial magnetic stimulation (TMS) over the dorsolateral prefrontal cortex (DLPFC) on emotional recognition among individuals differentiated on antisocial personality disorder (APD) symptoms. Methods Participants (N = 93) received continuous theta burst stimulation (cTBS) under four conditions: real or sham cTBS over the left and right DLPFC. After stimulation, participants performed a dynamic face recognition task depicting fearful, happy, sad, and painful expressions. Results Left and right DLPFC stimulation were followed by improved accuracy of happy and painful emotions compared to sham conditions. Participants receiving left stimulation were also better able to recognize sad expressions compared to the left sham condition. A three-way interaction between type of stimulation, emotion recognition, and APD groups suggested that the identified TMS effects on emotion recognition were only significant for individuals at elevated risk for APD symptoms. Conclusions Findings suggest that DLPFC stimulation can lead to benefits in emotion recognition among individuals high on APD symptoms. [**Adult Self Report Inventory-4**]

20-37. Mazefsky, C.A., Collier, A., Golt, J., & Siegle, G.J. (2020). Neural features of sustained emotional information processing in autism spectrum disorder. *Autism*, Article Number: UNSP 1362361320903137. Early Access: FEB 2020. doi: 10.1177/1362361320903137

Emotion dysregulation is common in autism spectrum disorder; a better understanding of the underlying neural mechanisms could inform treatment development. The tendency toward repetitive cognition in autism spectrum disorder may also increase susceptibility to perseverate on distressing stimuli, which may then increase emotion dysregulation. Therefore, this study investigated the mechanisms of sustained processing of negative information in brain activity using functional magnetic resonance imaging. We used an event-related task that alternated between emotional processing of personally relevant negative words, neutral words, and a non-emotional task. A priori criteria were developed to define heightened and sustained emotional processing, and feature conjunction analysis was conducted to identify all regions satisfying these criteria. Participants included 25 adolescents with autism spectrum disorder and 23 IQ-, age-, and gender-matched typically developing controls. Regions satisfying all a priori criteria included areas in the salience network and the prefrontal dorsolateral cortex, which are areas implicated in emotion regulation outside of autism spectrum disorder. Collectively, activity in the identified regions accounted for a significant amount of variance in emotion dysregulation in the autism spectrum disorder group. Overall, these results may provide a potential neural mechanism to explain emotion dysregulation in autism spectrum disorder, which is a significant risk factor for poor mental health. [**Adolescent Symptom Inventory-4**]

20-38. Meza, J.I., Friedman, L.M., Dvorsky, M.R., Kass, P., Chabbra, D., & Pfiffner, L.J. (2020). Outcomes of school-home intervention for attention and behavior problems: Teacher adherence matters. *School Mental Health*, Early Access: JUN 2020. DOI: 10.1007/s12310-020-09378-7

This study evaluated the effects of teacher adherence to behavioral treatment on student outcomes. Eighty-four children (ages 7-11) completed a 12-week, collaborative school-home behavioral intervention designed for youth with significant attention-deficit/hyperactivity disorder symptoms and impairment. Teacher adherence was assessed via school mental health provider (SMHP) ratings and daily report card (DRC) implementation. Pre- and posttreatment outcomes included parent and teacher ratings of organizational skills and problem behaviors, observational measures of classroom task engagement and off-task behaviors, and report card standard grades. Using multi-level models to account for clustering by school, teacher adherence rated by SMHPs predicted improvement across teacher- and

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parent-rated organizational skills, parent-rated problem behaviors, and classroom observations of task engagement and off-task behavior. Higher rates of DRC implementation only predicted improvements in parent-rated organizational skills; percentage of days parents signed the DRC only predicted teacher-rated improvement in organizational skills. Post hoc analyses indicated that teacher adherence and child success with academic targets on the DRC during the first month predicted parent-rated improvement in organizational skills. These results suggest that teacher adherence, particularly when rated by SMHPs, is an important predictor of positive treatment outcomes across both school and home settings. Future research is needed to better understand methods for measuring and optimizing teacher adherence to classroom behavioral interventions. [**Child Symptom Inventory-4**]

- 20-39. Mikami, A.Y., Normand, S., Hudec, K.L., Guet, J., Na, J.J., Smit, S., Khalis, A., & Maisonneuve, M.F. (2020). Treatment of friendship problems in children with attention-deficit/hyperactivity disorder: initial results from a randomized clinical trial. *Journal of Consulting and Clinical Psychology*, 88(10), 871-885. DOI:10.1037/ccp0000607.

Objective: This study evaluated a novel intervention for friendship problems in children with attention-deficit/hyperactivity disorder (ADHD). Parental Friendship Coaching (PFC) teaches parents to coach their children in targeted friendship behaviors that are lacking in children with ADHD and that help children develop good quality friendships. Method: Participants were 172 families of children with ADHD and social impairment (ages 6-11; 29.7% female) at two Canadian sites, randomized to PFC or to an active comparison intervention (Coping with ADHD through Relationships and Education; CARE) to control for common therapy factors. Questionnaire and observational measures assessing primary outcomes of children's friendship quality and secondary outcomes of children's friendship behaviors were collected at baseline, posttreatment, and 8-month follow-up. Results: Across both treatment conditions, children showed improvements in positive friendship quality and in friendship behaviors. Relative to CARE, PFC was associated with somewhat more positive and less negative friendship behaviors at posttreatment and follow-up, but no difference between conditions was found in friendship quality. However, moderation analyses suggested that PFC may contribute to better friendship quality among families who had previous psychosocial treatment, as well as children with comorbid externalizing disorders. Conclusions: Although PFC showed some efficacy for affecting children's friendship behaviors, these changes may not translate into friendship quality. Nevertheless, PFC may improve friendship quality for at-risk subgroups of children with ADHD. [**Child Symptom Inventory-4**]

- 20-40. Miller, M., Iosif, A.M., Bell, L.J., Farquhar-Leicester, A., Hatch, B., Hill, A., Hill, M.M., Solis, E., Young, G.S., & Ozonoff, S. (2020). Can familial risk for ADHD be detected in the first two years of life? *Journal of Clinical Child and Adolescent Psychology*. Early Access: JAN 2020. doi: 10.1080/15374416.2019.1709196

Objective: We evaluated trajectories of attention-deficit/hyperactivity (ADHD)-relevant behaviors in a sample of infants at high and low familial risk for ADHD who were prospectively evaluated at 12, 18, and 24 months of age. Method: Participants included 43 infants at risk for ADHD based on family history (i.e., diagnosed first-degree relative) and 40 low-risk infants (i.e., no family history of ADHD). Instances of inattention, out-of-seat, and grabbing behavior were coded from video; analogous constructs were rated by examiners unaware of familial risk status after completing structured standardized assessments with the infants/toddlers. At the end of each study visit, examiners solicited parents' concerns about their child's behavior. Differences in ADHD-related behaviors and parent concerns were examined between 12 and 24 months of age. Results: Infants with an older sibling or parent diagnosed with ADHD were distinguishable from infants with no family history of ADHD as early as 12 months of age based on directly observed and examiner reports of behavior, particularly with respect to hyperactive-impulsive behavior. Parents of infants at familial risk for ADHD also reported significantly more behavior/temperament concerns as early as 12 months of age compared to parents of infants at low risk for ADHD. Conclusions: These findings highlight the ability to detect genetic liability for ADHD by the end of the first year of life, suggesting that well-designed family risk studies of ADHD are feasible and may be clinically valuable. They also suggest the potential for earlier detection of risk for ADHD than has previously been possible. [**Child and Adolescent Symptom Inventory-5**]

- 20-41. Normand, S., Mikami, A.Y., Savalei, V., & Guet, J. (2020). A multiple indicators multiple causes (MIMIC) model of friendship quality and comorbidities in children with attention-deficit/hyperactivity disorder. *Psychological Assessment*, 32(7), 698-704. DOI: 10.1037/pas0000824

The unique objectives of the current investigation were: (a) to assess the fit of a multiinformant 2-factor measurement model of friendship quality in a clinical sample of children with attention-deficit/ hyperactivity disorder (ADHD); and (b)

to use a multiple indicators multiple causes approach to evaluate whether comorbid externalizing and internalizing disorders incrementally predict levels of positive and negative friendship quality. Our sample included 165 target children diagnosed with ADHD (33% girls; aged 6-11 years). Target children, their parents, their friends, and the parents of their friends independently completed a self-report measure of friendship quality about the reciprocated friendship between the target child and the friend. Results indicated that a multiinformant 2-factor measurement model with correlated positive friendship quality and negative friendship quality had good fit. The friendships of children with ADHD and a comorbid externalizing disorder were characterized by less positive friendship quality and more negative friendship quality than the friendships of children with ADHD and no externalizing disorder after controlling for the presence of a comorbid internalizing disorder. However, the presence of a comorbid internalizing disorder did not predict positive or negative friendship quality. These findings suggest that soliciting reports from parents in addition to children and friends, and measuring comorbid externalizing disorders, may be valuable evidence-based strategies when assessing friendship quality in ADHD populations. [**Child Symptom Inventory-4**]

20-42. Ogg, J.A., Rogers, M.A., & Volpe, R.J. (2020). Child ADHD symptoms and parent involvement in education. *Journal of Child and Family Studies*, 29(12), 3586-3595. DOI:10.1007/s10826-020-01834-x.

This study examined whether inattention and hyperactivity/impulsivity moderated the relationship between parent's personal and contextual motivators for involvement in their child's education (i.e., self-efficacy, role construction, time and energy, knowledge and skill) and involvement in their child's activities at home. Parents and teachers of 122 kindergarten students rated children's levels of inattention and hyperactivity/impulsivity. Parents reported on their motivators for involvement in their child's education as well as parent involvement behaviors at home. Inattention predicted home-based involvement in most models. Inattention also moderated the relationships between parents' perceived knowledge and skills, role construction, and time and energy and their involvement activities at home, such that parent's personal and contextual moderators were more strongly linked with their home-based involvement when children's levels of inattention were high. Hyperactivity/impulsivity was not a significant predictor of parent involvement at home and did not moderate the association between parent's personal and contextual motivators and their home-based involvement activities. These findings suggest that considering motivators for involvement may be particularly important when working with youth with high levels of inattentive symptoms. In particular, findings provide insight into which families are particularly at risk for low levels of involvement. Implications for research and practice are delineated. [**ADHD Symptom Checklist-4**]

20-43. Pandey, R., Gupta, S., Upadhyay, A., Gupta, R.P., Shukla, M., Mishra, R.C., Arya, Y.K., Singh, T., Niraula, S., Lau, J.Y.F. et al. (2020). Childhood maltreatment and its mental health consequences among Indian adolescents with a history of child work. *Australian and New Zealand Journal of Psychiatry*, Article Number: 0004867420909524. Early Access: MAR 2020. DOI: 10.1177/0004867420909524

Although the prevalence and mental health consequences of childhood maltreatment among adolescents have been studied widely, there are few data addressing these issues in Asian lower middle-income countries. Here, we assessed the prevalence and types of childhood maltreatment and, for the first time, examined their association with current mental health problems in Indian adolescents with a history of child work. Methods: One hundred and thirty-two adolescents (12-18 years; 114 males, 18 females) with a history of child work were interviewed using the Child Maltreatment, Conventional Crime, and Witnessing and Indirect Victimization modules of the Juvenile Victimization Questionnaire. Potential psychiatric diagnoses and current emotional and behavioural problems were assessed using the culturally adapted Hindi versions of the Youth's Inventory-4R and the Strengths and Difficulties Questionnaire, respectively. Results: A large proportion of the sample reported childhood abuse or neglect (83.36%), direct or indirect victimisation (100%) and experienced symptoms of one or more psychiatric disorders (83.33%). Of the most common maltreatment types, physical abuse was present for 72.73% (extra-familial 56.25%, intra-familial 42.71%), emotional abuse for 47.7% (extra-familial 74.6%, intra-familial 12.9%), general neglect for 17.4% and unsafe home for 45.5% of the adolescents. All these maltreatment types were associated with poor mental health, with emotional abuse showing the strongest and wide-ranging impact. Conclusions: Indian adolescents with a history of child work are at an extremely high risk of extra-familial physical and emotional abuse as well as victimisation. They also experience a range of psychiatric symptoms, especially if they suffered emotional abuse. There is an urgent need for routine mental health screening and to consider emotional abuse in all current and future top-down and bottom-up approaches to address childhood maltreatment, as well as in potential interventions to ameliorate its adverse effects on mental health and well-being, of child and adolescent workers. [**Youth's (Self-Report) Inventory-4**, Hindi translation]

- 20-44. Roberts, R., McCrory, E., Bird, G., Sharp, M., Roberts, L., & Viding, E. (2020). Thinking about others' minds: mental state inference in boys with conduct problems and callous-unemotional traits. *Journal of Abnormal Child Psychology*, Early success July 2020. DOI:10.1007/s10802-020-00664-1

Children with conduct problems (CP) and high levels of callous-unemotional traits (CP/HCU) have been found to have an intact ability to represent other minds, however, they behave in ways that indicate a reduced propensity to consider other people's thoughts and feelings. Here we report findings from three tasks assessing different aspects of mentalising in 81 boys aged 11-16 [Typically developing (TD)n = 27; CP/HCU n = 28; CP and low levels of callous-unemotional traits (CP/LCU)n = 26]. Participants completed the Movie Assessment of Social Cognition (MASC), a task assessing ability/propensity to incorporate judgements concerning an individual's mind into mental state inference; provided a written description of a good friend to assess mind-mindedness; and completed the Social Judgement Task (SJT), a new measure assessing mentalising about antisocial actions. Boys with CP/HCU had more difficulty in accurately inferring others' mental states in the MASC than TD and CP/LCU boys. There were no group differences in the number of mind-related comments as assessed by the mind-mindedness protocol or in responses to the SJT task. These findings suggest that although the ability to represent mental states is intact, CP/HCU boys are less likely to update mental state inferences as a function of different minds. [**Adolescent Symptom Inventory-4**]

- 20-45. Rodriguez-Seijas, C., Gadow, K.D., Rosen, T.E., Kim, H., Lerner, M.D., & Eaton, N.R. (2020). A transdiagnostic model of psychiatric symptom co-occurrence and autism spectrum disorder. *Autism Research*, 13(4), 579-590. DOI:10.1002/aur.2228

Understanding whether the co-occurrence of psychiatric symptoms within autism spectrum disorder (ASD) are specific to the ASD diagnosis or reflect similar higher-order patterns observed in both ASD and non-ASD samples, or a confluence of the two, is of critical importance. If similar, it would suggest that comorbid psychiatric conditions among individuals with ASD are not symptoms of specific, non-ASD psychiatric disorders per se, but reflect a general liability to psychopathology associated with ASD. To this end, the current study examined whether the higher-order structure of co-occurring psychiatric symptoms was the same within ASD and non-ASD youth. Parents of clinic-referred youth with (n = 280) and without (n = 943) ASD completed a DSM-IV-referenced psychiatric symptom rating scale. A confirmatory factor analytic framework was used to examine four levels of measurement invariance across groups to determine the extent to which transdiagnostic factors were comparable. Transdiagnostic factors were characterized by symptoms of the same disorders (configural invariance) and the same factor loadings across groups (metric invariance). Furthermore, both groups evidenced equivalent numbers of symptoms of most psychiatric conditions with the notable exceptions of attention deficit hyperactivity disorder (ADHD) and social anxiety (partial strong invariance), which were higher in the ASD sample. It was concluded that disparities in the co-occurrence of psychiatric symptoms between youth with and without ASD may be largely reflective of transdiagnostic factor level differences associated with ASD and not indicative of the ASD diagnosis per se. However, for ADHD and social anxiety, there appears to be some specific associations with the ASD diagnosis. [**Child and Adolescent Symptom Inventory-4R**]

- 20-46. Rubio, A., Oyanedel, J.C., Cancino, F., Benavente, L., Cespedes, C., Zisis, C., & Paez, Dario. (2020). Social support and substance use as moderators of the relationship between depressive symptoms and suicidal ideation in adolescents. *Frontiers in Psychology*, 11, Article Number: 539165. DOI:10.3389/fpsyg.2020.539165.

Literature reports that depressive symptoms may precede suicidal ideation. Several studies have identified social support and substance use as moderators of this relationship. However, no study has evaluated these variables together by testing how substance use can affect the moderating effect of social support in this relationship. The purpose of this article is to individually evaluate dimensions of social support (friends, family, significant others, and school) and substance use (alcohol, marijuana, and other illicit drugs), as moderators of the relationship between depressive symptoms and suicidal ideation, as well as analyze the moderating role of substance use in the moderation exerted by social support in this relationship. This study, quantitative and cross-sectional, considered 775 adolescents [Average age = 15.48 (SD= 0.96), 45.9% women], from 20 randomly selected schools in Santiago de Chile. Simple moderation models were used to analyze possible moderators separately, and double moderation models were used to analyze the moderating role of substance use in the moderating effect of social support. The results show that the



four dimensions of social support moderate the relationship between depressive symptomatology and suicidal ideation, showing the strongest interaction in the case of family support, followed by support of a significant person, support at school, and support of friends, in that order. On the other hand, alcohol was the only drug that moderated the relationship in question. In addition, the results show that the use of alcohol limits the moderating effect of social support in the fields of family, significant person, and school support, but not in the case of support of friends. The use of marijuana and other illicit drugs did not affect the moderating effects of social support for any of the areas evaluated. The results are discussed according to the different roles that alcohol use can play in adolescence, and how these, together with perceived social support, are related to the emergence of suicidal ideation from depressive symptoms. [**Youth's Inventory -4**; Spanish translation]

20-47. Rukundo, G.Z., Mpango, R.S., Ssembajjwe, W., Gadow, K.D., Patel, V., & Kinyanda, E. (2020). Prevalence and risk factors for youth suicidality among perinatally infected youths living with HIV/AIDS in Uganda: the CHAKA study. *Child and Adolescent Psychiatry and Mental Health*, 14(1), Article Number: 41. DOI:10.1186/s13034-020-00348-0.

Background Research from high income countries indicates that suicide is a major mental health care concern and a leading cause of preventable deaths among children and adolescents. Proper assessment and management of youth suicidality is crucial in suicide prevention, but little is known about its prevalence and associated risk factors in Sub-Saharan Africa. In low income countries there is an increased risk of suicide among persons with HIV/AIDS even in the presence of the highly active antiretroviral therapy. Objective To determine the prevalence of and risk factors for youth suicidality among perinatally infected youth living with HIV/AIDS in Uganda. Methods We studied 392 HIV positive children (5-11 years) and adolescents (12-17 years) and their caregivers in Kampala and Masaka districts. Caregivers were administered the suicide assessment section of the MINI International Psychiatric Interview. Socio-demographic characteristics, psychiatric diagnoses, and psychosocial and clinical factors were assessed and suicidality (suicidal ideation and or suicidal attempt) was the outcome variable. Logistic regression was used to calculate odds ratios adjusting for study site and sex at 95% confidence intervals. Results Caregivers reported a suicidality rate of 10.7% (CI 8-14.1) in the past one month with higher rates among urban female (12.4%, CI 8.6-17.7) than male (8.7%, CI 5.4-13.8) youth. Lifetime prevalence of attempted suicide was 2.3% (n = 9, CI 1.2-4.4) with the highest rates among urban female youth. Among children, caregivers reported a lifetime prevalence of attempted suicide of 1.5%. The self-reported rate of attempted suicide in the past month was 1.8% (n = 7, CI 0.8-3.7) with lifetime prevalence of 2.8% (n = 11, CI 1.6-5.0). The most common methods used during suicide attempts were cutting, taking overdose of HIV medications, use of organophosphates, hanging, stabbing and self-starvation. Clinical correlates of suicidality were low socioeconomic status (OR = 2.27, CI 1.06-4.87, p = 0.04), HIV felt stigma (OR = 2.10, CI 1.04-3.00, p = 0.02), and major depressive disorder (OR = 1.80, CI 0.48-2.10, p = 0.04). Attention-deficit/hyperactivity disorder was protective against suicidality (OR = 0.41, CI 0.18-0.92, p = 0.04). Conclusion The one-month prevalence of suicidality among CA-HIV was 10.7%. [**Child and Adolescent Symptom Inventory-5**, Luganda translation]

20-48. Sakhr, H.M., Hassan, M.H., & Desoky, T. (2020). Possible associations of disturbed neurometals and ammonia with glycaemic control in type 1 diabetic children with attention deficit hyperactivity disorder. *Biological Trace Element Research*. Early Access: FEB 2020. doi:10.1007/s12011-020-02063-5

The chronicity of type 1 diabetes mellitus (T1DM) is reported to be associated with various psychological disorders. The current study aimed to evaluate the levels of serum ammonia and various neurometals (zinc, copper, and magnesium) in patients with T1DM with and without ADHD and to correlate their levels with glycaemic status. A prospective case-control study was conducted with 60 diabetic children with T1DM (allocated into a group of 20 patients with a diagnosis of ADHD and a group of 40 patients without ADHD) who were comparable to 60 matched controls. Assays of glucose, glycated haemoglobin (HbA1c), ammonia, zinc, copper, and magnesium were performed. Overall, ammonia and copper levels were significantly higher in the diabetic patients especially those with ADHD than in the control group (p < 0.05 for all). The calculated copper/zinc ratio was significantly higher in the diabetic patient group than in the control group and higher in diabetic children with ADHD than in diabetic children without ADHD (p < 0.05 for all). Diabetic children had significantly lower magnesium levels than the controls (p < 0.05), but no significant difference between the diabetic subgroups was detected. A positive correlation between glycaemic control (HbA1c %) and ammonia level was found in the diabetic group and subgroups, and a positive correlation was found between HbA1c % and the Cu/Zn ratio in diabetic children with ADHD (p < 0.05 for all). The current study confirms an association of elevated ammonia and copper/zinc ratio with poor glycaemic control and ADHD development among children with T1DM. [**ADHD-Symptom Checklist-4**, Egyptian Arabic translation]

- 20-49. Salisbury, T.T., Kinyanda, E., Levin, J., Foster, A., Mpango, R., Patel, V., & Gadow, K.D. (2020). Clinical correlates and adverse outcomes of ADHD, disruptive behavior disorder and their co-occurrence among children and adolescents with HIV in Uganda. *AIDS Care-Psychological and Socio-Medical Aspects of Aids/HIV*. Early Access: MAR 2020. DOI:10.1080/09540121.2020.1742860

Attention-deficit/hyperactivity disorder (ADHD), oppositional defiant disorder (ODD), and conduct disorder (CD) are important mental health concerns among children and adolescents living with HIV (CA-HIV). This study examines clinical correlates and adverse outcomes associated with ADHD, ODD/CD and ADHD + ODD/CD among (N = 1,336) CA-HIV living in Uganda. Being male, higher socio-economic status, emotional disorder, greater caregiver distress and youth-caregiver conflict were associated with a greater risk of behavioral disorders, particularly ADHD + ODD/CD. This group was also five-times more likely to have engaged in sex than their peers and report greater disciplinary problems at school than those without a behavioral disorder. These findings highlight the distinct clinical presentation and adverse outcomes associated with ADHD + ODD/CD among CA-HIV. As more CA-HIV are surviving into adulthood, screening and treatment of mental disorders is needed to ensure they are given the chance to thrive. In addition to youth, interventions should target caregivers due to their impact on youth outcomes. [***Child and Adolescent Symptom Inventory-5***, Luganda translation]

- 20-50. Santore, L.A., Gerber, A., Gioia, A.N., Bianchi, R., Talledo, F., Peris, T.S., & Lerner, M.D. (2020). Felt but not seen: Observed restricted repetitive behaviors are associated with self-report-but not parent-report-obsessive-compulsive disorder symptoms in youth with autism spectrum disorder. *Autism*, Article Number: UNSP 1362361320909177. Early Access: MAR 2020. DOI:10.1177/1362361320909177

Repetitive behaviors are observed in autism spectrum disorder and obsessive-compulsive disorder. Clinically, obsessive-compulsive disorder obsessions are thought to drive repetitive or ritualistic behavior designed to neutralize subjective distress, while restricted and repetitive behaviors are theorized to be reward- or sensory-driven. Both behaviors are notably heterogeneous and often assessed with parent- or clinician-report, highlighting the need for multi-informant, multi-method approaches. We evaluated the relationship between parent- and child self-reported obsessive-compulsive disorder symptoms with parent-reported and clinician-indexed restricted and repetitive behaviors among 92 youth with autism spectrum disorder (ages 7-17 years). Regression analyses controlling for the social communication and interaction component of parent-reported autism spectrum disorder symptoms indicated child self-reported, but not parent-reported, symptoms of obsessive-compulsive disorder were associated with clinician-observed restricted and repetitive behaviors. Although both parent- and child self-reported obsessive-compulsive disorder symptoms were associated with parent-reported restricted and repetitive behaviors, the overlap between parent-reports of obsessive-compulsive disorder symptoms and restricted and repetitive behaviors were likely driven by their shared method of parent-reported measurement. Results suggest that children experience restricted and repetitive behaviors in ways that more closely resemble traditional obsessive-compulsive disorder-like compulsions, whereas their parents view such behaviors as symptoms of autism spectrum disorder. These findings provide guidance for better understanding, distinguishing, and ultimately treating obsessive-compulsive disorder behavior in youth with autism spectrum disorder and introduce new conceptualizations of the phenotypic overlap between these conditions. [***Child and Adolescent Symptom Inventory-5***]

- 20-51. Sartor, C.E., Hipwell, A.E., & Chung, T. (2020). Public and private religious involvement and initiation of alcohol, cigarette, and marijuana use in Black and White adolescent girls. *Social Psychiatry and Psychiatric Epidemiology*, 55(4), 447-456. DOI: 10.1007/s00127-020-01830-y

**Purpose** This longitudinal study aimed to identify variation by race in the associations between religious involvement and initiation of alcohol, cigarette, and marijuana use, including distinctions by substance or type of religious involvement, in Black and White adolescent girls. **Methods** Data were drawn from interviews conducted at ages 11 through 17 with 2172 Pittsburgh Girls Study participants (56.8% Black; 43.2% White). Two indicators of public religious involvement, religious service attendance and participation in other religious activities, and two indicators of private religious involvement, prayer, and importance of religion were queried. A series of Cox proportional hazards regression analyses were conducted to identify independent effects of religious involvement indicators on initiation of each

substance. Results Prior to adjusting for socioenvironmental and psychosocial factors (e.g., parental monitoring), importance of religion predicted initiation of alcohol use across race and cigarette and marijuana use in White but not Black girls. Participation in other religious activities also predicted marijuana use initiation only in White girls. In adjusted models, importance of religion remained significant for cigarette use initiation in White girls (hazard ratio [HR] = 0.68, 95% confidence intervals [CI]: 0.53-0.88) and participation in other religious activities remained significant for marijuana use initiation in White girls (HR = 0.63, CI: 0.47-0.83). Conclusions The protective effects of religious involvement against cigarette and marijuana use initiation are more robust for White than Black adolescent girls and overall relatively weak for alcohol use initiation. Furthermore, importance placed on religion may be a better indicator than religious service attendance of risk for adolescent substance use initiation. [**Adolescent Symptom Inventory-4**]

20-52. Sharpley, C., Bitsika, V., & Sarmukadam, K. (2020). Variation in social anxiety and separation anxiety over age in ASD and non-ASD young males: Issues for clinical assessment and treatment-planning. *International Journal of Disability Development and Education*. Jan 2020, early access. doi: 10.1080/1034912X.2019.1709627

To further understand how young males with Autism Spectrum Disorder (ASD) experience anxiety, two specific forms of anxiety were examined in samples of boys with ASD and their non-ASD (NASD) peers. Self-reports on the *Child and Adolescent Symptom Inventory* (4th rev.) were collected from 117 ASD boys and 50 NASD boys, aged from 6 yr to 17 yr who were matched for IQ and age. Data regarding their Social Anxiety and Separation Anxiety were examined and indicated that the ASD boys had significantly elevated levels of both forms of anxiety compared to their NASD peers. When examined at two-yearly age intervals, the ASD boys continued to exhibit high levels of Social Anxiety over age but the NASD boys showed a gradual decrease in this form of anxiety with age. Although Separation Anxiety showed a gradual decrease with age in the ASD group, that result was different for four of the Separation Anxiety symptoms, thus identifying aspects of Separation Anxiety that may remain elevated despite decreases in some other aspects with age. These results have implications for assessment of anxiety in boys with ASD and for the development of treatment plans aimed at assisting them to function effectively. [**Child and Adolescent Symptom Inventory-4**]

20-53. Sharpley, C. & Bitsika, V. (2020). The association between self-rated social anxiety, social functioning, and eating disturbances in girls with autism spectrum disorder. *International Journal of Disability Development and Education*. Early Access: FEB 2020. doi:10.1080/1034912X.2020.1731435

Eating Disturbances (ED) are common in young people with Autism Spectrum Disorder (ASD) and may be influenced by Social Functioning and Social Anxiety, but no report has been made of the relative associations between these factors. Fifty-three girls with ASD aged (M age = 9.6 yr, range = 6 yr to 14 yr) rated their Social Anxiety and their ED, and their mothers provided information on the girls' Social Awareness, -Cognition, and -Communication. The girls' self-rated Social Anxiety was significantly associated with their self-ratings of their ED, but mothers' ratings of the girls' Social Functioning was not significantly correlated with ED. The underlying factors involved in these relationships appeared to be related to restricted behaviour patterns and extreme anxiety regarding social interactions. Implications for future research and clinical practice are discussed. [**Child and Adolescent Symptom Inventory-5; Youth's (Self-Report) Inventory-4**]

20-54. Shuster, C.L., Houck, C.D., & Tooley, E.M. (2020). Adolescent emotion regulation and parent-child discussions about sexual behaviors. *International Journal of Sexual Health*, Early Access  
DOI: 10.1080/19317611.2020.1858381

Risky sexual behavior can lead to negative outcomes (e.g., pregnancy, sexually transmitted infections). Adolescents may engage in risky sex less often if families talk about sexual safety or if adolescents engage in emotion regulation (ER) skills, however, research is lacking on how ER may be a barrier to sexual health communication. This exploratory study was a secondary analysis of baseline information from 420 American adolescents referred for mental health symptoms and their parents regarding ER and sexual health communication. Significant differences emerged on adolescent ER between families that talk about sexual health and those that do not. [**Adolescent Symptom Inventory-4**]

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- 20-55. Shulman, C., Rice, C.E., Morrier, M.J., & Esler, A. (2020). The role of diagnostic instruments in dual and differential diagnosis in autism spectrum disorder across the lifespan. *Child and Adolescent Psychiatric Clinics of North America*, 29(2), 275-+. DOI:10.1016/j.chc.2020.01.002

The heterogeneity inherent in autism spectrum disorder (ASD) makes the identification and diagnosis of ASD complex. We survey a large number of diagnostic tools, including screeners and tools designed for in-depth assessment. We also discuss the challenges presented by overlapping symptomatology between ASD and other disorders and the need to determine whether a diagnosis of ASD or another diagnosis best explains the individual's symptoms. We conclude with a call to action for the next steps necessary for meeting the diagnostic challenges presented here to improve the diagnostic process and to help understand each individual's particular ASD profile. [**Child and Adolescent Symptom Inventory-5**]

- 20-56. Smit, S., Mikami, A.Y., & Normand, S. (2020). Correlates of loneliness in children with attention-deficit/hyperactivity disorder: comorbidities and peer problems. *Child Psychiatry & Human Development*. Early Access: JAN 2020. doi:10.1007/s10578-020-00959-w

Children with attention-deficit/hyperactivity disorder (ADHD) are well-documented to experience social-emotional difficulties; however, little is known about their loneliness—an aspect of social-emotional functioning. Using a cross-sectional design, we examined how loneliness relates to comorbid internalizing disorders, externalizing disorders, and peer problems in a sample of 213 children with ADHD. Children (66 girls, M-age = 8.58, SDage = 1.55) reported their loneliness. Comorbid internalizing and externalizing disorders were assessed via a multi-informant procedure. Proportion of classmates who accepted, rejected, and ignored the child, friendship quantity, and friendship quality were peer problem indicators. Results suggested that children with comorbid internalizing disorders, fewer friendships, or potentially more negative friendship quality, reported more loneliness. Gender appeared to moderate the association between peer rejection and loneliness, such that boys with peer rejection reported more loneliness than girls. Clinical implications include targeting loneliness as a social-emotional problem to assess and treat in children with ADHD. [**Child Symptom Inventory-4**]

- 20-57. Tung, I.E., Keenan, K., Stepp, S.D., & Hipwell, A.E. (2020). The moderating effects of traumatic stress on vulnerability to emotional distress during pregnancy. *Development and Psychopathology*, 32(2), 673-686. Article Number: PII S0954579419000531. DOI: 10.1017/S0954579419000531

Emotional distress during pregnancy is likely influenced by both maternal history of adversity and concurrent prenatal stressors, but prospective longitudinal studies are lacking. Guided by a life span model of pregnancy health and stress sensitization theories, this study investigated the influence of intimate partner violence (IPV) during pregnancy on the association between childhood adversity and prenatal emotional distress. Participants included an urban, community-based sample of 200 pregnant women (aged 18-24) assessed annually from ages 8 to 17 for a range of adversity domains, including traumatic violence, harsh parenting, caregiver loss, and compromised parenting. Models tested both linear and nonlinear effects of adversity as well as their interactions with IPV on prenatal anxiety and depression symptoms, controlling for potential confounds such as poverty and childhood anxiety and depression. Results showed that the associations between childhood adversity and pregnancy emotional distress were moderated by prenatal IPV, supporting a life span conceptualization of pregnancy health. Patterns of interactions were nonlinear, consistent with theories conceptualizing stress sensitization through an "adaptive calibration" lens. Furthermore, results diverged based on adversity subdomain and type of prenatal IPV (physical vs. emotional abuse). Findings are discussed in the context of existing stress sensitization theories and highlight important avenues for future research and practice. [**Child Symptom Inventory-4, Adult Self Report Inventory-4**]

- 20-58. van den Bedem, N.P., Dockrell, J.E., van Alphen, P.M., & Rieffe, C. (2020). Emotional competence mediates the relationship between communication problems and reactive externalizing problems in children with and without developmental language disorder: a longitudinal study. *International Journal of Environmental Research and Public Health*, 17(16), Article Number: 6008. DOI:10.3390/ijerph17166008.

Language problems are a risk factor for externalizing problems, but the developmental path remains unclear. Emotional competence may mediate the relationship, especially when externalizing problems are reactive in nature,

such as in Oppositional Deviant Disorder (ODD) and reactive aggression. We examined the development of reactive and proactive externalizing problems in children with ( $n = 98$ ) and without ( $n = 156$ ) Developmental Language Disorder (DLD; age: 8-16 years) over 18 months. Relationships with communicative risk factors (structural, pragmatic and emotion communication) and the mediating role of emotional competence (emotion recognition and anger dysregulation) were examined. Multi-level analyses showed that increasing emotion recognition and decreasing anger dysregulation were longitudinally related to decreasing ODD symptoms in both groups, whereas anger dysregulation was related to more reactive aggression in children with DLD alone. Pragmatic and emotion communication problems were related to more reactive externalizing problems, but these relationships were mediated by emotional competence, suggesting that problems in emotional competence explain the communication problems of children with DLD. Therefore, in addition to interventions for communication skills, there is a need to address the emotional competence of children with DLD, as this decreases the risk for reactive externalizing problems. [*Child Symptom Inventory-4*, Dutch translation]

20-59. Villodas, M.T., Pffner, L., Moses, J.O., Hartung, C., & McBurnett, K. (2019). The roles of student gender, race, and psychopathology in teachers' identification of students for services. *Children and Youth Services Review*, 107, Article Number:104468. doi:10.1016/j.childyouth.2019.104468

The present study investigated whether academic, social, emotional, and behavioral factors mediated disparities in teachers' identification of boys and girls from different racial/ethnic backgrounds in need of family-based prevention services. Teachers ( $n = 157$ ) from regular education classrooms at 17 public elementary schools anonymously nominated the boy ( $n = 157$ ) and girl ( $n = 156$ ) in their class most in need of services. An age- and grade-matched boy ( $n = 158$ ) and girl ( $n = 156$ ) were randomly selected from the same classrooms, resulting in a total of 627 students (Mean age = 8.37; 62% White, 8% Black, 8% Latina/o, 13% Asian-American, 9% mixed/ other). Teachers rated students' aggressive behavior and depressive, generalized anxiety, inattentive, oppositional defiant, and conduct symptoms. Mediation models were tested accounting for clustering of students within classrooms. Black students were more likely to be nominated than all other groups, and Latina/o and White students were more likely to be nominated than Asian-American students. Racial/ethnic disparities were largely accounted for by inattentive symptoms and externalizing problems for boys and girls. However, Black students were still more likely to be nominated than White or Asian-American students. Consultation could prepare teachers to accurately identify and manage variations in problematic behaviors among students from diverse racial/ethnic backgrounds. [*Child Symptom Inventory-4*]

20-60. Voltas, N., Hernandez-Martinez, C., Arija, V., & Canals, J. (2020). Suicidality in a community sample of early adolescents: A three-phase follow-up study. *Archives of Suicide Research*, 24(Suppl 2), S217-S235. DOI:10.1080/13811118.2019.1588816.

The aim of the study was to collect data on suicidal ideation and suicidal risk prevalence in a three-phase epidemiological study. In the first phase, 1,514 participants (720 boys; mean-age = 10.2) filled out the Children's Depression Inventory (CDI) and other psychopathological tests. 562 individuals (mean-age = 11.3) were selected to participate in the second phase as at-risk individuals of emotional disorders or as controls, and the CDI and the Mini-International Neuropsychiatric Interview for Children and Adolescents (M.I.N.I.-Kid) were administered. In the third phase the participants (245; mean-age = 13.5) filled out the Youth's Inventory-4. The results of the CDI indicated that 15.9% of the participants showed suicidal ideation in the first phase, and 18.2% and 18.0% in the second and third phases, respectively. 33.0% of the participants persisted at 1 year of follow-up with suicidal ideation. The M.I.N.I.-Kid showed 12.2% past suicidal risk and a current risk of 2.4%. The current suicidal risk was mainly related to depressive disorders (OR 30.3). Predictors of current suicidal risk for boys included having previous depressive symptoms. For girls predictors included having previous anxiety and obsessive-compulsive symptoms, suicidal ideation and lower socioeconomic status. Spanish early adolescents had relevant rates of suicidal behavior; thus, it is important to create and apply prevention programs that consider the risk factors. [*Youth's Inventory-4*]

20-61. Wang, L.A.L., Herrington, J.D., Tunc, B., & Schultz, R.T. (2020). Bayesian regression-based developmental norms for the Benton Facial Recognition Test in males and females. *Behavior Research Methods*, 52(4), 1516-1527. DOI: 10.3758/s13428-019-01331-0

Face identity recognition is important for social interaction and is impaired in a range of clinical disorders, including several neurodevelopmental disorders. The Benton Facial Recognition Test (BFRT; Benton & Van Allen, 1968), a widely used assessment of identity recognition, is the only standardized test of face identity perception, as opposed to

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face memory, that has been normed on children and adolescents. However, the existing norms for the BFRT are suboptimal, with several ages not represented and no established time limit (which can lead to inflated scores by allowing individuals with prosopagnosia to use feature matching). Here we address these issues with a large normative dataset of children and adolescents (ages 5-17, N= 398) and adults (ages 18-55; N= 120) who completed a time-limited version of the BFRT. Using Bayesian regression, we demonstrate that face identity perception increases asymptotically from childhood through adulthood, and provide continuous norms based on age and sex that can be used to calculate standard scores. We show that our time limit of 16 seconds per item yields scores comparable to the existing norms without time limits from the non-prosopagnostic samples. We also find that females (N= 156) score significantly higher than males (N= 362), supporting the existence of a female superiority effect for face identification. Overall, these results provide more robust norms for the BFRT and promote future research on face identity perception in developmental populations. [**Child Symptom Inventory-4**]

20-62. Woerner, J., Ye, F., Hipwell, A.E., Chung, T., & Sartor, C.E. (2020). Relational peer victimization interacts with depression severity to predict the timing of alcohol use initiation in adolescent girls. *Alcoholism-Clinical and Experimental Research*. Dec 2019, early access. doi:10.1111/acer.14241

Background Peer victimization is consistently linked to adolescents' alcohol use. However, the relative influence of relational and physical peer victimization on alcohol use, and timing of drinking initiation, is not well understood. In this study, we evaluate the impact of both relational and physical peer victimization on adolescent girls' alcohol use initiation, and the extent to which depression severity moderates these associations. Methods Participants were 2,125 girls in the Pittsburgh Girls Study, a longitudinal community-based study. Participants reported experiences of relational and physical peer victimization, depression severity, and alcohol use each year from ages 10 to 17. Cox proportional hazards (PH) regression analyses predicting the timing of first drink were conducted in 2 stages, testing for main effects of peer victimization in Model 1 and moderation by depression severity in Model 2. Results Analyses were split at age 14 to adjust for PH violations. Model 1 results supported a main effect for relational (Hazard ratio [HR] = 1.83, CI: 1.46 to 2.28  $\leq$  age 13; HR = 1.23, CI: 1.05 to 1.45  $\geq$  age 14) but not physical victimization on timing of alcohol use onset (HR = 1.10, CI: 0.88 to 1.39). Model 2 results show that depression severity moderates the association between relational victimization and alcohol use initiation: the association between relational victimization and early alcohol use onset was stronger for lower depression severity (-1 SD HR = 2.38, CI: 1.68 to 3.39  $\leq$  age 13; -1 SD HR = 1.48, CI: 1.10 to 1.52  $\geq$  age 14). Conclusions Results demonstrate that relational (and not physical) victimization predicts earlier drinking among adolescent girls. Relational peer victimization conferred greater risk for alcohol use initiation when depression severity was lower, whereas girls with high depression severity engaged in early alcohol use regardless of peer victimization. Results suggest that interventions focused on relational peer victimization may have spillover effects for delaying girls' alcohol use initiation, particularly in early adolescence, when this association is most robust. [**Child Symptom Inventory-4, Youth's (Self-Report) Inventory-4**]

20-63. Zahed, G., & Koohi, F. (2020). Emotional and behavioral disorders in pediatric cancer patients. *Iranian Journal of Child Neurology*, 14(1), 113-121.

Objectives: Childhood malignancies raise a range of medical, psychological and social concerns. Identifying psychiatric disorders along with providing mental health services to prevent the emergence and aggravation of mental health problems in children seems necessary in pediatric hospitals. We aimed to find out the frequency of probable emotional and behavioral disorders among children and adolescents with malignancy. Materials & Methods: This was a cross-sectional study conducted at the Hematology Oncology Ward of Mofid Hospital, Tehran, Iran, during 2017-2018. Emotional and behavioral disorders were assessed in 399 pediatric cancer patients aged 5 to 12 years using the Parent Checklist of CSI-4. Results: Overall, 89.2% of the samples met the diagnostic criteria for at least one disorder. The most prevalent psychiatric disorders were specific phobia (57%), enuresis (41.9%), obsessive-compulsive disorder (45.6%) and separation anxiety disorder (30.3%). Our results did not show any significant relationship between gender or disease type and the prevalence of psychiatric disorders. Conclusion: The prevalence of emotional and behavioral disorders in pediatric cancer patients admitted to children's hospitals is common. These disorders affect the treatment and quality of life of these patients. Therefore, our findings may guide parents, nurses and clinicians to become more cognizant of the identification and management of these disorders. [**Child Symptom Inventory-4**, Persian translation]

- 20-64. Zimmermann, M., O'Donohue, W., & Vechiu, C. (2020). A primary care prevention system for behavioral health: the behavioral health annual wellness checkup. *Journal of Clinical Psychology in Medical Settings*, 27(2), 268-284. DOI: 10.1007/s10880-019-09658-8

Behavioral health problems are involved in the majority of primary care visits. These behavior disorders (e.g., depression, anxiety, smoking, insomnia, etc.) are costly, burdensome to both the patient and the healthcare system, and result in greater medical utilization/cost and poorer future health outcomes. Integrated behavioral healthcare has been proposed as a model for more efficiently addressing the burden of behavioral health problems. While this model has demonstrated some promise in the treatment of behavioral health problems, as well as in the reduction in costs and improvement in healthcare outcomes, the primary prevention of behavioral health problems in this delivery model has been relatively neglected. The present paper discusses the potential value of incorporating the prevention of behavioral health problems into the annual physical/wellness checkup and proposes a detailed system for how this might be accomplished. Limitations, future research, and costs associated with increased prevention in a primary care context are discussed. [**Adolescent Symptom Inventory-4**]

### YEAR: 2019

- 19-1. Adams, D., MacDonald, L., & Keen, D. (2019). Teacher responses to anxiety-related behaviours in students on the autism spectrum. *Research in Developmental Disabilities*, 86, 11-19. DOI: 10.1016/j.ridd.2018.12.009

Background: At least 50% of students on the autism spectrum experience clinical or subclinical levels of anxiety but there is scant research on how teachers respond to anxiety in children on the spectrum. Aims: To compare teacher responses to anxiety-related behaviour in students who do and do not have a diagnosis on the spectrum using the Teacher Responses to Anxiety in Children (TRAC). Methods and procedures: Teachers (N = 64), predominantly from mainstream primary schools, completed an online survey comprised of a demographic questionnaire and two versions of the TRAC, one for students without autism and one for students with autism. Outcomes and results: Teachers report differences in the way they would likely respond to anxiety-related behaviours observed in students with and without autism. Teachers reported being more likely to use anxiety-promoting responses for students with autism who are showing behaviours indicative of general and separation anxiety, but not when they are showing behaviours indicative of social anxiety. Whilst there was no significant difference in the overall likelihood of use of autonomy-promoting responses between groups, there were differences in the likelihood of using specific autonomy-promoting responses dependent upon diagnosis and type of anxiety. Conclusions and implications: Teachers report they are likely to respond differently to anxiety-related behaviours of students on the autism spectrum but the impact of this on the behaviour of these students is yet to be determined. Professional development is a priority to increase teacher knowledge about anxiety-related behaviours in students with autism and the ways in which teachers' responses may promote or reduce anxiety and autonomy. [**Child Symptom Inventory-4**]

- 19-2. Arnold, L.E., Van Meter, A.R., Fristad, M.A., Youngstrom, E.A., Birmaher, B.B., Findling, R.L., Horwitz, S., & Black, S.R. (2019). Development of bipolar disorder and other comorbidity among youth with attention-deficit/hyperactivity disorder. *Journal of Child Psychology and Psychiatry*, DOI: 10.1111/jcpp.13122. Early Access: SEP 2019.

Objective: To examine development of bipolar spectrum disorders (BPSD) and other disorders in prospectively followed children with attention-deficit/hyperactivity disorder (ADHD). Method: In the Longitudinal Assessment of Manic Symptoms (LAMS) study, 531 of 685 children age 6-12 (most selected for scores > 12 on General Behavior Inventory 10-item Mania scale) had ADHD, 112 with BPSD, and 419 without. With annual assessments for 8 years, retention averaged 6.2 years. Chi-square analyses compared rate of new BPSD and other comorbidity between those with versus without baseline ADHD and between retained versus resolved ADHD diagnosis. Cox regression tested factors influencing speed of BPSD onset. Results: Of 419 with baseline ADHD but not BPSD, 52 (12.4%) developed BPSD, compared with 16 of 110 (14.5%) without either baseline diagnosis. Those who developed BPSD had more nonmood comorbidity over the follow-up than those who did not develop BPSD ( $p = .0001$ ). Of 170 who still had ADHD at eight-year follow-up (and not baseline BPSD), 26 (15.3%) had developed BPSD, compared with 16 of 186 (8.6%) who had ADHD without BPSD at baseline but lost the ADHD diagnosis ( $\chi^2(2) = 3.82$ ,  $p = .051$ ). There was no statistical difference in whether ADHD persisted or not across new BPSD subtypes ( $\chi^2(2) = 1.62$ ,  $p = .446$ ). Of those who developed BPSD, speed of onset was not significantly related to baseline ADHD ( $p = .566$ ), baseline anxiety ( $p = .121$ ), baseline depression ( $p = .185$ ), baseline disruptive behavior disorder ( $p = .184$ ), age ( $B = -.11$ ,  $p = .092$ ),

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maternal mania ( $p = .389$ ), or paternal mania ( $B = .73$ ,  $p = .056$ ). Those who started with both diagnoses had more severe symptoms/impairment than those with later developed BPSD and reported having ADHD first. Conclusions: In a cohort selected for symptoms of mania at age 6-12, baseline ADHD was not a significant prospective risk factor for developing BPSD. However, persistence of ADHD may marginally mediate risk of BPSD, and early comorbidity of both diagnoses increases severity/impairment. [**Child and Adolescent Symptom Inventory-4R**]

- 19-3. Beauchaine, T.P., Sauder, C.L., Derbidge, C.M., & Uyeji, L.L. (2019). Self-injuring adolescent girls exhibit insular cortex volumetric abnormalities that are similar to those seen in adults with borderline personality disorder. *Development and Psychopathology*, 31(4), 1203-1212. Article Number: PII S0954579418000822. DOI: 10.1017/S0954579418000822

Self-inflicted injury (SII) in adolescence is a serious public health concern that portends prospective vulnerability to internalizing and externalizing psychopathology, borderline personality development, suicide attempts, and suicide. To date, however, our understanding of neurobiological vulnerabilities to SII is limited. Behaviorally, affect dysregulation is common among those who self-injure. This suggests ineffective cortical modulation of emotion, as observed among adults with borderline personality disorder. In borderline samples, structural and functional abnormalities are observed in several frontal regions that subserve emotion regulation (e.g., anterior cingulate, insula, dorsolateral prefrontal cortex). However, no volumetric analyses of cortical brain regions have been conducted among self-injuring adolescents. We used voxel-based morphometry to compare cortical gray matter volumes between self-injuring adolescent girls, ages 13-19 years ( $n = 20$ ), and controls ( $n = 20$ ). Whole-brain analyses revealed reduced gray matter volumes among self-injurers in the insular cortex bilaterally, and in the right inferior frontal gyrus, an adjacent neural structure also implicated in emotion and self-regulation. Insular and inferior frontal gyrus gray matter volumes correlated inversely with self-reported emotion dysregulation, over-and-above effects of psychopathology. Findings are consistent with an emotion dysregulation construal of SII, and indicate structural abnormalities in some but not all cortical brain regions implicated in borderline personality disorder among adults. [**Youth's (Self Report) Inventory-4**]

- 19-4. Bitsika, V., & Sharpley, C.F. (2019). The effects of 'preferredness of task' on stress, emotion, and behaviour responses to forced activity transitions in boys with ASD. *International Journal of Developmental Neuroscience*, 75, 36-43. DOI: 10.1016/j.ijdevneu.2019.04.003

Background: Many children with Autism Spectrum Disorder (ASD) exhibit distress when asked to transition from one task to another. This study aimed to determine if physiological stress during transition was due to ASD-related rigidity or to their preference for some tasks over others. Method: The effects of change of task alone versus a change in task 'preferredness' when undergoing forced activity transition were investigated in 29 boys with Autism Spectrum Disorder. Results: Total sample data indicated a significant increase in heart rate (HR) during transition from a preferred to a non-preferred task, but not during transition from one preferred task to another preferred task, or from a non-preferred task to a preferred task. These data are suggestive of an effect due to the 'preferredness' of the task rather than just the change in task alone. Two subgroups of participants emerged, one which followed the 'expected' HR responsivity model to stress, and one which failed to follow that model. Conclusion: Transition-related distress may be confounded by preferredness of task when understanding transition stress in boys with ASD. [**Child and Adolescent Symptom Inventory-4R**]

- 19-5. Boreni, J.L., Smiley, P.A., Gaskin, G., Pham, P.T., Kussman, M., & Shahar, B. (2019). Children's and parents' perceptions of vulnerability as weakness: associations with children's well-being. *Journal of Child and Family Studies*, 28(10), 2727-2741. DOI: 10.1007/s10826-019-01453-1

Objectives The importance of vulnerability expression for well-being is a prominent theme in contemporary psychology, but empirical support for this claim is lacking, including evidence for the belief that males are less open to states of vulnerability than females, and that people who are more judgmental of vulnerability experience difficulties in emotion regulation, and psychological well-being. Robust theoretical perspectives (attachment theory, emotion socialization) hold that children's views regarding vulnerability originate within the parent-child relationship; here we empirically examine parents' and children's views regarding vulnerability. Methods We explored school-aged children's (8 to 12 years) and their parents' ( $N = 121$ ) meta-emotional distress regarding vulnerability, as well as their perceptions of experiencing vulnerability as weak or strong, and their affective and behavioral reactions to vulnerability. We also compared perceptions of physical versus emotional vulnerability. Results There were few gender differences in perceptions of vulnerability; however, children and parents evaluated physical vulnerability more favorably than



emotional vulnerability. While meta-emotional distress to vulnerability was not consistently associated with emotion dysregulation or psychopathology, perceiving vulnerability as weak and as a reason to distance oneself, to not like the experiencer (children) or to discourage such expression (parents), were robustly associated with depressive symptoms and rejection sensitivity. Conclusions Building relationships in which expressions of vulnerability-especially emotional vulnerability (states of fear and sadness)-are accepted and perceived as a means of building emotional resilience comports with attachment theory and with emotion- and attachment-based therapy principles. [**Child Symptom Inventory-4**]

- 19-6. Brock, R.L. & Kochanska, G. (2019). Anger in infancy and its implications: History of attachment in mother-child and father-child relationships as a moderator of risk. *Development and Psychopathology*, 31(4), 1353-1366. Article Number: PII S0954579418000780. DOI: 10.1017/S0954579418000780

Growing research has documented distinct developmental sequelae in insecure and secure parent-child relationships, supporting a model of early attachment as moderating future developmental processes rather than, or in addition to, a source of direct effects. We explored maladaptive developmental implications of infants' anger proneness in 102 community families. Anger was assessed in infancy through observations in the Car Seat episode and parents' ratings. Children's security with parents was assessed in the Strange Situation paradigm at 15 months. At preschool age, child negativity (defiance and negative affect) was observed in interactions with the parent, and at early school age, oppositionality was rated by parents and teachers. Security was unrelated to infant anger; however, it moderated associations between infant anger and future maladaptive outcomes, such that highly angry infants embarked on a negative trajectory in insecure, but not in secure, parent-child dyads. For insecure, but not secure, mother-child dyads, infants' mother-rated anger predicted negativity at preschool age. For insecure, but not secure, father-child dyads, infants' anger in the Car Seat predicted father- and teacher-rated oppositional behavior at early school age. Results highlight the developmentally complex nature of the impact of attachment, depending on the relationship with mother versus father, type of measure, and timing of effects. [**Child Symptom Inventory-4**]

- 19-7. Byrd, A.L., Manuck, S.B., Hawes, S.W., Vebares, T.J., Nimgaonkar, V., Chowdari, K.V., Hipwell, A.E., Keenan, K., & Stepp, S.D. (2019). The interaction between monoamine oxidase A (MAOA) and childhood maltreatment as a predictor of personality pathology in females: Emotional reactivity as a potential mediating mechanism. *Development and Psychopathology*, 31(1), 361-377. DOI: 10.1017/S0954579417001900

Research consistently demonstrates that common polymorphic variation in monoamine oxidase A (MAOA) moderates the influence of childhood maltreatment on later antisocial behavior, with growing evidence that the "risk" allele (high vs. low activity) differs for females. However, little is known about how this Gene x Environment interaction functions to increase risk, or if this risk pathway is specific to antisocial behavior. Using a prospectively assessed, longitudinal sample of females (n = 2,004), we examined whether changes in emotional reactivity (ER) during adolescence mediated associations between this Gene x Environment and antisocial personality disorder in early adulthood. In addition, we assessed whether this putative risk pathway also conferred risk for borderline personality disorder, a related disorder characterized by high ER. While direct associations between early maltreatment and later personality pathology did not vary by genotype, there was a significant difference in the indirect path via ER during adolescence. Consistent with hypotheses, females with high-activity MAOA genotype who experienced early maltreatment had greater increases in ER during adolescence, and higher levels of ER predicted both antisocial personality disorder and borderline personality disorder symptom severity. Taken together, findings suggest that the interaction between MAOA and early maltreatment places women at risk for a broader range of personality pathology via effects on ER. [**Child Symptom Inventory-4, Adult Self Report Inventory-4**]

- 19-8. Calub, C.A., Rapport, M.D., Friedman, L.M., & Eckrich, S.J. (2019). IQ and academic achievement in children with ADHD: the differential effects of specific cognitive functions. *Journal of Psychopathology and Behavioral Assessment*, 41(4), 639-651. DOI: 10.1007/s10862-019-09728-z

The co-occurrence of lower full-scale intellectual abilities (FSIQ) and academic achievement deficits in children with ADHD is well established; however, the extent to which the relation reflects the influence of a general factor (g) deficiency or deficiencies in one or more specific intellectual abilities remains speculative and was the focus of the current investigation. Twenty-eight boys with ADHD-combined presentation and 26 neurotypical (NT) boys between 8 and 12 years of age were administered the WISC-IV and standardized measures of reading and math. FSIQ and achievement scores in both reading and math were significantly lower for the ADHD relative to the NT group; however,

examination of WISC-IV index scores revealed that group level differences in FSIQ resulted from lower scores on two of the four specific intellectual ability indices-Working Memory (WMI) and Verbal Comprehension (VCI). Bias-corrected bootstrapped mediation analyses revealed that both WMI and VCI contributed uniquely to the ADHD-Academic Achievement relation. The contribution of WMI to ADHD-related academic underachievement reflected lower scores on the Letter-Number Sequencing (LNS) but not the Digit Span (DS) subtest. Both LNS and VCI explained ADHD-related differences in reading, whereas LNS alone explained ADHD-related differences in math. Collectively these findings suggest that strengthening deficient higher-level WM abilities, in conjunction with empirically based academic instruction, is needed to improve learning outcomes in children with ADHD. [*Child Symptom Inventory-4*]

- 19-9. Canals, J., Voltas, N., Hernandez-Martinez, C., Cosi, S., & Arijia, V. (2019). Prevalence of DSM-5 anxiety disorders, comorbidity, and persistence of symptoms in Spanish early adolescents. *European Child & Adolescent Psychiatry*, 28(1), 131-143. DOI: 10.1007/s00787-018-1207-z

Anxiety Disorders (AD) are the most prevalent mental disorders in children and adolescents and a relevant public health problem. The study aimed to determine the prevalence of ADs, the comorbidity, the sociodemographic correlates, and the functional impairment in Spanish school children. The initial sample included 1514 subjects (720 boys; mean age=10.2), who filled out the Screen for Children's Anxiety-Related Emotional Disorders (SCARED). In a second phase, 562 subjects at risk and not-at-risk of anxiety were assessed with the Mini-International Neuropsychiatric Interview for Children and Adolescents to obtain DSM-5 diagnoses. Two years later (third phase; mean age 13.5), the SCARED was re-administered. The weighted prevalence of any AD was 11.8%. The most prevalent subtypes were specific phobia (16.2%) and generalized anxiety disorder (GAD) (6.9%). Girls showed higher rates of social anxiety (5.5%) than boys. Apart from being female, low socioeconomic status was also a risk factor for AD. The heterotypic comorbidity of any AD was 40.7%, and the homotypic comorbidity was 35.6%. After controlling for age and other ADs, we found that subjects with GAD had the highest risk of having other depressive disorders and ADs. Only 33.3% of the subjects with any AD had sought professional help. 52.9% of the subjects diagnosed with any of the ADs still had anxiety symptoms after a 2-year follow-up. These findings highlight that in Spain, ADs in early adolescence are an important public health problem and that detection and access to treatment need to be improved. [*Child Symptom Inventory-4*, Spanish language translation]

- 19-10. Capriotti, M.R. & Pfiffner, L.J. (2019). Patterns and predictors of service utilization among youth with ADHD-predominantly inattentive presentation. *Journal of Attention Disorders*, 23(11), 1251-1261. DOI: 10.1177/1087054716677817

Objective: This study examined rates and predictors of educational and mental health service utilization among youth with ADHD-predominantly inattentive presentation (ADHD-I). Method: Participants were 199 children with ADHD-I in Grades 2 to 5. Parents reported past-year child service utilization. Parents and teachers rated child ADHD and oppositional defiant disorder (ODD) symptom severity and functional impairment. Children completed an academic achievement test. Results: All children had impairment at school and home. Most received some sort of school service (79%), but only 23% received community-based services. ADHD symptom severity was unrelated to service utilization. However, higher parent-rated functional impairment predicted community service utilization. Academic underachievement and higher teacher-rated functional impairment predicted school service utilization. Conclusion: Many youth with ADHD-I experience impairment across domains without receiving adequate services for these problems. Functional impairment appears to be a stronger predictor of service utilization than ADHD symptom severity, demonstrating the importance of impairment in understanding service needs for ADHD-I. [*Child Symptom Inventory-4*]

- 19-11. Chodzen, G., Hidalgo, M.A., Chen, D., & Garofalo, R. (2019). Minority stress factors associated with depression and anxiety among transgender and gender-nonconforming youth. *Journal of Adolescent Health*, 64(4), 467-471. DOI: 10.1016/j.jadohealth.2018.07.006

Purpose: Transgender and gender-nonconforming (TGNC) adolescents and young adults experience mental health problems, including anxiety and depression, at an elevated rate as compared to their cis-gender counterparts. A growing literature suggests that vulnerability to psychiatric problems in TGNC individuals results from social discrimination and minority stress. Methods: The sample consisted of adolescent TGNC patients (N = 109) who completed behavior health screening questionnaires as standard of care at their first clinical visit to an interdisciplinary gender program within a pediatric academic medical center in a metropolitan Midwestern city. Binary logistic

regressions were used to assess whether the likelihood that participants met clinical diagnostic criteria for Major Depressive Disorder (MDD) and Generalized Anxiety Disorder (GAD) was predicted by gender identity appearance congruence, proximal forms of minority stress (e.g., negative expectations of the future related to gender identity; internalized transphobia) and community connectedness (i.e., resilience). Results: Overall, 33% (n = 36) of the sample met diagnostic criteria for MDD and 48% (n = 53) met diagnostic criteria for GAD. Those with high levels of internalized transphobia were significantly more likely to meet diagnostic criteria for both MDD and GAD. Those with low levels of gender identity appearance congruence were significantly more likely to meet diagnostic criteria for MDD but not GAD. Conclusion: There are several unique factors that may predict mental illness among TGNC youth. Understanding these factors may offer opportunities for targeted clinical and structural interventions. [**Youth's Inventory-4**]

- 19-12. Clark, C.A.C., Massey, S.H., Wiebe, S.A., Espy, K.A., & Wakschlag, L.S. (2019). Does early maternal responsiveness buffer prenatal tobacco exposure effects on young children's behavioral disinhibition? *Development and Psychopathology*, 31(4), 1285-1298. Article Number: PII S0954579418000706. DOI: 10.1017/S0954579418000706

Children with prenatal tobacco exposure (PTE) exhibit early self-regulatory impairments, reflecting a life-course persistent propensity toward behavioral disinhibition. Previously, we demonstrated the protective role of parental responsiveness for reducing the risk of exposure-related disruptive behavior in adolescence. Here, we expanded this line of inquiry, examining whether responsiveness moderates the relation of PTE to a broader set of behavioral disinhibition features in early childhood and testing alternative diathesis-stress versus differential susceptibility explanatory models. PTE was assessed prospectively using interviews and bioassays in the Midwestern Infant Development Study (MIDS). Mother-child dyads (N = 276) were re-assessed at approximately 5 years of age in a preschool follow-up. We quantified maternal responsiveness and child behavioral disinhibition using a combination of directly observed activities in the lab and developmentally sensitive questionnaires. Results supported a diathesis-stress pattern. Children with PTE and less responsive mothers showed increased disruptive behavior and lower effortful control compared with children without PTE. In contrast, exposed children with more responsive mothers had self-regulatory profiles similar to their non-exposed peers. We did not observe sex differences. Findings provide greater specification of the protective role of maternal responsiveness for self-regulation in children with PTE and help clarify mechanisms that may underscore trajectories of exposure-related behavioral disinhibition. [**Early Childhood Inventory-4**]

- 19-13. Cook, N.E., Braaten, E.B., Vuijk, P.J., Lee, B.A., Samkavitz, A.R., Doyle, A.E., & Surman, C.B.H. (2019). Slow processing speed and sluggish cognitive tempo in pediatric attention-deficit/hyperactivity disorder: evidence for differentiation of functional correlates. *Child Psychiatry & Human Development*, 50(6), 1049-1057. DOI: 10.1007/s10578-019-00904-6

The association between slow processing speed and sluggish cognitive tempo (SCT), a phenotype described within attention-deficit/hyperactivity disorder (ADHD) samples over the past decade, remains unclear. We examined whether SCT and processing speed predict different functional correlates within children and adolescents with ADHD. Participants were 193 clinically-referred youth meeting DSM ADHD criteria without comorbid conditions (mean age = 9.9 years, SD = 2.5; age range 6-16). The incremental utility of SCT and processing speed to predict (1) adaptive functioning and (2) academic achievement, after controlling for age, sex, medication status, and ADHD symptom burden, was assessed using hierarchical multiple regressions. SCT symptoms significantly predicted adaptive functioning, accounting for 6% of the variance, but did not predict academic achievement. Processing speed did not add incrementally to the prediction of adaptive functioning, but did predict academic achievement, accounting for 4% of the variance. Results suggest that SCT and processing speed differentially predict functional abilities not accounted for by ADHD symptom burden. [**Child Symptom Inventory-4**]

- 19-14. Dart, E.H., Arora, P.G., Collins, T.A., & Doll, B. (2019). Progress monitoring measures for internalizing symptoms: a systematic review of the peer-reviewed literature. *School Mental Health*, 11(2), 265-275. DOI: 10.1007/s12310-018-9299-7

A critical component of multi-tiered systems of support is the incorporation of formative assessment, which supports school personnel in making data-based decisions about students' responsiveness to interventions. Although a variety of assessments exist for monitoring the progress of students' academic and behavioral functioning, the literature supporting progress monitoring of symptoms related to internalizing disorders, such as anxiety and depression, is less

robust. Accordingly, the need for progress monitoring measures for internalizing symptoms for use within a school-based multi-tiered framework has been underscored. Thus, the purpose of this three-stage systematic review of the peer-reviewed literature was to (1) identify assessments that have been used to progress monitor the symptoms of children's internalizing symptoms; (2) analyze their psychometric properties and basic characteristics; (3) and review their appropriateness for use as progress monitoring measures within a school setting. The results of the review identified 15 unique assessments that have been used to progress monitor internalizing symptoms in children, with eight of those assessments deemed practical for frequent use within a school setting. Implications of the results, limitations of the review, and future directions for research are discussed. [**Child and Adolescent Symptom Inventory Progress Monitor**]

- 19-15. Derella, O.J., Burke, J.D., Stepp, S.D., & Hipwell, A.E. (2019). Reciprocity in undesirable parent-child behavior? Verbal aggression, corporal punishment, and girls' oppositional defiant symptoms. *Journal of Clinical Child and Adolescent Psychology*, Early Access: MAY 2019. DOI: 10.1080/15374416.2019.1603109

Parental verbal aggression and corporal punishment are associated with children's conduct problems and oppositional defiant disorder (ODD). The strength of bidirectional relationships among specific disruptive behaviors has been inconsistent across gender, and the direction of influence between parental aggression and girls' ODD symptoms is particularly understudied. This study tested reciprocal effects between aggressive parent behaviors and girls' ODD dimensions of oppositionality, antagonism, and irritability. Data from the Pittsburgh Girls Study (N = 2,450) were used, including annual child and parent-reported aggressive discipline and girls' parent-reported ODD symptoms between ages 5 and 16. Separate clustered Poisson regression models examined change in parent or child behavior outcomes using predictors lagged by one time point. After controlling for demographic factors, behavior stability, and other disruptive behaviors, parent-reported corporal punishment predicted girls' increasing antagonism and irritability, whereas child-reported corporal punishment was unrelated to ODD symptom change. Both parent- and child-reported verbal aggression predicted increases across ODD dimensions. Girls' oppositionality and antagonism predicted increasing parent-reported verbal aggression over time, but only oppositionality was significantly related to child-reported verbal aggression. Although ODD symptoms were unrelated to change in corporal punishment, attention deficit/hyperactivity disorder (ADHD) predicted increasing parental aggression of both types. Bidirectional associations emerged such that parental verbal aggression escalates reciprocally with girls' behavioral ODD symptoms. Verbal aggression contributed to increasing irritability, but irritability did not influence parenting behavior. "Child effects" may be most salient for behavioral ODD symptoms in transaction with verbal aggression and for ADHD symptoms in predicting worsening corporal punishment and verbal aggression. [**Child Symptom Inventory-4**]

- 19-16. Dhakal, S., Niraula, S., Sharma, N.P., Sthapit, S., Bennett, E., Vaswani, A., Pandey, R., Kumari, V., & Lau, J.Y.F. (2019). History of abuse and neglect and their associations with mental health in rescued child labourers in Nepal. *Australian and New Zealand Journal of Psychiatry*, 53(12), 1199-1207. DOI:10.1177/0004867419853882

Objectives: Little is known about rates of childhood maltreatment in low-income countries, particularly among marginalised sectors of society. Economic hardships mean that in such countries, many children and young people are exploited in the labour force and/or are trafficked, placing them at greater risk for being exposed to other forms of maltreatment. Cultural norms endorsing the use of physical and emotional acts to discipline children further exacerbate this risk. Here, we assessed the rates of childhood victimisation experiences and associated mental health problems in Nepalese youth rescued from illegal child labour including trafficking. Methods: One hundred and three young people aged 12-18 years living in out-of-home care institutions and rescued from child labour/trafficking completed translated versions of selected modules from the Juvenile Victimization Questionnaire, the Youth Inventory and the Strength and Difficulties Questionnaire. Care-home employees responsible for looking after the young people completed the Adolescent Symptom Inventory and the Strength and Difficulties Questionnaire. Analysis described maltreatment frequencies and compared individuals who had and had not experienced any form of maltreatment on the presence/absence of psychiatric diagnoses. Results: Seventy-two percent of participants experienced some form of maltreatment in their lifetime. Rates for each maltreatment type were 46.6% for physical abuse, 40.77% for emotional abuse, 27.2% for sexual abuse and 33% for neglect. Symptoms indicative of anxiety disorders and trauma were commonly reported especially in victims of childhood maltreatment. Conclusions: Our estimates of physical abuse in this at-risk juvenile sample were commensurate to those reported in general-population youth samples in Nepal, but sexual and emotional abuse rates were somewhat lower. The potential presence of anxiety and trauma in this sample that may result from maltreatment requires replication but underscores an urgent need for routine mental health

screening in rescued child labourers during rehabilitation efforts. [*Youth's Inventory-4R; Adolescent Symptom Inventory-4*, Nepali translation]

- 19-17. Efstratopoulou, M.A., Janssen, R., & Simons, J. (2019). Children's deviant behavior in primary education: comparing physical educator's implicit theory with diagnostic criteria. *Journal of Attention Disorders*, 23(3), 246-256. DOI:10.1177/1087054712449479

Objective: Physical educators' implicit theory of children's deviant behavior in primary education was investigated and compared with diagnostic criteria. Method: A total of 60 physical education (PE) teachers reported deviant behaviors during lessons. Experts sorted these behaviors together with the official diagnostic criteria into categories based on perceived similarity in content. Results: Hierarchical cluster analysis on the derived similarity matrix among the behaviors suggested that PE teachers focus more on attention problems, disobedience, and aggressiveness when internalizing behaviors, such as anxiety and low energy, were less reported. Conclusion: PE teachers may be important and useful informants on children's behavior in school settings. [*Child Symptom Inventory-4*]

- 19-18. Eckrich, S.J., Rapport, M.D., Calub, C.A., & Friedman, L.M. (2019). Written expression in boys with ADHD: The mediating roles of working memory and oral expression. *Child Neuropsychology*, 25(6), 772-794. DOI: 10.1080/09297049.2018.1531982

The written expression difficulties experienced by children with ADHD are widely recognized; however, scant empirical evidence exists concerning the cognitive mechanisms and processes underlying these deficiencies. The current study investigated the independent and potentially interactive contributions of two developmentally antecedent cognitive processes - viz., working memory (WM) and oral expression - hypothesized to influence written expression ability in boys. Thirty-three boys with ADHD-Combined Presentation and 27 neurotypical (NT) boys 8-12 years of age were administered standardized measures of oral and written expression, and multiple counterbalanced tasks to assess WM central executive (CE) processes, WM phonological short-term memory (PH STM), and WM visuospatial short-term memory (VS STM). Bias-corrected bootstrapped mediation analyses revealed a significant mediation effect, wherein the independent and interactive effects of PH STM and oral expression collectively explained 76% of the diagnostic status to written expression relation. The implications of the obtained results for clinical practice suggest that children with ADHD may benefit by incorporating a blended approach that simultaneously strengthens PH STM capacity and oral expression abilities as antecedents to engaging in writing-related activities. [*Child Symptom Inventory-4*]

- 19-19. Eskow, K.G., Chasson, G.S., & Summers, J.A. (2019). The role of choice and control in the impact of autism waiver services on family quality of life and child progress. *Journal of Autism and Developmental Disorders*, 49(5), 2035-2048. DOI: 10.1007/s10803-019-03886-5

Home and Community-Based Services (HCBS) Waivers provide support and services to families with a child/youth with autism spectrum disorder (ASD). Research indicates HCBS Waivers are positively related to family quality of life (FQoL) and Child Progress. This study replicated and expanded prior research using propensity score matching of 460 families. Results support prior findings that HCBS waivers have a positive impact on FQoL and aspects of child progress. This study also found that having choices in the selection of services and service providers, as well as control over day-to-day provision of services, strengthened both the child and family impacts of the Waiver services. In addition, the study provides preliminary evidence for psychometric properties of a quick and inexpensive parent-report of ASD severity. [*Child Symptom Inventory-4*]

- 19-20. Fanti, K.A., Eisenbarth, H., Goble, P., Demetriou, C., Kyranides, M.N., Goodwin, D., Zhang, J.H., Bobak, B., & Cortese, S. (2019). Psychophysiological activity and reactivity in children and adolescents with conduct problems: A systematic review and meta-analysis. *Neuroscience and Biobehavioral Reviews*, 100, 98-107. DOI: 10.1016/j.neubiorev.2019.02.016

The aim of this study was to conduct a systematic review of the literature and meta-analysis to estimate the association between psychophysiological activity and reactivity at baseline or after a psychological task with conduct problems (CP) among children and adolescents. We systematically reviewed published studies reporting autonomic nervous system activity in youth with CP and meta-analyzed the relationship between CP and autonomic baseline as well as task-related reactivity in 66 studies (N = 10,227). Across 34 included case-control studies that were based on CP cut-off scores, we found a significant pooled effect for task related Skin-Conductance, Respiratory Sinus

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Arrhythmia, and cardiac Pre-Ejection Period, but no significant group differences for Heart Rate nor for any baseline measures. Findings suggested reduced parasympathetic and sympathetic reactivity to emotional tasks, pointing to co-inhibition of the two systems. However, across 32 studies with correlational design we only found a significant negative correlation of baseline and task-related heart rate with CP. The present meta-analysis derived several conclusions that have the potential to inform biological vulnerability models and biologically driven interventions. [**Child Symptom Inventory-4**]

- 19-21. Fishburn, F.A., Ludlum, R.S., Vaidya, C.J., & Medvedev, A.V. (2019). Temporal derivative distribution repair (TDDR): A motion correction method for fNIRS. *Neuroimage*, 184, 171-179.  
DOI: 10.1016/j.neuroimage.2018.09.025

Functional near-infrared spectroscopy (fNIRS) is an optical neuroimaging technique of growing interest as a tool for investigation of cortical activity. Due to the on-head placement of optodes, artifacts arising from head motion are relatively less severe than for functional magnetic resonance imaging (fMRI). However, it is still necessary to remove motion artifacts. We present a novel motion correction procedure based on robust regression, which effectively removes baseline shift and spike artifacts without the need for any user-supplied parameters. Our simulations show that this method yields better activation detection performance than 5 other current motion correction methods. In our empirical validation on a working memory task in a sample of children 7-15 years, our method produced stronger and more extensive activation than any of the other methods tested. The new motion correction method enhances the viability of fNIRS as a functional neuroimaging modality for use in populations not amenable to fMRI. [**Child and Adolescent Symptom Inventory-4R**]

- 19-22. Fosco, W.D., Kofler, M.J., Alderson, R.M., Tarle, S.J., Raiker, J.S., & Sarver, D.E. (2019). Inhibitory control and information processing in ADHD: comparing the dual task and performance adjustment hypotheses. *Journal of Abnormal Child Psychology*, 47(6), 961-974. DOI:10.1007/s10802-018-0504-9

Inhibition is a key neurocognitive domain in ADHD that is commonly assessed with the stop-signal task. The stop-signal involves both go and stop trials; previous research indicates that response times are reliably slower to go trials during tasks with vs. without intermittent stop trials. However, it is unclear whether this pattern reflects deliberate slowing to maximize inhibitory success (performance adjustment hypothesis) and/or disrupted bottom-up information processing due to increased cognitive demands (dual-task hypothesis). Given the centrality of go responding for estimating children's inhibitory speed, finding that children with ADHD slow differently -or for different reasons- has the potential to inform cognitive and self-regulatory theories of ADHD. The current study used a carefully-controlled experimental design to assess the mechanisms underlying stop signal-related slowing in ADHD. Children ages 8-13 with (n=81) and without ADHD (n=63) completed the stop-signal task and a control task that differed only in the presence/absence of stop trials. Using drift-diffusion modeling, Bayesian repeated-measures ANOVAs revealed a pattern consistent with the performance adjustment hypothesis, such that children adopted more cautious response strategies (BF<sub>10</sub>=6221.78; d=0.38) but did not show changes in processing speed (BF<sub>01</sub>=3.08; d=0.12) or encoding/motor speed (BF<sub>01</sub>=5.73; d=0.07) when inhibition demands were introduced. Importantly, the ADHD/Non-ADHD groups showed equivalent effects of intermittent stop trials (BF<sub>01</sub>=4.30-5.56). These findings suggest intact self-regulation/performance monitoring in the context of adapting to increased inhibitory demands in ADHD, which has important implications for the continued isolation of potential mechanisms associated with ADHD symptoms and impairment. [**Child Symptom Inventory-4**]

- 19-23. Friedman, L.M., McBurnett, K., Dvorsky, M.R., Hinshaw, S.P., & Pfiffner, L.J. (2019). Learning disorder confers setting-specific treatment resistance for children with ADHD, predominantly inattentive presentation. *Journal of Clinical Child and Adolescent Psychology*. DOI:10.1080/15374416.2019.1644647. Early Access: AUG 2019.

Attention deficit/hyperactivity disorder-predominantly inattentive presentation (ADHD-I) and specific learning disorder (SLD) are commonly co-occurring conditions. Despite the considerable diagnostic overlap, the effect of SLD comorbidity on outcomes of behavioral interventions for ADHD-I remains critically understudied. The current study examines the effect of reading or math SLD comorbidity in 35 children with comorbid ADHD-I+SLD and 39 children with ADHD-I only following a behavioral treatment integrated across home and school (Child Life and Attention Skills [CLAS]). Pre- and posttreatment outcome measures included teacher-rated inattention, organizational deficits, and study skills and parent-rated inattention, organizational deficits, and homework problems. A similar pattern emerged across all teacher-rated measures: Children with ADHD-I and comorbid ADHD-I+SLD did not differ significantly at

baseline, but between-group differences were evident following the CLAS intervention. Specifically, children with ADHD-I and comorbid ADHD-I+SLD improved on teacher-rated measures following the CLAS intervention, but children with ADHD-I only experienced greater improvement relative to those with a comorbid SLD. No significant interactions were observed on parent-rated measures—all children improved following the CLAS intervention on parent-rated measures, regardless of SLD status. The current results reveal that children with ADHD-I+SLD comorbidity benefit significantly from multimodal behavioral interventions, although improvements in the school setting are attenuated significantly. A treatment-resistant fraction of inattention was identified only in the SLD group, implying that this fraction is related to SLD and becomes apparent only when behavioral intervention for ADHD is administered.

**[Child Symptom Inventory-4]**

- 19-24. Gillen, C.T.A., MacDougall, E.A.M., Forth, A.E., Barry, C.T., & Salekin, R.T. (2019). Validity of the Youth Psychopathic Traits Inventory-Short Version in Justice-Involved and At-Risk Adolescents. *Assessment*, 26(3), 479-491. DOI:10.1177/1073191117700723

The current study examined the reliability and validity of the Youth Psychopathic Traits Inventory-Short Version (YPI-S) in two different samples of at-risk adolescents enrolled in a residential program (n = 160) and at a detention facility (n = 60) in the United States. YPI-S scores displayed adequate internal consistency and were moderately associated with concurrent scales on other self-report psychopathy measures and externalizing behaviors. YPI-S scores were moderately related to interviewer-ratings of the construct using the four-factor model of the Psychopathy Checklist: Youth Version. Findings suggest that the YPI-S may be a clinically useful and valid tool for the assessment of psychopathic traits in juvenile settings. This may be particularly true given the differential predictive utility of each of its dimensions. **[Youth's Inventory-4]**

- 19-25. Griffith, S.F., Arnold, D.H., Rolon-Arroyo, B., & Harvey, E.A. (2019). Neuropsychological predictors of ODD symptom dimensions in young children. *Journal of Clinical Child and Adolescent Psychology*, 48(1), 80-92. DOI:10.1080/15374416.2016.1266643

Oppositional defiant disorder (ODD) is a commonly diagnosed childhood behavior disorder, yet knowledge of relations between ODD and early neuropsychological functions, particularly independent of attention deficit/hyperactivity disorder (ADHD), is still limited. In addition, studies have not examined neuropsychological functioning as it relates to the different ODD symptom dimensions. Structural equation modeling was used to investigate how preschool neuropsychological functioning predicted negative affect, oppositional behavior, and antagonistic behavior symptom dimensions of ODD in 224 six-year-old children, oversampled for early behavior problems. Working memory, inhibition, and sustained attention predicted negative affect symptoms of ODD, controlling for ADHD, whereas delay aversion uniquely predicted oppositional behavior, controlling for ADHD. Delay aversion also marginally predicted antagonistic behavior, controlling for ADHD. Results demonstrate that different ODD symptom dimensions may be differentially predicted by different neuropsychological functions. The findings further underscore the importance of future research on ODD to take into account the possible heterogeneity of both symptoms and underlying neuropsychological functioning. **[Child Symptom Inventory-4]**

- 19-26. Hamlat, E.J., Snyder, H.R., Young, J.F., & Hankin, B.L. (2019). Pubertal timing as a transdiagnostic risk for psychopathology in youth. *Clinical Psychological Science*, 7(3), 411-429. DOI:10.1177/2167702618810518

Evidence suggests that early pubertal timing may operate as a transdiagnostic risk factor (i.e., shared across syndromes of psychopathology) for both genders. The current study examined associations between pubertal timing and dimensional psychopathology, structured across different levels of three organizational models: (a) DSM-based syndrome model, (b) traditional model of internalizing and externalizing factors, and (c) bifactor (p factor) model, which includes a general psychopathology factor as well as internalizing- and externalizing-specific factors. For study analyses, 567 youth-parent pairs completed psychopathology measures when youths (55.5% female) were 13.58 years old (SD = 2.37, range = 9-17 years). Findings across all models revealed that early pubertal timing served as a transdiagnostic risk factor and also displayed some syndrome-specific associations. Gender did not moderate any relationships between pubertal timing and psychopathology. Study findings reinforce the importance of examining risk across different levels of psychopathology conceptualization and analysis. **[Child Symptom Inventory-4, Adolescent Symptom Inventory-4]**

- 19-27. Horn, S.R., Leve, L.D., Levitt, P., & Fisher, P.A. (2019). Childhood adversity, mental health, and oxidative stress:

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A pilot study. *PLOS ONE*, 14(4), Article # e0215085. DOI:10.1371/journal.pone.0215085

Childhood adversity is a potent risk factor for mental health conditions via disruptions to stress response systems. Dysregulations in oxidative stress systems have been associated with both childhood adversity and several psychological disorders (e.g., major depressive disorder) in adult populations. However, few studies have examined associations between childhood adversity, oxidative stress, and mental health in pediatric populations. Childhood adversity (Adverse Childhood Events [ACE]), oxidative stress [F2(t)-isoprostanes (IsoPs)], and mental health pathology were assessed in 50 adolescent females recruited primarily through the Department of Youth Services. Standard ordinary least squares regression models were run co-varying for age, race/ethnicity, adolescent nicotine use, study condition, and parent history of ACEs. Adolescents who reported experiencing four or more ACEs had significantly elevated IsoP levels. Further, internalizing symptom scores across diagnoses were significantly associated with elevated IsoPs, whereas no externalizing symptoms scores, except Attention Deficit Hyperactivity Disorder, were related to altered oxidative stress. Results indicate that IsoPs may be a global marker of childhood adversity and mental health symptomatology, particularly within internalizing symptom domains. A limitation is that body mass index was not collected for this sample. Future studies are needed to replicate and extend these findings in larger, more diverse samples. [*Youth's Inventory-4*]

19-28. Irwin, L.N., Kofler, M.J., Soto, E.F., & Groves, N.B. (2019). Do children with attention-deficit/hyperactivity disorder (ADHD) have set shifting deficits? *Neuropsychology*, 33(4), 470-481. DOI:10.1037/neu0000546

Objective: Set shifting, or cognitive flexibility, is a core executive function involving the ability to quickly and efficiently shift back and forth between mental sets. Meta-analysis suggests medium-magnitude shifting impairments in attention-deficit/hyperactivity disorder (ADHD). However, this conclusion may be premature because the evidence-base relies exclusively on tasks that have been criticized for poor construct validity and may better reflect general neuropsychological functioning rather than shifting specifically. Method: A well-characterized sample of 77 children ages 8-13 ( $M = 10.46$ ,  $SD = 1.54$ ; 32 girls; 66% Caucasian/non-Hispanic) with ADHD ( $n = 43$ ) and without ADHD ( $n = 34$ ) completed the criterion global-local set shifting task and 2 counterbalanced control tasks that were identical in all aspects except the key processes. Results: The experimental manipulation was successful at evoking set shifting demands during the global-local versus both nonshift control tasks ( $p < .001$ ;  $\omega^2 = .12-.14$ ). Mixed-model analyses of variance (ANOVAs) revealed that the ADHD group did not demonstrate disproportional decrements in speed shift costs on the shifting versus nonshift control tasks ( $p = .30$ ;  $\omega(2) = .002$ ), suggesting no evidence of impaired set shifting abilities in ADHD. In contrast, the ADHD group made disproportionately more shifting errors than the non-ADHD group ( $p = .03$ ;  $\omega^2 = 0.03$ ) that were more parsimoniously attributable to prerequisite (nonshifting) processes necessary for successful performance on the global-local task. Conclusions: Children with ADHD's impaired performance on shifting tasks may be attributable to difficulties maintaining competing rule sets and/or inhibiting currently active rule sets prior to shifting. However, when these higher-order processes are executed successfully, there is no significant evidence to suggest a unique set shifting deficit in ADHD. General Scientific Summary: It has been suggested that ADHD is associated with deficits in the executive ability to flexibly shift between tasks or activities. However, this conclusion may be premature because of problems with the tests used to measure shifting abilities in these children. Using a carefully controlled experimental design, the current study found that set shifting may be intact in pediatric ADHD. In other words, children with ADHD appear to have difficulty maintaining/inhibiting competing rule sets prior to shifting. When these higher-order processes are executed successfully, children with ADHD shift just as quickly as their non-ADHD peers. [*Child Symptom Inventory-4*]

19-29. Keen, D., Adams, D., Simpson, K., den Houting, J., & Roberts, J. (2019). Anxiety-related symptomatology in young children on the autism spectrum. *Autism*, 23(2), 350-358. DOI:10.1177/1362361317734692

Anxiety symptomatology is frequently reported in autistic children, and the prevalence of anxiety disorder is estimated at around 40%. However, most studies have focused upon children of age 8 years or above, so little is known about early signs of anxiety in younger children with autism. This study sought to describe anxiety-related symptomatology in 95 5- to 6-year-old autistic children using the Anxiety Scale for Children with Autism Spectrum Disorder. Wide variability was found in levels of symptomatology with the most frequently reported items within the 'uncertainty' subscale and the least frequently reported items in the 'anxious arousal' subscale. Comparisons of those with scores less than or greater than 70 on adaptive behaviour suggests some influence of ability on presentation of anxiety-related symptomatology. [*Early Childhood Inventory-4*]



- 19-30. Kinyanda, E., Salisbury, T.T., Levin, J., Nakasujja, N., Mpango, R.S., Abbo, C., Seedat, S., Araya, R., Musisi, S., Gadow, K.D. et al. (2019). Rates, types and co-occurrence of emotional and behavioural disorders among perinatally HIV-infected youth in Uganda: the CHAKA study. *Social Psychiatry and Psychiatric Epidemiology*, 54(4), 415-425. DOI:10.1007/s00127-019-01675-0

**Purpose**To describe the rates, types and comorbidity of emotional and behavioural disorders among perinatally HIV-infected children and adolescents attending care at five HIV youth clinics in Central and Southwestern Uganda.  
**Methods**1339 CA-HIV attending care at HIV youth clinics in Uganda were interviewed using the DSM-5-based Child and Adolescent Symptom Inventory-5 (CASI-5; caregiver reported) and the Youth Inventory-4R (YI-4R; youth reported). Prevalence, risk factors and comorbidity for psychiatric disorders were estimated using logistic regression models. ResultsAccording to caregiver or youth report, the prevalence of any DSM-5 psychiatric disorder' was 17.4% (95% CI 15.4-19.5%), while that of any behavioural disorder' was 9.6% (95% CI 8.1-11.2%) and that of any emotional disorder' was 11.5% (95% CI 9.9-13.3%). The most prevalent behavioural disorder was attention deficit hyperactivity disorder (5.3%), while the most prevalent emotional disorder was separation anxiety disorder (4.6%). The statistically significant risk factors were: for behavioural disorders, sex (more among males than females) and age group (more among adolescents than among children); for emotional disorders, age group (more among adolescents than among children) and the caregiver's highest educational attainment (more among CA-HIV with caregivers with secondary education and higher, than among CA-HIV with caregivers with no formal education or only primary level education). About a quarter (24.5%) of CA-HIV with at least one emotional disorder and about a third (33.5%) of the CA-HIV with at least one behavioural disorder had a comorbid psychiatric disorder. ConclusionThere was a considerable burden of psychiatric disorders among CA-HIV that spanned a broad spectrum and showed considerable comorbidity. [**Child and Adolescent Symptom Inventory-5; Youth's Inventory-4R; Child's Inventory-4**]

- 19-31. Kofler, M.J., Spiegel, J.A., Soto, E.F., Irwin, L.N., Wells, E.L., & Austin, K.E. (2019). Do Working Memory Deficits Underlie Reading Problems in Attention-Deficit/Hyperactivity Disorder (ADHD)? *Journal of Abnormal Child Psychology*, 47(3), 433-446. DOI: 10.1007/s10802-018-0447-1

Reading problems are common in children with ADHD and show strong covariation with these children's underdeveloped working memory abilities. In contrast, working memory training does not appear to improve reading performance for children with ADHD or neurotypical children. The current study bridges the gap between these conflicting findings and combines dual-task methodology with Bayesian modeling to examine the role of working memory for explaining ADHD-related reading problems. Children ages 8-13 ( $M=10.50$ ,  $SD=1.59$ ) with and without ADHD ( $N=78$ ; 29 girls; 63% Caucasian/Non-Hispanic) completed a counterbalanced series of reading tasks that systematically manipulated concurrent working memory demands. Adding working memory demands produced disproportionate decrements in reading comprehension for children with ADHD ( $d=-0.67$ ) relative to Non-ADHD children ( $d=-0.18$ ); comprehension was significantly reduced in both groups when working memory demands were increased. These effects were robust to controls for foundational reading skills (decoding, sight word vocabulary) and comorbid reading disability. Concurrent working memory demands did not slow reading speed for either group. The ADHD group showed lower comprehension ( $d=1.02$ ) and speed ( $d=0.69$ ) even before adding working memory demands beyond those inherently required for reading. Exploratory conditional effects analyses indicated that underdeveloped working memory overlapped with 41% (comprehension) and 85% (speed) of these between-group differences. Reading problems in ADHD appear attributable, at least in part, to their underdeveloped working memory abilities. Combined with prior cross-sectional and longitudinal findings, the current experimental evidence positions working memory as a potential causal mechanism that is necessary but not sufficient for effectively understanding written language. [**Child Symptom Inventory-4**]

- 19-32. Koushiou, M., Merwin, R.M., Anderson, D., & Karekla, M. (2019). An investigation of the affective experience of females at high risk for eating disorders in general and pathology-specific contexts. *Appetite*, 141. Article Number: UNSP 104306. DOI:10.1016/j.appet.2019.05.037

**Objective:** Difficulties with emotional experiences have long been implicated in the development or maintenance of eating disorders (EDs). However, the vast majority of this work is theoretical or self-report, with few studies examining the somatic-affective experience of individuals with EDs under experimental conditions. The aim of the current study was to: i) examine physiological reactivity and subjective report of emotional experiences in response to ED pathology-specific and general affective film clips, and ii) examine the impact of film on body size estimation in females at risk for EDs. **Method:** Females aged 14-24 years old of either high ( $N = 42$ ) or low ( $N = 43$ ) risk for EDs viewed pathology-

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specific and general affective film clips and provided their affective ratings and body-size estimations post film clips. Heart Rate and Skin Conductance Levels were recorded during each clip. Results: High risk participants evidenced greater physiological arousal across conditions and in both general and pathology-specific affective contexts. Negative affect induced via the ED-pathology specific film clip had a greater impact on the high risk group's body-size estimations. Conclusions: Individuals at risk for EDs seem to experience greater physiological arousal and this may influence the experience of their bodies, or direct attention to their body as a way to attenuate unwanted emotion or due to somatic feedback. [**Youth's Inventory-4**; Greek translation]

- 19-33. Lavigne, J.V., Bryant, F.B., Hopkins, J. & Gouze, K.R.(2019). Age 4 predictors of oppositional defiant disorder in early grammar school. *Journal of Clinical Child and Adolescent Psychology*, 48(1), 93-107. DOI: 10.1080/15374416.2017.1280806

Our ability to predict which children will exhibit oppositional defiant disorder (ODD) at the time of entry into grammar school at age 6 lags behind our understanding of the risk factors for ODD. This study examined how well a set of multi-domain risk factors for ODD assessed in 4-year-old children predicted age 6 ODD diagnostic status. Participants were a diverse sample of 796 4-year-old children (391 boys). The sample was 54% White, non-Hispanic; 16.8% African American, 20.4% Hispanic; 2.4% Asian; and 4.4% Other or mixed race. The classification accuracy of two models of multi-domain risk factors, using either a measure of overall ODD symptoms or dimensions of ODD obtained at age 4, were compared to one another, to chance, and to a parsimonious model based solely on parent-reported ODD using Automated Classification Tree Analysis. Effect Strength for Sensitivity (ESS), a measure of classification accuracy, indicated a multi-domain model including a general measure of ODD symptoms at age 4 yielded a large effect (56.29%), a 13.7% increase over the ESS for the parsimonious model (ESS = 42.9%). The ESS (51.23%) for a model including two ODD dimensions (behavior and negative affect) was smaller than that for the model including a measure of overall ODD symptoms. The Classification Tree Analysis approach showed a small but distinct advantage that would be useful in screening for which children would most likely meet criteria for age 6 ODD. [**Child Symptom Inventory-4**]

- 19-34. Lazarus, S.A., Choukas-Bradley, S., Beeney, J.E., Byrd, A.L., Vine, V., & Stepp, S.D. (2019). Too much too soon?: Borderline personality disorder symptoms and romantic relationships in adolescent girls. *Journal of Abnormal Child Psychology*, 47(12), 1995-2005. DOI: 10.1007/s10802-019-00570-1

Despite the centrality of adult romantic relationships to the conceptualization of borderline personality disorder (BPD), little is known about the earlier development of this interdependency during adolescence. Thus, we examined the co-development of romantic relationships and BPD symptoms from ages 15 to 19 in a large urban sample of girls (N = 2310) in the Pittsburgh Girls Study. We had two major aims. First, we sought to examine associations between BPD symptoms and romantic relationship involvement (number of partners, importance of relationship) and relational insecurity (concerns about infidelity and tactics to maintain relationship) during adolescence. Second, we investigated mutual influences and temporal precedence of BPD symptoms and four specific romantic relationship characteristics (perceived support and antagonism, verbal and physical aggression) during adolescence using latent growth curve models (LGCMS). Results indicated that BPD symptoms were associated with increased involvement in romantic relationships and heightened relational insecurity across adolescence. Furthermore, higher BPD symptoms at age 15 predicted increases in antagonism, verbal aggression, and physical aggression across ages 15 to 19. Conversely, perceptions of higher levels of relationship support at age 15 predicted steeper increases in BPD symptoms across ages 15 to 19, suggesting a potential negative influence of early involvement in close romantic relationships. These findings demonstrate the reciprocal nature of romantic relationship functioning and BPD symptoms during adolescence and suggest novel prevention targets for youth at risk for BPD. [**Adolescent Symptom Inventory-4**]

- 19-35. Leppert, K.A., Bufferd, S.J., Olino, T.M., & Dougherty, L.R. (2019). A daily diary analysis of preschool depressive behaviors: prospective associations and moderators across 14days. *Journal of Abnormal Child Psychology*, 47(9), 1547-1558. DOI: 10.1007/s10802-019-00535-4

Depressive disorders can be observed in early childhood and are associated with significant concurrent and prospective impairment; however, little is known about day-to-day variations in common depressive behaviors in children. This study examined the day-to-day variability of two common depressive behaviors in preschool-aged children, sadness and irritability, and factors associated with the daily occurrence of these behaviors. Participants included 291 parents of preschool-aged children, and parents completed a 14-day daily diary. Results indicated that

sleep quality did not prospectively predict next-day sadness or irritability the following day. We observed between-person stability, but within-person variability, in children's sadness and irritability across 14 days. We observed greater between-person stability and greater within-person variability in sadness and irritability for males and for children with fewer baseline psychiatric symptoms and lower baseline impairment. Findings provide a developmental perspective on normative patterns of sadness and irritability in young children and can inform prevention and individualized intervention efforts to reduce negative sequelae in at-risk preschoolers. [**Early Childhood Inventory-4**]

- 19-36. Li, B.Y., Bos, M.G.N., Stockmann, L., & Rieffe, C. (2019). Emotional functioning and the development of internalizing and externalizing problems in young boys with and without autism spectrum disorder. *Autism*, Article Number: UNSP 1362361319874644. DOI: 10.1177/1362361319874644. Early Access: SEP 2019

Children with autism spectrum disorder are at risk of developing internalizing and externalizing problems. However, information on early development of behavior problems and the contributing role of emotional functioning in preschool children with autism spectrum disorder is scarce. This study collected data of boys with and without autism spectrum disorder (N = 156; age: 2-6 years) over three consecutive years (three waves), about their internalizing and externalizing symptoms and emotional functioning (i.e. emotion control, recognition, and vocabulary), using parent-report questionnaires. No age effect was found on internalizing or externalizing problems for boys with and without autism spectrum disorder. Boys with autism spectrum disorder displayed more behavior problems than their typically developing peers and showed lower levels of emotional functioning. Better emotion control and improved emotion recognition were associated with a decrease in problem behaviors for boys with and without autism spectrum disorder, whereas improved emotion vocabulary was uniquely related to a decrease in externalizing problems in boys with autism spectrum disorder. Our findings suggest that boys with and without autism spectrum disorder showed similar developmental courses of internalizing and externalizing problems. However, lower levels of emotional functioning were already more pronounced in boys with autism spectrum disorder at a young age. This contributes to higher levels of behavior problems. [**Early Childhood Inventory-4**]

- 19-37. Mpango, R.S., Ssembajjwe, W., Muyingo, S.K., Gadow, K.D., Patel, V., & Kinyanda, E. (2019). Adaptation and validation of a brief DSM-5 based psychiatric rating scale for childhood and adolescent mental health in Uganda: the Child and Adolescent Symptom Inventory-Progress Monitor (CASI-PM). *Vulnerable Children and Youth Studies*. DOI: 10.1080/17450128.2019.1686672. Early Access NOV.

We describe the process of locally adapting and validating the international psychiatric symptom screening instrument, the *Child and Adolescent Symptom Inventory-Progress Monitor*-parent version (CASI-PM-P) for use among youth in the sub-Saharan African setting of Uganda. To do this we used a methodology similar to that employed by the developers of this instrument. These analyses were undertaken among both a clinical sample (1,339 HIV positive children and adolescents attending HIV care services in central and south-western Uganda) and a standardised sample (consisting of 323 HIV negative children and adolescents attending government schools in central Uganda). Pearson's correlations, Cronbach's alpha and analyses of variance were used to assess the reliability and validity of the adapted instrument. On item selection, 18 (64%) of the 28 psychiatric symptom items in the derived instrument showed large to moderate item-to-total minus item correlations. There was concordance on 17 (61%) of the psychiatric symptom items between the original version of the CASI-PM-P and the Uganda version. The selected psychiatric variable items in the derived version of the CASI-PM-P showed stability across age groups (children and adolescents), time (baseline and 6 months) and samples (clinical sample and standardised sample). The instrument showed good construct validity. In conclusion, the 29-item CASI-PM-P can, therefore, be used in the sub-Saharan African setting to screen for and monitor the progress of psychiatric symptoms among youth. However, the selection of the specific variable items to constitute a local version of the CASI-PM-P should be guided by local adaptation and validation studies. [**Child and Adolescent Symptom Inventory-Progress Monitor**-parent version, Luganda translation]

- 19-38. Mikami, A.Y., Smit, S., & Johnston, C. (2019). Teacher attributions for children's attention-deficit/hyperactivity disorder behaviors predict experiences with children and with classroom behavioral management in a summer program practicum. *Psychology in the Schools*, 56(6), 928-944. DOI: 10.1002/pits.22250

Elementary school teachers often implement classroom behavioral management systems to address student misbehavior. Common problems targeted by these systems are the inattentive, hyperactive, and impulsive behaviors characteristic of attention-deficit/hyperactivity disorder (ADHD). This study examined teachers' attributions for why children display ADHD behaviors, and how such attributions affect their experiences with children in the context of

interventions to manage these behaviors. Participants were 32 preservice teachers undertaking a practicum in a summer program for 137 children (Grades 1-3), some of whom had ADHD. Teachers were trained to implement classroom-wide behavioral management. Teachers' attributions for children's ADHD behaviors were assessed using a vignette measure, before teachers had met their students or begun training on intervention techniques. When controlling for attributions regarding oppositional behavior, teachers' initial attributions for ADHD behaviors as less internal/controllable predicted children reporting more positive relationships with that teacher during the summer program. Teachers' initial attributions for ADHD behaviors as less stable predicted teachers' greater satisfaction with the intervention techniques during the summer program and their greater attunement to children's social networks. Cognitions about the causes of children's ADHD behaviors held by preservice teachers may relate to their subsequent experiences with children in the context of implementing classroom behavioral management. [**Child Symptom Inventory-4**]

- 19-39. Mpango, R.S., Rukundo, G.Z., Muyingo, S.K., Gadow, K.D., Patel, V., & Kinyanda, E. (2019). Prevalence, correlates for early neurological disorders and association with functioning among children and adolescents with HIV/AIDS in Uganda. *BMC Psychiatry*, 19, 34. DOI: 10.1186/s12888-019-2023-9

Background: The aim of this study was to determine the prevalence of neurological disorders and their associated correlates and relations with clinical and behavioural problems among children and adolescents with HIV/AIDS (CA-HIV). Methods: This study involved a sample of 1070 CA-HIV/caregiver dyads who were evaluated at their 6-month follow-up visit as part of their participation in the longitudinal study, 'Mental health among HIV infected Children and Adolescents in KApala and Masaka, Uganda (the CHAKA study)'. Participants completed an extensive battery of measures that included a standardized DSM-5-referenced rating scale, the parent version (5-18 years) of the Child and Adolescent Symptom Inventory-5 (CASI-5). Using logistic regression, we estimated the prevalence of neurological disorders and characterised their associations with negative clinical and behavioural factors. Results: The overall prevalence of at least one neurological disorders was 18.5% (n = 198; 95% CI, 16.2-20.8). Enuresis / encopresis was the most common (10%), followed by motor/ vocal tics (5.3%); probable epilepsy was the least prevalent (4%). Correlates associated with neurological disorders were in two domains: socio-demographic factors (age, ethnicity and staying in rural areas) and HIV-related factors (baseline viral load suppression). Enuresis/encopresis was associated with psychiatric comorbidity. Neurological disorders were associated with earlier onset of sexual intercourse (adjusted OR 4.06, 95% CI 1.26-13.1, P = 0.02). Conclusions: Neurological disorders impact lives of many children and adolescents with HIV/AIDS. There is an urgent need to integrate the delivery of mental and neurological health services into routine clinical care for children and adolescents with HIV/AIDS in sub-Saharan Africa. [**Child and Adolescent Symptom Inventory-5**, Luganda translation]

- 19-40. Overgaard, K.R., Oerbeck, B., Friis, S., Biele, G., Pripp, A.H., Aase, H., & Zeiner, P. (2019). Screening with an ADHD-specific rating scale in preschoolers: a cross-cultural comparison of the Early Childhood Inventory-4. *Psychological Assessment*, 31(8), 985-994. DOI:10.1037/pas0000722

The *Early Childhood Inventory-4* (ECI-4) Hyperactivity-Impulsivity (HI) and Inattention (IA) subscales are screeners for attention-deficit/hyperactivity disorder (ADHD). There have been few studies of the screening properties of these subscales, particularly outside the United States. We investigated the classification accuracy of the parent and teacher versions of the HI and IA subscales and the cross-cultural validity of the cutoff values based on norms from a United States sample. The present study was part of the Norwegian Mother and Child Cohort Study. Parents and teachers rated boys (n = 332) and girls (n = 319) with the ECI-4 (mean Age 3.5 years). Interviewers who were blind to the ratings used the Preschool Age Psychiatric Assessment Interview to assign ADHD diagnoses. The ECI-4 HI and IA subscales showed acceptable accuracy in identifying ADHD in boys and girls (areas under the curve ranged from .67 to .85). In a multivariate regression analysis, the parent and teacher HI subscale scores significantly contributed to ADHD identification, but not the IA subscale scores. To achieve the necessary sensitivity to detect children with ADHD, lower cutoff levels than those specified by the United States ECI-4 norms were needed. For screening purposes, the parent and teacher ECI-4 showed acceptable accuracy in identifying preschoolers at risk for ADHD, and it may be sufficient to use the HI subscale scores. The suggested cutoff values provided by the United States ECI-4 norms had limited cross-cultural validity. [**Early Childhood Inventory-4**, Norwegian Translation]

- 19-41. Perrin, H.T., Heller, N.A., & Loe, I.M. (2019). School readiness in preschoolers with symptoms of attention-deficit/hyperactivity disorder. *Pediatrics*, 144(2), Article Number: e20190038. DOI: 10.1542/peds.2019-0038

Preschoolers with ADHD symptoms have a higher likelihood of school readiness impairment than peers without ADHD symptoms on a comprehensive, 5-domain school readiness assessment. **OBJECTIVE:** To compare school readiness in preschoolers with and without attention-deficit/hyperactivity disorder (ADHD) symptoms using a comprehensive framework. We hypothesized that preschoolers with ADHD symptoms have higher odds of school readiness impairment. **METHODS:** Children ages 4 to 5 years ( $n = 93$ ) were divided into 2 groups on the basis of presence of ADHD symptoms (ADHD group,  $n = 45$ ; comparison group,  $n = 48$ ). School readiness was assessed through 10 component measures, including direct assessments and standardized questionnaires, regarding 5 school readiness domains: physical well-being and motor development, social and emotional development, approaches to learning, language, and cognition and general knowledge. Analysis of covariance compared group mean scores on component measures. Domain impairment was defined as score  $\geq 1$  SD from the test population mean in the unfavorable direction on  $\geq 1$  measure in the domain. School readiness impairment was defined as impairment in  $\geq 2$  of 5 domains. Logistic regression predicted impairment within domains and overall readiness. **RESULTS:** The ADHD group demonstrated significantly worse mean scores on 8 of 10 component measures and greater odds of impairment in all domains except for cognition and general knowledge. Overall, 79% of the ADHD group and 13% of the comparison group had school readiness impairment (odds ratio 21, 95% confidence interval 5.67-77.77,  $P < .001$ ). **CONCLUSIONS:** Preschoolers with ADHD symptoms are likely to have impaired school readiness. We recommend early identification of school readiness impairment by using a comprehensive 5-domain framework in children with ADHD symptoms paired with targeted intervention to improve outcomes. [**Early Childhood Inventory-4**]

19-42. Postorino, V., Gillespie, S., Lecavalier, L., Smith, T., Johnson, C., Swiezy, N., Aman, M.G., McDougale, C.J., Bearss, K., Andridge, R.R., et al. (2019). Clinical correlates of parenting stress in children with autism spectrum disorder and serious behavioral problems. *Journal of Child and Family Studies*, 28(8), 2069-2077. DOI: 10.1007/s10826-019-01423-7

**Objectives:** We examined associations between parent-reported stress on the Parenting Stress Index (PSI) and clinical characteristics in children with autism spectrum disorder (ASD) and serious behavioral problems. **Methods:** The 298 children (259 males, 39 females; mean age 5.82.2 years) were participants in one of two multisite randomized trials. The pre-treatment evaluation included standardized assessments of cognitive and adaptive functioning (Vineland Adaptive Behavior Scales) and parent ratings such as the Aberrant Behavior Checklist (ABC). **Results:** Parents of children above the median on disruptive behavior (ABC Irritability) and social disability (ABC Social Withdrawal) reported higher levels on PSI Parent-Child Interaction than children below the median (Irritability 33.0  $\pm$  7.7 vs 28.4  $\pm$  7.3; Social Withdrawal 33.4  $\pm$  7.5 vs 27.9  $\pm$  7.2,  $p < .05$ ). Similar findings were observed for the PSI Difficult Child subscale. Bivariate logistic regression identified that these measures as well as greater adaptive functioning deficits ( $\leq$  median on Vineland Daily Living) predicted parental membership in the upper quartile on the PSI. Stepwise logistic regression models showed that greater severity on ABC Social Withdrawal and greater deficits on Vineland Daily Living uniquely predicted parental membership in the highest quartile on the Parent-Child Interaction PSI subscale (ABC Social Withdrawal odds ratio=3.4 (95% CI 1.82-6.32);  $p < .001$ ; Vineland Daily Living odds ratio=2.6 (95% CI=1.34-4.87;  $p < .001$ ). **Conclusions:** In addition to disruptive behavior, higher levels of social disability and lower levels of adaptive functioning are associated with parental stress on the PSI. [**Early Childhood Inventory-4, Child and Adolescent Symptom Inventory-4**]

19-43. Rabinowitz, J.A., Osigwe, I., Godshalk, L., Drabick, D.A.G., Nachman, S., & Gadow, KD (2019). Profiles of caregiving behaviors among children and adolescents with perinatally acquired HIV. *AIDS Care-Psychological and Socio-Medical Aspects of AIDS/HIV*, 31(6), 737-745. DOI: 10.1080/09540121.2019.1576850

Although parenting behaviors are widely considered an important factor in the adjustment of children and adolescents with chronic physical health needs, few studies have addressed this topic as it pertains to youth with perinatally-acquired human immunodeficiency virus (PHIV). We examined profiles of child-centeredness, control through guilt, consistent discipline, and detachment, and whether these profiles differed in terms of parent- and youth-reported psychiatric disorder symptoms in a cohort of HIV infected youth ( $N = 314$ ). Latent profile analyses of caregiving behaviors were conducted separately for children (6-12 years) and adolescents (13-18 years). Two profiles were identified among children: (a) moderate caregiving (87%,  $n = 130$ ) and (b) high detachment caregiving (13%,  $n = 19$ ), and three profiles were identified among adolescents: (a) moderate caregiving (55%,  $n = 88$ ), (b) high detachment caregiving (19%,  $n = 30$ ), and (c) high control through guilt caregiving (26%,  $n = 42$ ). The high detachment and high control through guilt caregiving profiles displayed higher levels of parent- and youth-reported symptoms than the moderate caregiving profile. These findings suggest that caregiver behaviors of PHIV youth vary as a function of

children's developmental period and differ in terms of youth psychological symptoms. [*Child and Adolescent Symptom Inventory-4R; Youth's Inventory-4R; Child Symptom Inventory-4*]

- 19-44. Raiker, J.S., Friedman, L.M., Orban, S.A., Kofler, M.J., Sarver, D.E., & Rapport, M.D. (2019). Phonological working memory deficits in ADHD revisited: The role of lower level information-processing deficits in impaired working memory performance. *Journal of Attention Disorders*, 23(6), 570-583. DOI: 10.1177/1087054716686182

Objective: The current study dissociates lower level information-processing abilities (visual registration/encoding, visual-to-phonological conversion, and response output) and examines their contribution to ADHD-related phonological working memory (PHWM) deficits. Method: Twenty children with ADHD and 15 typically developing (TD) children completed tasks assessing PHWM, visual registration/encoding, visual-to-phonological conversion, and response output. Results: Relative to TD children, children with ADHD exhibited deficient visual registration/encoding ( $d = 0.60$ ), visual-to-phonological conversion ( $d = 0.56$ ), and PHWM ( $d = 0.72$ ) but faster response output ( $d = -0.66$ ). Bias-corrected, bootstrapped mediation analyses revealed that visual registration/encoding, but not visual-to-phonological conversion, partially mediated ADHD-related PHWM impairments. In contrast, faster response output in children with ADHD served as a suppressor variable, such that greater PHWM deficits were observed in children with ADHD after controlling for their faster response output ( $d = 0.72$  vs.  $0.85$ ). Conclusion: Results implicate both lower level (visual registration/encoding) and higher order (PHWM) impairments in ADHD. Implications for designing educationally relevant cognitive interventions are discussed. [*Child Symptom Inventory-4*]

- 19-45. Rosen, T.E., Spaulding, C.J., Gates, J.A., & Lerner, M.D. (2019). Autism severity, co-occurring psychopathology, and intellectual functioning predict supportive school services for youth with autism spectrum disorder. *Autism*, 23(7), 1805-1816. DOI: 10.1177/1362361318809690

Supportive school services are a primary service modality for youth with autism spectrum disorder. Autism spectrum disorder, as well as co-occurring psychiatric symptoms and low intellectual abilities, interfere with academic achievement and therefore influence decisions about school services. Therefore, we examined the association of parent, teacher, and clinician ratings of autism spectrum disorder and co-occurring psychiatric symptom severity and intellectual functioning with school services. In total, 283 youth with autism spectrum disorder were assessed with clinical evaluation via the Autism Diagnostic Observation Schedule and parent and teacher versions of the CASI-4R (*Child and Adolescent Symptom Inventory*). Full Scale Intelligence Quotient scores were obtained from case records. Clinical and teacher evaluations of autism spectrum disorder severity predicted services and were more strongly associated with school services than parent ratings. Teacher ratings were only associated with common school services (e.g. speech/language therapy, occupational therapy, and/or social skills training) frequency at medium and high levels of clinician-rated autism spectrum disorder severity. Higher IQ and parent-rated externalizing symptoms predicted lower likelihood of receiving school services, whereas internalizing symptoms were not predictive of school services. Autism spectrum disorder symptoms may overshadow externalizing and internalizing symptoms when considering school service supports. Results highlight the importance of evaluating autism spectrum disorder severity via multiple sources, especially in cases of unclear symptom presentation, when examining correlates of school services for youth with autism spectrum disorder. [*Child and Adolescent Symptom Inventory-4R*]

- 19-46. Schleider, J.L., Ye, F.F., Wang, F., Hipwell, A.E., Chung, T., & Sartor, C.E. (2019). Longitudinal reciprocal associations between anxiety, depression, and alcohol use in adolescent girls. *Alcoholism-Clinical and Experimental Research*, 43(1), 98-107. DOI:10.1111/acer.13913

Background Depression, anxiety, and alcohol misuse predict adverse social, academic, and emotional outcomes, and their relations to one another increase during adolescence-particularly in girls. However, evidence on the directions of these relations is mixed. Longitudinal models of internalizing problem-alcohol use links may identify promising prevention targets. Accordingly, we examined reciprocal associations between anxiety severity and alcohol use, as well as between depression severity and alcohol use, in adolescent girls. Methods Data were drawn from a population-based longitudinal study of female adolescents. The current sample comprised 2,100 participants (57.1% Black, 42.9% White) assessed annually between ages 13 and 17. Girls self-reported depression severity, anxiety severity, and frequency of alcohol use (consumption of  $\geq 1$  full drink) in the past year. Primary caregivers reported on socioeconomic and neighborhood factors; these were included with race, early puberty, and conduct problems (youth-report) as covariates. Anxiety and depression severity were included within a single cross-lagged panel model, along

with alcohol use, to isolate their independent and reciprocal links to drinking behavior. Results Higher depression severity modestly predicted increased likelihood of subsequent alcohol use from ages 13 to 17. However, inconsistent relations emerged for the reverse pathway: Alcohol use modestly predicted decreased depression severity at ages 14 and 16; associations were nonsignificant in other lagged associations. Anxiety severity and alcohol use were not consistently associated. Conclusions: Results highlight the key role of depression, relative to anxiety, in predicting later alcohol use. Future studies may examine whether depression prevention programs yield secondary reductions in alcohol use in adolescent girls. [**Youth's Inventory-4**]

- 19-47. Sharpley, C., Bitsika, V., & Arnold, W. (2019). Disagreement between self-rated and parent-rated sources of anxiety in boys with autism spectrum disorder. *International Journal of Disability Development and Education*. DOI: 10.1080/1034912X.2019.1679722. Early Access: OCT 2019.

The sources of anxiety for a sample of 132 young males with Autism Spectrum Disorder (ASD) were investigated from standardised scales and verbal responses to a series of open-ended questions asked to them and their mothers. As well as using parametric statistics to test for effects on standardised scales, verbal responses were analysed via NVivo to identify nine themes, of which five were most often cited by participants. There were no major age-related differences in the responses from young (aged 6 to 11yr) vs older (aged 12 to 18yr) sons or their mothers, but there were differences between mothers' and sons' data. These differences were related to elevated tension and inability to relax by the sons, and were largest for the theme of unexpected changes (rated as more anxiety-provoking by the mothers than by their sons) and Specific fears (rated more anxiety-provoking by the sons than by their mothers). One particular aspect of the sons' Auditory Processing was identified as the sole significant contributor to mother-son disagreement. Implications for clinical processes are discussed. [**Child and Adolescent Symptom Inventory-4**]

- 19-48. Sharpley, C.F., Bitsika, V., McMillan, M.E., & Agnew, L.L. (2019). Incidence, profiles and correlates of the cortisol awakening response in high-functioning young males with ASD (2019). *Research in Autism Spectrum Disorders*, 57, 145-153. DOI:10.1016/j.rasd.2018.11.001

Background: The Cortisol Awakening Response (CAR) is sometimes dysregulated in young people with Autism Spectrum Disorder (ASD), but previous findings are mostly based upon group mean data and do not report individual responses. In addition, investigation of the correlates of CAR dysregulation has been limited. Methods: To provide insight into the individual profiles and correlates of the CAR in young males with ASD, 32 high-functioning male participants with ASD aged between 9 yr and 18 yr completed several measures of anxiety and mood, and provided saliva samples at waking and 30 min later for calculation of the CAR. Results: Although group mean data showed an expected CAR profile, over half of the participants had a dysregulated CAR. There was a significant interaction between cortisol concentrations at waking and 30 min later and CAR presence/absence, suggestive of the presence of hyper- and hypo-cortisolism. Unlike previous data regarding CAR and mood states in young females with ASD, there were no significant associations between anxiety or depression and CAR dysregulation in this sample of boys with ASD. Conclusions: The use of the CAR in research and clinical settings must be accompanied by an awareness of the likelihood of individual variability. [**Child and Adolescent Symptom Inventory-5**]

- 19-49. Sharpley, C.F., Bitsika, V., Sarmukadam, K., McMillan, M.E., & Agnew, L.L. (2019). A brief report on the 2.4-year test-retest agreement of morning cortisol and anxiety in boys with autism spectrum disorder. *Journal of Developmental and Physical Disabilities*, 31(1), 103-114. DOI:10.1007/s10882-018-9633-x

Children with Autism Spectrum Disorder (ASD) also often suffer from elevated stress and anxiety. These states can be measured via reports of behaviour (from self or others) or from physiological measures of stress, including the symptoms of Generalised Anxiety Disorder (GAD) and salivary cortisol, respectively. The use of these measures assumes a degree of reliability over time so that data from a specific period may be generalised to other periods. To measure the test-retest reliability of salivary cortisol and self-ratings of GAD in 27 high-functioning boys with ASD (M age=12.1yr., SD=2.8yr), samples were collected a mean of 2.4yr. (SD=0.5yr) apart and analysed to test for the presence of a significant correlation within each variable over time. Results indicated that, although the concentrations of salivary cortisol increased over the period of the study, there was a significant correlation between the two measures of cortisol. GAD scores also showed a significant correlation over the period of the study. These findings suggest that both GAD and salivary cortisol data collected from boys with ASD may be reasonably inferred to represent fairly stable phenomena over time in research and clinical settings. [**Child and Adolescent Symptom Inventory-4R, Youth's Inventory-4**]

- 19-50. Skwerer, D.P., Joseph, R.M., Eggleston, B., Meyer, S.R., & Tager-Flusberg, H. (2019). Prevalence and correlates of psychiatric symptoms in minimally verbal children and adolescents with ASD. *Frontiers in Psychiatry*, 10, 43. DOI:10.3389/fpsyt.2019.00043

Despite many studies documenting the prevalence of various co-occurring psychiatric symptoms in children and adults with ASD, less is known about how these symptoms relate to subtypes defined by particular phenotypic features within the ASD population. We examined the severity and prevalence of comorbid symptoms of psychopathology, emotion dysregulation, and maladaptive behaviors, as well as adaptive functioning, in a group of 65 minimally verbal children (n = 33) and adolescents (n = 32) with ASD. On the *Child and Adolescent Symptom Inventory* (CASI-5), for all the symptom classifications except oppositional defiant disorder and conduct disorder, more participants in our sample showed elevated or clinically concerning severity scores relative to the general population. On the Emotion Dysregulation Inventory (EDI), the mean scores for Reactivity and Dysphoria factors in our sample were lower than in the autism calibration sample, which included a large number of inpatient youth with ASD. Overall, few differences were found between the children and adolescents within this severely impaired group of ASD individuals based on clinical cutoff scores on the CASI-5 and EDI factor scores. Psychiatric comorbidities and emotion dysregulation measures were not correlated with autism symptom severity or with measures of adaptive functioning and were largely unrelated to IQ in our sample. The number of clinically significant psychiatric symptoms on the CASI-5 emerged as the main predictor of maladaptive behaviors. Findings suggest a wide range of co-occurring psychopathology and high degree of maladaptive behavior among minimally verbal children and adolescents with ASD, which are not directly attributable to autism symptom severity, intellectual disability or limitations in adaptive functioning. [**Child and Adolescent Symptom Inventory-5**]

- 19-51. Stead, V.E., Boylan, K., & Schmidt, L.A. (2019). Longitudinal associations between non-suicidal self-injury and borderline personality disorder in adolescents: a literature review. *Borderline Personality Disorder and Emotion Dysregulation*, 6, UNSP 3. DOI:10.1186/s40479-019-0100-9

Background: Borderline personality disorder (BPD) in adolescent samples is similar to BPD in adults concerning clinical characteristics. A notable difference is that adolescents with BPD- and adolescents in general-are more likely than adults to present with acute symptoms such as non-suicidal self-injury (NSSI) and suicidal behaviours. BPD is the only disorder in the Diagnostic and Statistical Manual-5th Edition that includes a criterion of NSSI. Additionally, NSSI is purported to be a developmental precursor of BPD under the biosocial developmental model. Though much cross-sectional data have illustrated the robust association of adolescent NSSI and BPD, no review to date has summarized the longitudinal associations between these phenomena. The aim of this literature review was to summarize what is known about the longitudinal associations between adolescent NSSI and BPD symptoms. Information on the developmental course of NSSI in relation to BPD would be helpful to clinicians, as the rate of NSSI is high in adolescent populations, and research indicates early, possibly BPD-specific interventions are imperative. Methods: A literature search was conducted using Embase, MEDLINE, and PsycINFO databases and cited reference searches. Criteria included studies of adolescents (age = 18 at baseline) from either epidemiological or clinical samples, incorporating a longitudinal design, with predictors and outcomes of interest, including both NSSI and BPD diagnosis/symptoms/traits. Results: Six independent samples were identified that matched our search criteria. The articles were grouped and reported on separately by population type (epidemiological vs. clinical), and directionality of relations. We identified two epidemiological and four clinical samples. Five samples examined the longitudinal associations of NSSI preceding BPD, three samples measured BPD in adolescence (baseline age = 18), and two of those samples measured BPD at baseline. Both epidemiological studies revealed significant longitudinal associations between NSSI and later BPD/BPD symptoms; however, they differed notably in their methodologies hindering data synthesis across studies. In the clinical studies, findings of the association or predictive relations were not consistent. This is potentially due to differing methodologies, or differences in treatment effectiveness and responsiveness across the samples. Conclusions: This review highlights the paucity of data that are available examining the longitudinal association between NSSI and BPD within adolescent samples. Thus, it is not possible to reliably comment on how NSSI and BPD are related over time. Future studies will benefit from the measurement of BPD symptoms in very early adolescence, and concurrent measurement of NSSI as well as other forms of suicidal behaviours across adolescence. [**Child Symptom Inventory-4, Adolescent Symptom Inventory-4, Adult Self Report Inventory-4**]

- 19-52. Studts, C.R., Pilar, M.R., Jacobs, J.A., & Fitzgerald, B.K. (2019). Fatigue and physical activity: potential modifiable contributors to parenting sense of competence. *Journal of Child and Family Studies*, 28(10), 2901-



2909. DOI: 10.1007/s10826-019-01470-0

**Objectives:** Parenting sense of competence, as measured by the Parenting Sense of Competence Scale (PSCS), is defined as one's levels of satisfaction and self-efficacy experienced in the parenting role. Previous studies have identified significant associations among PSCS scores and a host of parenting characteristics predictive of child outcomes. Existing approaches to improving parenting sense of competence focus on developing parenting knowledge and skills; however, other modifiable contributing factors to parenting sense of competence may exist. We examined associations among fatigue, physical activity, and parenting sense of competence in a community sample of female primary caregivers of young children (N = 137) recruited from a university-based pediatric primary care clinic. **Methods** Participants completed measures of child disruptive behavior disorders, parent fatigue, and parent physical activity level. Parenting sense of competence was measured with the 16-item PSCS. **Results** Participants' mean age was 32 years (SD = 8 years), and most were non-Hispanic (87%) and White (70%). Multiple linear regression analyses revealed significant independent associations of fatigue (beta = -0.19, p = 0.02) and physical activity level (beta = 0.20 and beta = 0.25, p < 0.05) with parenting sense of competence, controlling for child disruptive behaviors, child age, and socioeconomic status. **Conclusions** In this non-clinical sample of mothers of young children, the significant relationships among fatigue, physical activity level, and parenting sense of competence could suggest potential targets for preventive intervention. [*Early Childhood Inventory-4*]

19-53. Sukhodolsky, D.G., Lecavalier, L., Johnson, C., Smith, T., Swiezy, N., Bearss, K., Kalvin, C.B., & Scahill, L. (2019). Anxiety in 3-to 7-year-old children with autism spectrum disorder seeking treatment for disruptive behavior. *Autism*, Article Number: UNSP 1362361319866561. DOI: 10.1177/1362361319866561. Early Access: AUG 2019.

Anxiety is a common and impairing problem in children with autism spectrum disorder, but little is known about it in preschool children with autism spectrum disorder. This article reports on the characteristics of anxiety symptoms in young children with autism spectrum disorder using a parent-completed rating scale. One hundred and eighty children (age 3-7 years) participated in a clinical trial of parent training for disruptive behaviors. Anxiety was measured as part of pre-treatment subject characterization with 16 items from the *Early Childhood Inventory*, a parent-completed scale on child psychiatric symptoms. Parents also completed other measures of behavioral problems. Sixty-seven percent of children were rated by their parents as having two or more clinically significant symptoms of anxiety. There were no differences in the *Early Childhood Inventory* anxiety severity scores of children with IQ < 70 and those with > 70. Higher levels of anxiety were associated with severity of oppositional defiant behavior and social disability. Anxiety symptoms are common in preschoolers with autism spectrum disorder. These findings are consistent with earlier work in school-age children with autism spectrum disorder. There were no differences in anxiety between children with IQ below 70 and those with IQ of 70 and above. Social withdrawal and oppositional behavior were associated with anxiety in young children with autism spectrum disorder. [*Early Childhood Inventory-4*]

19-54. Victor, S.E., Hipwell, A.E., Stepp, S.D., & Scott, L.N. (2019). Parent and peer relationships as longitudinal predictors of adolescent non-suicidal self-injury onset. *Child and Adolescent Psychiatry and Mental Health*, 13, 1. DOI:10.1186/s13034-018-0261-0

**Background:** Adolescence is characterized by developmental changes in social relationships, which may contribute to, or protect against, psychopathology and risky behaviors. Non-suicidal self-injury (NSSI) is one type of risky behavior that typically begins during adolescence and is associated with problems in relationships with family members and peers. Prior research on social factors in adolescent NSSI has been limited, however, by a narrow focus on specific interpersonal domains, cross-sectional methods, retrospective self-report of childhood experiences, and a failure to predict NSSI onset among as-yet-unaffected youth. **Methods:** We investigated these relationships in 2127 urban-living adolescent girls with no NSSI history at age 13, who were participating in a longitudinal cohort study (Pittsburgh Girls Study). We used discrete-time survival analyses to examine the contribution of time-varying interpersonal risk factors, assessed yearly at ages 13-16, to NSSI onset assessed in the following year (ages 14-17), controlling for relevant covariates, such as depression and race. We considered both behavioral indicators (parental discipline, positive parenting, parental monitoring, peer victimization), and cognitive/affective indicators (quality of attachment to parent, perceptions of peers, and perceptions of one's own social competence and worth in relation to peers) of interpersonal difficulties. **Results:** Parental harsh punishment, low parental monitoring, and poor quality of attachment to parent predicted increased odds of subsequent adolescent NSSI onset, whereas positive parenting behaviors reduced the odds of next year NSSI onset. Youth who reported more frequent peer victimization, poorer social self-worth and self-

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competence, and more negative perceptions of peers were also at increased risk of NSSI onset in the following year. When tested simultaneously, no single parenting variable showed a unique association with later NSSI onset; in contrast, peer victimization and poor social self-worth each predicted increased odds of later NSSI onset in an omnibus model of peer and parent relationship characteristics. Conclusions: In this urban sample of adolescent girls, both peer and parent factors predicted new onset NSSI, although only peer factors were associated with subsequent NSSI in combined multivariate models. Results further suggest that both behavioral and cognitive/affective indicators of interpersonal problems predict NSSI onset. These findings highlight the relevance of family and peer relationships to NSSI onset, with implications for prevention of NSSI onset among at-risk youth. [**Adolescent Symptom Inventory-4**]

- 19-55. Vuijk, P.J., Bush, H.H., McGuinness, P.S., O'Keefe, S.M., Lee, B.A., Ditmars, H.L., Samkavitz, A.R., Lind, H.S., Braaten, E.B., & Doyle, A.E. (2019). Characteristics of child psychiatric outpatients at highest risk for suicidal thoughts and behaviors. *Child Psychiatry & Human Development*, 50(3), 505-519. DOI: 10.1007/s10578-018-0858-9

On average, compared to non-referred youth, child psychiatric outpatients show elevated rates of suicidal thoughts and behaviors (STBs), which are predictors of completed suicide. Determining the psychopathology features that associate with highest risk for STBs among youth outpatients may yield opportunities for targeted prevention/intervention. Yet, outpatient studies are limited and have not systematically examined comorbidity and dimensional psychopathology. In 758 youth, aged 6-18, consecutively referred for neuropsychiatric evaluation, we examined the extent to which diagnostic groups, comorbid subgroups and dimensional symptoms associated with STBs. After controlling for comorbidity, mood, anxiety and conduct disorders associated with elevated STB risk. Regarding dimensions, symptoms of depression, aggression and psychosis all contributed to higher STB risk. Although ADHD (as a diagnosis or dimension) did not associate with elevated STB risk independently, ADHD that was comorbid with other conditions did. Suicide prevention/intervention efforts should be investigated in youth outpatients with the highest risk for STBs. [**Child Symptom Inventory-4**]

- 19-56. Wells, E.L., Day, T.N., Harmon, S.L., Groves, N.B., & Kofler, M.J. (2019). Are emotion recognition abilities intact in pediatric ADHD? *Emotion*, 19(7), 1192-1205. DOI: 10.1037/emo0000520

Extant studies suggest that children with attention-deficit/hyperactivity disorder (ADHD) may make more errors and respond more slowly on tasks that require them to identify emotions based on facial affect. It is unclear, however, whether these findings reflect a unique deficit in emotion recognition, or more general difficulty with choice-response tasks (i.e., tasks that require participants to select among a set of competing options). In addition, ADHD is associated with executive dysfunction, but there is inconsistent evidence regarding the extent to which top-down cognitive control is involved in emotion recognition. The current study used a series of four counterbalanced tasks to systematically manipulate emotional content and working memory demands to determine (a) whether children with ADHD exhibit a unique facial affect recognition deficit and (b) the extent to which facial affect recognition is an automatic versus controlled process that depends in part on working memory. Bayesian results from a carefully phenotyped sample of 64 children ages 8 to 13 ( $M = 10.42$ ,  $SD = 1.56$ ; 26 girls; 67% Caucasian/non-Hispanic) with ADHD ( $n = 35$ ) and without ADHD ( $n = 29$ ) indicated that working memory is involved in children's ability to efficiently infer emotional state from facial affect ( $BF_{10} = 4.59 \times 10^{14}$ ). Importantly, there was significant evidence against deficits in emotion recognition for children with ADHD. The ADHD/non-ADHD groups were statistically equivalent in terms of recognition accuracy ( $BF_{01} = 1.32 \times 10^{54}$ ,  $d = -0.18$ ), and the ADHD group's slower recognition speed was parsimoniously explained by difficulty with choice-response tasks rather than unique to emotional stimuli ( $BF_{10} = 3.23$ ,  $d = 0.31$ ). These findings suggest that emotion recognition abilities are intact in children with ADHD and highlight the need to control for impaired bottom-up (choice-response) and top-down abilities (working memory) when investigating emotional functioning in ADHD. [**Child Symptom Inventory-4**]

- 19-57. Tung, I., Beardslee, J., Pardini, D., Chung, T., Keenan, K., & Hipwell, A.E. (2019). Adolescent childbirth, miscarriage, and abortion: associations with changes in alcohol, marijuana, and cigarette use. *Journal of Child Psychology and Psychiatry*. DOI: 10.1111/jcpp.13112. Early Access: AUG 2019.

Background Adolescent girls who become pregnant demonstrate greater risk for substance use than same-aged peers. However, it remains unclear how risk relates to normative changes in adolescence. Few studies have examined adolescent substance use changes before, during, and after pregnancy and considered how pregnancy outcomes (childbirth, miscarriage, abortion) differentially influence substance use changes. The present study examined

associations between different adolescent pregnancy outcomes and within-person changes in substance use from pre-pregnancy to post-pregnancy. Methods Participants included 2,450 girls (52% Black) oversampled from low-income urban neighborhoods in Pittsburgh, PA. Participants self-reported pregnancy outcomes and substance use frequency (alcohol, cigarette, marijuana) annually from ages 11-20. Fixed effects regressions focused on first births, first miscarriages, and first abortions occurring from ages 12-19 to test the associations between pregnancy outcomes and within-individual changes in substance use from pre-pregnancy to post-pregnancy. By design, models controlled for all potential time-stable confounds, and models included age and subsequent pregnancies as time-varying covariates. Results Consistent with prior studies, girls who became pregnant (20%) reported greater early risk for substance use problems than never-pregnant adolescents, including earlier age of onset and more regular marijuana and cigarette use. Childbirth predicted a 26%-51% within-individual reduction in alcohol, marijuana, and cigarette use that remained significantly lower than pre-pregnancy levels after childbirth. Alcohol and marijuana use decreased (32%-47%) after miscarriage. Abortion was not associated with long-term changes in substance use; however, marijuana and cigarette use gradually increased (44%-46%) in the years leading up to the year of and after abortion, respectively, before returning to pre-pregnancy levels. Conclusions Findings highlight important differences in adolescent substance use patterns based on pregnancy outcome. For pregnant adolescents with heightened pre-existing risk for substance use, pregnancy may be a window of opportunity for substance use screening and behavioral intervention. [**Adult Self-Report Inventory-4, Child Symptom Inventory-4**]

19-58. Villodas, M.T., Piffner, L., Moses, J.O., Hartung, C., & McBurnett, K. (2019). The roles of student gender, race, and psychopathology in teachers' identification of students for services. *Children and Youth Services Review*, 107, Article Number: 104468. doi: 10.1016/j.childyouth.2019.104468

The present study investigated whether academic, social, emotional, and behavioral factors mediated disparities in teachers' identification of boys and girls from different racial/ethnic backgrounds in need of family-based prevention services. Teachers (n = 157) from regular education classrooms at 17 public elementary schools anonymously nominated the boy (n = 157) and girl (n = 156) in their class most in need of services. An age- and grade-matched boy (n = 158) and girl (n = 156) were randomly selected from the same classrooms, resulting in a total of 627 students (Mean age = 8.37; 62% White, 8% Black, 8% Latina/o, 13% Asian-American, 9% mixed/ other). Teachers rated students' aggressive behavior and depressive, generalized anxiety, inattentive, oppositional defiant, and conduct symptoms. Mediation models were tested accounting for clustering of students within classrooms. Black students were more likely to be nominated than all other groups, and Latina/o and White students were more likely to be nominated than Asian-American students. Racial/ethnic disparities were largely accounted for by inattentive symptoms and externalizing problems for boys and girls. However, Black students were still more likely to be nominated than White or Asian-American students. Consultation could prepare teachers to accurately identify and manage variations in problematic behaviors among students from diverse racial/ethnic backgrounds. [**Child Symptom Inventory-4**]

## YEAR: 2018

18-1. Adalio, C.J., Owens, E.B., McBurnett, K., Hinshaw, S.P., & Piffner, L.J. (2018). Processing speed predicts behavioral treatment outcomes in children with attention-deficit/hyperactivity disorder predominantly inattentive type. *Journal of Abnormal Child Psychology*, 46(4), 701-711. DOI: 10.1007/s10802-017-0336-z

Neuropsychological functioning underlies behavioral symptoms of attention-deficit/hyperactivity disorder (ADHD). Children with all forms of ADHD are vulnerable to working memory deficits and children presenting with the inattentive form of ADHD (ADHD-I) appear particularly vulnerable to processing speed deficits. As ADHD-I is the most common form of ADHD presented by children in community settings, it is important to consider how treatment interventions for children with ADHD-I may be affected by deficits in processing speed and working memory. We utilize data collected from 199 children with ADHD-I, aged 7 to 11 years, who participated in a randomized clinical trial of a psychosocial-behavioral intervention. Our aims are first to determine whether processing speed or working memory predict treatment outcomes in ADHD-I symptom severity, and second whether they moderate treatment effects on ADHD-I symptom severity. Results of linear regression analyses reveal that baseline processing speed significantly predicts posttreatment ADHD-I symptom severity when controlling for baseline ADHD-I symptom severity, such that better processing speed is associated with greater symptom improvement. However, predictive effects of working memory and moderation effects of both working memory and processing speed are not supported in the present study. We discuss study limitations and implications of the relation between processing speed and treatment benefits from psychosocial treatments for children with ADHD-I. [**Child Symptom Inventory-4**]

## 44 ANNOTATED BIBLIOGRAPHY

- 18-2. Adams, D., Simpson, K., & Keen, D. (2018). School-related anxiety symptomatology in a community sample of primary-school-aged children on the autism spectrum. *Journal of School Psychology, 70*, 64-73.  
DOI: 10.1016/j.jsp.2018.07.003

Although it is recognized that the prevalence of anxiety is elevated in children with autism spectrum disorder, there has been very limited research exploring such anxiety in school contexts. As a result, there is limited detailed information for teachers or educators on how anxiety in autism may present in the school setting for children on the autism spectrum. The aims of this study were to (a) report the profile of results on a measure of school anxiety in a community sample of children on the autism spectrum, (b) investigate whether scores on this measure differed with child variables or enrollment into a mainstream or special school, and (c) document the level of agreement between teacher-reported and parent-reported anxiety symptoms. Teachers of 92 children aged 5-12 completed a questionnaire pack including the School Anxiety Scale-Teacher Rating (SAS-TR). Elevated levels of anxiety (above the SAS-TR total anxiety clinical cut-off) were noted in 21.7% of the sample, with a larger proportion of children scoring above the generalized anxiety cut-off (27.2%) than the social anxiety cut-off (14.1%). Older participants ( $U = 744$ ,  $p = .02$ ,  $\eta^2 = 0.06$ ) and those attending mainstream schools ( $U = 661$ ,  $p = .02$ ,  $\eta^2 = 0.06$ ) had significantly higher scores on the generalized, but not the social, anxiety subscales, with effect sizes suggesting a medium effect. The results highlight the need for further, more detailed research into the presentation and impact of school anxiety in children with autism attending both mainstream and special schools. [**Child Symptom Inventory-4**]

- 18-3. Andershed, H., Colins, O.F., Salekin, R.T., Lordos, A., Kyranides, M.N., & Fanti, K.A. (2018). Callous-unemotional traits only versus the multidimensional psychopathy construct as predictors of various antisocial outcomes during early adolescence. *Journal of Psychopathology and Behavioral Assessment, 40*(1), 16-25.  
DOI: 10.1007/s10862-018-9659-5

The aim of this study was to compare callous-unemotional (CU) traits versus the multidimensional psychopathy construct in their ability to predict future and stable antisocial behavior. At baseline, a community sample of 996 Cypriot 12-year old adolescents (52% girls) completed measures that tap conduct problems (CP) and psychopathic traits, including CU. CP, aggression, and substance use were self-reported at 1-3 year follow-ups. Youths were assigned to six mutually exclusive groups based on their baseline levels of CP and psychopathic traits. Youth with CP scoring high on all three psychopathic traits dimensions (Psychopathic Personality + CP) showed the most robust and highest risk for future and stable CP, aggression, and substance use, followed by youth who were high on all three psychopathic traits dimensions but displayed no concurrent CP (Psychopathic Personality Only) and CP youth with low levels of psychopathic traits (CP Only). Youth with CP who merely manifested callous-unemotional traits (Callous-Unemotional + CP) were only at risk for future CP. The findings suggest that the CU traits-based approach for subtyping children with CP is less informative compared to a subtyping approach using various psychopathic traits dimensions in predicting future and stable forms of various antisocial outcomes. These findings and their consistency with prior work indicate the need for additional research to examine the various psychopathic traits dimensions rather than focusing solely on CU traits, especially for CP subtyping purposes. [**Adolescent Symptom Inventory-4**]

- 18-4. Arias, V.B., Ponce, F.P., & Nunez, D.E. (2018). Bifactor models of attention-deficit/hyperactivity disorder (ADHD): an evaluation of three necessary but underused psychometric indexes. *Assessment, 25*(7), 885-897.  
DOI: 10.1177/1073191116679260

Background: In the past decade, the bifactor model of attention-deficit/hyperactivity disorder (ADHD) has been extensively researched. This model consists of an ADHD general dimension and two specific factors: inattention and hyperactivity/impulsivity. All studies conclude that the bifactor is superior to the traditional two-correlated factors model, according to the fit obtained by factor analysis. However, the proper interpretation of a bifactor not only depends on the fit but also on the quality of the measurement model. Objective: To evaluate the model-based reliability, distribution of common variance and construct replicability of general and specific ADHD factors. Method: We estimated expected common variance, omega hierarchical/subscale and H-index from standardized factor loadings of 31 ADHD bifactor models previously published. Results and Conclusion: The ADHD general factor explained most of the common variance. Given the low reliable variance ratios, the specific factors were difficult to interpret. However, in clinical samples, inattention acquired sufficient specificity and stability for interpretation beyond the general factor. Implications for research and clinical practice are discussed. [**Child Symptom Inventory-4**]

- 18-5. Arnett, A.B., Cairney, B.E., Wallace, A.S., Gerdt, J., Turner, T.N., Eichler, E.E., & Bernier, R.A. (2018). Comorbid symptoms of inattention, autism, and executive cognition in youth with putative genetic risk. *Journal of Child Psychology and Psychiatry*, 59(3), 268-276

Background: Symptoms of autism spectrum disorder (ASD) and inattention (IA) are highly comorbid and associated with deficits in executive cognition. Cognitive deficits have been posited as candidate endophenotypes of psychiatric traits, but few studies have conceptualized cognitive deficits as psychiatric comorbidities. The latter model is consistent with a latent factor reflecting broader liability to neuropsychological dysfunction, and explains heterogeneity in the cognitive profile of individuals with ASD and IA. Methods: We tested competing models of covariance among symptoms of ASD, IA, and cognition in a sample of 73 youth with a known genetic mutation. Results: A common executive factor fit best as a cognitive comorbidity, rather than endophenotype, of the shared variance between measures of IA and ASD symptoms. Known genetic risk explained a third of the shared variance among psychiatric and cognitive measures. Conclusions: Comorbid symptoms of ASD, IA, and cognitive deficits are likely influenced by common neurogenetic factors. Known genetic risk in ASD may inform future investigation of putative genetic causes of IA. [**Child and Adolescent Symptom Inventory-5**]

- 18-6. Aduen, P.A., Day, T.N., Kofler, M.J., Harmon, S.L., Wells, E.L., & Sarver, D.E. (2018). Social problems in ADHD: Is it a skills acquisition or performance problem? *Journal of Psychopathology and Behavioral Assessment*, 40(3), 440-451. DOI: 10.1007/s10862-018-9649-7

Recent models suggest that social skills training's inefficacy for children with ADHD may be due to target misspecification, such that their social problems reflect inconsistent performance rather than knowledge/skill gaps. No study to date, however, has disentangled social skills acquisition from performance deficits in children with ADHD. Children ages 8-12 with ADHD (n = 47) and without ADHD (n = 23) were assessed using the well-validated social behavioral analysis framework to quantify cross-informant social skills acquisition deficits, performance deficits, and strengths. Results provided support for the construct and predictive validities of this Social Skills Improvement System (SSIS) alternate scoring method, including expected magnitude and valence relations with BASC-2 social skills and ADHD symptoms based on both parent and teacher report. Acquisition deficits were relatively rare and idiosyncratic for both the ADHD and Non-ADHD groups, whereas children with ADHD demonstrated cross-informant social performance deficits (d = 0.82-0.99) on several specific behaviors involving attention to peer directives, emotion regulation, and social reciprocity. Relative to themselves, children with ADHD were perceived by parents and teachers as exhibiting more social strengths than social acquisition deficits; however, they demonstrated significantly fewer social strengths than the Non-ADHD group (d = -0.71 to -0.89). These findings are consistent with recent conceptualizations suggesting that social problems in ADHD primarily reflect inconsistent performance rather than a lack of social knowledge/skills. Implications for refining social skills interventions for ADHD are discussed. [**Child Symptom Inventory-4**]

- 18-7. Bangma, J.T., Kwiatkowski, E., Psioda, M., Santos, H.P., Hooper, S.R., Douglass, L., Joseph, R.M., Frazier, J.A., Kuban, K.C.K., O'Shea, T.M. et al. (2018). Assessing positive child health among individuals born extremely preterm. *Journal of Pediatrics*, 202, 44. DOI: 10.1016/j.jpeds.2018.06.037

Objective: To assess the development of a Positive Child Health Index (PCHI) based on 11 adverse outcomes and evaluate the association of PCHI with quality of life (QoL) scores in a preterm cohort. Study design: A total of 889 children enrolled in the Extremely Low Gestational Age Newborn (ELGAN) study in 2002-2004 were followed up at 10 years of age. A parent/caregiver completed questionnaires for child QoL, asthma, visual or hearing impairment, gross motor function impairment, epilepsy, attention deficit/hyperactivity disorder, anxiety, and depression. The child was assessed for cognitive impairment, autism, and obesity. PCHI scores were computed and linear regression models were used to evaluate the relationship between QoL categories (psychosocial, physical, emotional, social, school, and total) and the PCHI (dichotomized and coded as a multilevel categorical predictor) and to assess sex differences. Results Among ELGAN children, higher PCHI scores were associated with higher reported QoL scores for all QoL categories. Children with no disorders and a PCHI of 100% had Pediatric Quality of Life Inventory total scores that were 11 points higher than children with 1 or more adverse outcomes (PCHI of <100%). Boys had lower QoL scores for the total, psychosocial, social, and school categories. Conclusions Positive child health assessed using a quantitative PCHI was associated with QoL across the ELGAN cohort at school age. In the current study, the PCHI encompassed 11 outcomes assessed in ELGANs. Future research could include an enhanced panel of child health outcomes to support the use of PCHI as an indicator of positive child health. [**Child Symptom Inventory-4**]

- 18-8. Bitsika, V., & Sharpley, C.F. (2018). The interaction of matrix reasoning and social motivation as predictors of separation anxiety in boys with autism spectrum disorder. *International Journal of Developmental Neuroscience*, 67, 6-13. DOI: 10.1016/j.ijdevneu.2018.03.006

Background: It has been suggested that higher cognitive functioning based in the pre-frontal cortex is implicated in the ability of people with Autism Spectrum Disorder (ASD) to understand and communicate in social situations. Low motivation to engage in social interaction may also be influential in this process. Although both of these factors have been argued to influence the levels of comorbid anxiety in young people with ASD, no detailed examination of those relationships has been reported to date. Methods: A sample of 90 boys with ASD (aged 6 to 12 yr) and 29 of their non-ASD peers, matched for age and IQ, completed tests of cognitive function and anxiety. Results: Only one form of anxiety-fear of being separated from their parents- was significantly associated with cognitive function, at the Full Scale IQ and Matrix Reasoning levels, plus motivation to engage in social interactions, and only for the ASD boys. Conclusion: These data represent a complex interaction between the neurobiological aspects of ASD, fluid reasoning, social motivation, and Separation Anxiety in boys with ASD. As such, they bring a new perspective to understanding and treating anxious behaviour in these boys. [**Child and Adolescent Symptom Inventory-4R**]

- 18-9. Bitsika, V., Sharpley, C.F., McMillan, M.E., & Agnew, L.L. (2018). Background cortisol versus social anxiety as correlates of HPA-axis recovery from stress in boys with Autism Spectrum Disorder. *International Journal of Developmental Neuroscience*, 71, 52-60. DOI: 10.1016/j.ijdevneu.2018.08.004

Children with Autism Spectrum Disorder (ASD) show dysregulation of the expected Hypothalamus-Pituitary Adrenal (HPA) axis and elevated cortisol responses to stress and response patterns, but little has been reported regarding their recovery from stress in terms of cortisol concentrations. This response was investigated in a sample of 32 young males with ASD aged between 9 and 18 years ( $M = 14.3$  yr,  $SD = 2.7$  yr), using a standardized experimental protocol combined with individualized stressor and non-stressor tasks. Results indicated that about half of the sample demonstrated unexpected HPA axis response patterns, and that recovery from stress cortisol concentrations were significantly associated with a single symptom of Social Phobia and Morning cortisol. These findings suggest that one of the key diagnostic criteria for ASD may be strongly influential in the HPA axis responses of boys with ASD and that training regimes to assist them to form less fearful associations with their non-ASD peers may be central to the academic and social progress of these boys. [**Child and Adolescent Symptom Inventory-4R**]

- 18-10. Bos, M.G.N., Diamantopoulou, S., Stockmann, L., Begeer, S., & Rieffe, C. (2018). Emotion control predicts internalizing and externalizing behavior problems in boys with and without an autism spectrum disorder. *Journal of Autism and Developmental Disorders*, 48(8), 2727-2739. DOI:10.1007/s10803-018-3519-8

Children and adolescents with Autism Spectrum Disorder (ASD) often show comorbid emotional and behavior problems. The aim of this longitudinal study is to examine the relation between emotion control (i.e., negative emotionality, emotion awareness, and worry/rumination) and the development of internalizing and externalizing problems. Boys with and without ASD ( $N = 157$ ; age 9-15) were followed over a period of 1.5 years (3 waves). We found that baseline levels of worry/rumination was a specific predictor of later externalizing problems for boys with ASD. Furthermore, the developmental trajectory of worry/rumination predicted the development of internalizing and externalizing problems in both groups. Our findings suggest that worry/rumination may constitute a transdiagnostic factor underlying both internalizing and externalizing problems in boys with and without ASD. [**Child Symptom Inventory-4**, Dutch translation]

- 18-11. Bradshaw, J., Bearss, K., McCracken, C., Smith, T., Johnson, C., Lecavalier, L., Swiezy, N., & Scahill, L. (2018). Parent education for young children with autism and disruptive behavior: response to active control treatment. *Journal of Clinical Child and Adolescent Psychology*, 47, S445-S455. DOI: 10.1080/15374416.2017.1381913

This study examines parent and child characteristics in young children with autism spectrum disorder and disruptive behavior who showed a positive response to a parent education program in a randomized clinical trial of parent training. Children with autism spectrum disorder ( $N=180$ ) were randomized to parent training (PT) or parent education program (PEP) for 6 months. Using the Clinical Global Impression-Improvement scale, masked independent evaluators rated positive response in 68.5% of children in PT compared to 39.6% in PEP. We compared baseline

characteristics and change in parental stress, strain, competence, and mental health for participants who showed a positive response to PEP (PEP-R) to those who did not (PEP-NR). We also compared change in child and parent measures for PEP-R participants to those who showed a positive response to PT (PT-R). At baseline, PEP-R and PEP-NR participants did not differ on any demographic or clinical characteristics. Parents in PEP-R reported significant reductions on the Parenting Stress Index, Caregiver Strain Questionnaire, and Parent Health Questionnaire, and increases on the Parenting Sense of Competence scale. Improvements in child disruptive behavior and parental stress, strain, competence, and mental health for PEP-R participants were similar to PT-R participants. Vineland Daily Living Skills improved only for children in PT-R. PEP was an active control treatment with nearly 40% of participants showing a positive response. Change in child disruptive behavior and parental stress, strain, competence, and mental health were remarkably similar for participants independently rated with a positive response to PEP and PT. [**Early Childhood Inventory-4**]

- 18-12. Brenner, J., Pan, Z.X., Mazefsky, C., Smith, K.A., & Gabriels, R. (2018). Behavioral symptoms of reported abuse in children and adolescents with autism spectrum disorder in inpatient settings. *Journal of Autism and Developmental Disorders*, 48(11), 3727-3735.

The objective of this study was to examine how behavioral manifestations of trauma due to abuse are expressed in youth with autism spectrum disorder (ASD). Analysis of covariance (ANCOVA) compared outcomes between patients with a caregiver reported history of abuse and those without. Findings indicate that patients with ASD and reported abuse (i.e. physical, sexual, and/or emotional) have more intrusive thoughts, distressing memories, loss of interest, irritability, and lethargy than those without reported maltreatment. Those with clinical diagnoses of posttraumatic stress disorder (PTSD) had more severe and externalized symptoms than those with reported abuse not diagnosed with PTSD. Results emphasize the need for trauma screening measures to guide evidence-based treatments for children with ASD. [**Child and Adolescent Symptom Inventory-5**]

- 18-13. Burnett, A.C., Anderson, P.J., Joseph, R.M., Allred, E.N., O'Shea, T.M., Kuban, K.C.K., & Leviton, A. (2018). Hand preference and cognitive, motor, and behavioral functioning in 10-year-old extremely preterm children. *Journal of Pediatrics*, 195, 279-+. DOI: 10.1016/j.jpeds.2017.11.056

The association of hand preference (left, mixed, and right) with cognitive, academic, motor, and behavioral function was evaluated in 864 extremely preterm children at 10 years of age. Left-handed and right-handed children performed similarly but mixed-handed children had greater odds of functional deficits across domains than right-handed children. [**Child Symptom Inventory-4**]

- 18-14. Canals, J., Morales-Hidalgo, P., Jane, M.C., & Domenech, E. (2018). ADHD prevalence in Spanish preschoolers: comorbidity, socio-demographic factors, and functional consequences. *Journal of Attention Disorders*, 22(2), 143-153.

Objective: The object was to examine the prevalence of ADHD among preschoolers, analyzing comorbidity, and the association with socio-demographic factors. Method: We conducted a two-phase epidemiological study of 1,104 preschoolers aged 3 to 6 years in Catalonia, Spain. The **Early Childhood Inventory-4** (ECI-4) was administered to parents and teachers. Children at risk of ADHD were assessed using open-ended face-to-face interviews and were observed in a school setting. ADHD diagnoses were based on Diagnostic and Statistical Manual of Mental Disorders (4th ed.; DSM-IV) criteria. Results: The prevalence of ADHD diagnosis was 5.4%. Male sex and first-born status were risk factors for ADHD. Parents reported more symptoms (12.9%) than teachers (8.7%). Behavioral problems (odds ratio [OR] = 12,  $p = .001$ ), autism spectrum disorder problems (OR = 9.5,  $p = .001$ ), and obsessive-compulsive problems and tics (OR = 5.9,  $p = .001$ ) were specifically related to ADHD diagnosis. Mother's health status and school achievement were lower in ADHD children. Conclusion: Even at early stages of development, ADHD has high rates of comorbidity and a significant impact on school performance and family health. [**ECI-4**, Spanish translation]

- 18-15. Canals-Sans, J., Hernandez-Martinez, C., Saez-Carles, M., Arija-Val, V., Canals-Sans, J., Hernandez-Martinez, C., Saez-Carles, M., & Arija-Val, V. (2018). Prevalence of DSM-5 depressive disorders and comorbidity in Spanish early adolescents: Has there been an increase in the last 20 years? *Psychiatry Research*, 268, 328-334. DOI: 10.1016/j.psychres.2018.07.023

The aim of the study was to investigate the current prevalence of DSM-5 Depressive Disorders (DD) among Spanish

school children and compare it with data obtained 20 years ago from the same place. We assessed comorbidity, severity and sociodemographic related factors. With a double-phase design, a sample of 1514 students participated in the 1st phase and 562 students (175 at risk of depression) were assessed in the 2nd phase with the Mini-International Neuropsychiatric Interview for Kids. The estimated current prevalence of Major Depressive Disorder (MDD) was 1.6%, similar to the 1.5% found 20 years ago. A total of 3.4% were diagnosed with some form of DD (MDD or Persistent Depressive Disorder (PDD)). No significant differences between genders were found in either of the two periods studied. The rate of depressive symptoms (11.6%) was not significantly different from that of previous data (9.4%). 80% and 71.9% of the children diagnosed with MDD and PDD respectively also had an anxiety disorder. In conclusion, we have not found an increase in depression among Spanish early adolescents. However, the data on the prevalence of DD, the comorbidity, and the impairment all highlight the need to design and implement appropriate preventive interventions in schools. [**Child Symptom Inventory-4**, Spanish translation]

- 18-16. Castellanos, I., Kronenberger, W.G., & Pisoni, D.B. (2018). Questionnaire-based assessment of executive functioning: Psychometrics. *Applied Neuropsychology-Child*, 7(2), 93-109.

The psychometric properties of the Learning, Executive, and Attention Functioning (LEAF) scale were investigated in an outpatient clinical pediatric sample. As a part of clinical testing, the LEAF scale, which broadly measures neuropsychological abilities related to executive functioning and learning, was administered to parents of 118 children and adolescents referred for psychological testing at a pediatric psychology clinic; 85 teachers also completed LEAF scales to assess reliability across different raters and settings. Scores on neuropsychological tests of executive functioning and academic achievement were abstracted from charts. Psychometric analyses of the LEAF scale demonstrated satisfactory internal consistency, parent-teacher inter-rater reliability in the small to large effect size range, and test-retest reliability in the large effect size range, similar to values for other executive functioning checklists. Correlations between corresponding subscales on the LEAF and other behavior checklists were large, while most correlations with neuropsychological tests of executive functioning and achievement were significant but in the small to medium range. Results support the utility of the LEAF as a reliable and valid questionnaire-based assessment of delays and disturbances in executive functioning and learning. Applications and advantages of the LEAF and other questionnaire measures of executive functioning in clinical neuropsychology settings are discussed. [**Child Symptom Inventory-4**]

- 18-17. Cecil, C.A.M., McCrory, E.J., Barker, E.D., Guiney, J., & Viding, E. (2018). Characterizing youth with callous-unemotional traits and concurrent anxiety: evidence for a high-risk clinical group. *European Child & Adolescent Psychiatry*, 27(7), 885-898. DOI: 10.1007/s00787-017-1086-8

Growing evidence supports the existence of two variants of youth with high callous-unemotional (CU) traits who present with markedly different risk profiles and outcomes, with potential implications for risk assessment and treatment formulation. So far, studies have identified variants of CU youth mainly using data-driven cluster approaches based on levels of CU traits and co-occurring anxiety. Yet, the extent to which this knowledge may be translated into clinical practice is unclear. To this end, the present study employed a severity-based, cut-off approach to systematically characterise CU groups across a range of clinically informative domains, including trauma history, psychiatric symptomatology, affective functioning, attachment style and behavioural risk. Analyses were based on multi-rated data from a community sample of high-risk youths (n = 155, M = 18 years). Consistent with previous studies, we found that, whereas variants show comparable levels of antisocial behaviour, those who present with both high CU and high anxiety report more severe childhood maltreatment, psychological distress, ADHD symptomatology and behavioural risk-including substance use, suicidal ideation and unsafe sex. In addition, these youth show greater attachment insecurity and affective dysregulation, as indexed by levels of irritability and alexithymia. Together, findings indicate that (1) trauma history is a key factor that differentiates variants of CU youth high vs. low on anxiety, and (2) differences in individual functioning across variants point to the need for tailored clinical assessment tools and intervention strategies. Importantly, the present findings indicate that variants of CU youth can be meaningfully differentiated using cut-off based approaches that parallel methods used in clinical assessments. [**Adolescent Symptom Inventory-4**]

- 18-18. Cecil, C.A.M., Walton, E., Pingault, J.B., Provencal, N., Pappa, I., Vitaro, F., Cote, S., Szyf, M., Tremblay, R.E., Tiemeier, H., et al. (2018). DRD4 methylation as a potential biomarker for physical aggression: An epigenome-wide, cross-tissue investigation. *American Journal of Medical Genetics Part B-Neuropsychiatric Genetics*, 177(8), 746-764. DOI: 10.1002/ajmg.b.32689



Epigenetic processes that regulate gene expression, such as DNA methylation (DNAm), have been linked to individual differences in physical aggression. Yet, it is currently unclear whether: (a) DNAm patterns in humans associate with physical aggression independently of other co-occurring psychiatric and behavioral symptoms; (b) whether these patterns are observable across multiple tissues; and (c) whether they may function as a causal versus noncausal biomarker of physical aggression. Here, we used a multisample, cross-tissue design to address these questions. First, we examined genome-wide DNAm patterns (buccal swabs; Illumina 450k) associated with engagement in physical fights in a sample of high-risk youth ( $n = 119$ ; age = 16-24 years; 53% female). We identified one differentially methylated region in *DRD4*, which survived genome-wide correction, associated with physical aggression above and beyond co-occurring symptomatology (e.g., ADHD, substance use), and showed strong cross-tissue concordance with both blood and brain. Second, we found that DNAm sites within this region were also differentially methylated in an independent sample of young adults, between individuals with a history of chronic-high versus low physical aggression (peripheral T cells; ages 26-28). Finally, we ran a Mendelian randomization analysis using GWAS data from the EAGLE consortium to test for a causal association of *DRD4* methylation with physical aggression. Only one genetic instrument was eligible for the analysis, and results provided no evidence for a causal association. Overall, our findings lend support for peripheral *DRD4* methylation as a potential biomarker of physically aggressive behavior, with no evidence yet of a causal relationship. [**Adolescent Symptom Inventory-4**]

18-19. Collins, O.F., Andershed, H., Salekin, R.T., & Fanti, K.A. (2018). Comparing different approaches for subtyping children with conduct problems: callous-unemotional traits only versus the multidimensional psychopathy construct. *Journal of Psychopathology and Behavioral Assessment*, 40(1), 6-15.

The aim of this study was to compare two youth psychopathy models (i.e., callous-unemotional versus multidimensional model) in their ability to predict future and stable conduct problems (CP). At baseline, mothers and fathers of 321 boys and 369 girls (ages 7-12) completed measures that tap callous-unemotional and other psychopathic traits. Parent-reported CP was collected at baseline and at 6- and 12 month follow-ups. Children were assigned to mutually exclusive groups based on their levels of CP and psychopathic traits. Children with CP who manifested callous-unemotional traits (Callous-Unemotional + CP) were occasionally at risk for future and stable CP. Yet, across gender, children with CP scoring high on all psychopathic trait dimensions (Psychopathic Personality + CP) showed the most robust and highest risk for future and stable CP. Also, Callous-Unemotional + CP children, and children who were only high in CP, often were at similar risk for future CP. The findings suggest that the callous-unemotional model is less sufficient than the multidimensional model in predicting future and stable CP. This can be concluded for both boys and girls and calls for more research reconsidering the multidimensional nature of psychopathy for CP subtyping purposes. [**Child Symptom Inventory-4**]

18-20. Emeh, C.C., Mikami, A.Y., & Teachman, B.A. (2018). Explicit and implicit positive illusory bias in children with ADHD. *Journal of Attention Disorders*, 22(10), 994-1001. DOI: 10.1177/1087054715612261

Objective: Children with ADHD overestimate their own social and behavioral competence when using explicit self-report measures, a phenomenon known as Positive Illusory Bias (PIB). This study examined whether children with ADHD show PIB when self-perceptions are measured implicitly, reflecting associations that are relatively difficult to consciously control. Method: Participants were 23 children (ages 6.8-9.8) with ADHD and 55 typically developing (TD) children. Children's explicit self-perceptions of competence were measured via self-report on the Self-Perception Profile for Children; their implicit associations were assessed using an Implicit Association Test. Parent and teacher ratings formed an adult-reported composite indicator of children's competence, to which children's self-perceptions were compared. Results: Children with ADHD overestimated their competence as compared with adult-informant reports on both explicit and implicit measures, whereas TD children tended to be accurate. Conclusion: Inflated self-perceptions in children with ADHD may exist on an implicit level outside of conscious awareness. [**Child Symptom Inventory-4**]

18-21. Fanti, K.A., Kyranides, M.N., Lordos, A., Collins, O.F., & Andershed, H. (2018). Unique and interactive associations of callous-unemotional traits, impulsivity and grandiosity with child and adolescent conduct disorder symptoms. *Journal of Psychopathology and Behavioral Assessment*, 40(1), 40-49. DOI: 10.1007/s10862-018-9655-9

The construct of psychopathy remains underrepresented in the clinical diagnosis of Conduct Disorder (CD) as the

Diagnostic and Statistical Manual of Mental Disorders 5th edition (DSM-5) only addresses one out of the three dimensions of child psychopathy, Callous Unemotional (CU) traits. This study tests if and to what extent there are unique and interactive associations of CU traits, impulsivity, and grandiosity with child and adolescent CD symptoms. Data were collected from two separate community samples of children (N = 1599; Mage = 9.46, SD = 1.65; 52% female) and adolescents (N = 2719; Mage = 16.99, SD = 0.99; 49% female), who were followed longitudinally after a year. Hierarchical linear regression analyses were conducted, testing cross-sectional and longitudinal associations with CD symptoms, taking into account all three psychopathy dimensions. The cross-sectional findings indicate that only youth presenting a combination of all three psychopathy dimensions scored above the clinical cut-off score for CD. On the other hand, longitudinal findings provided evidence that the combination of high initial levels of CD and CU traits as well as the combination between CD, grandiosity, and impulsivity can lead to clinical levels of future CD symptoms. Findings also indicated that CU traits and impulsivity more strongly predicted adolescent than child CD symptoms, and that CU traits were more strongly associated with boys' than girls' CD symptoms. Findings support the inclusion of CU traits as a specifier for the diagnosis of CD, and provide evidence that other psychopathy dimensions can also help clinicians to better understand and treat youth with CD, and should be considered for future revisions of the DSM. [**Youth's Inventory-4**]

- 18-22. Fanti, K.A., Kyranides, M.N., Petridou, M., Demetriou, C.A., & Georgiou, G. (2018). Neurophysiological markers associated with heterogeneity in conduct problems, callous unemotional traits, and anxiety: comparing children to young adults. *Developmental Psychology*, 54(9), 1634-1649. DOI: 10.1037/dev0000505

Evidence from physiological studies has been integral in many causal theories of behavioral and emotional problems. However, this evidence is hampered by the heterogeneity characterizing these problems. The current study adds to prior work by identifying neuro-physiological markers associated with heterogeneity in conduct problems (CP), callous-unemotional (CU) traits, and anxiety. Participants were classified into the following groups: (a) low risk, (b) anxious (predominately high anxiety), (c) primary (scored high on CP and CU traits but low on anxiety), and (d) secondary (high anxiety, CU traits, and CP). Developmental differences were also examined by including two different samples assessed during young adulthood (Study 1: n = 88; M-age = 19.92; 50% female) and childhood (Study 2: n = 72; M-age = 5.78, SD = 1.33; 39 males). Participants in both studies were recruited from community samples (Study 1: n = 2,306; M-age = 16, SD = .89; Study 2: n = 850; M-age = 5.01, SD = .95). Physiological responses (heart rate, skin conductance, startle modulation) were recorded while children and adults watched negative affective and neutral scenes. Medial prefrontal activation (oxygenated hemoglobin) was also measured in young adults. Findings suggested that individuals in the secondary and anxious psychopathy groups showed higher physiological arousal and startle reactivity to violent, fearful, and anger stimuli compared to individuals in the primary psychopathy group. In contrast, primary and secondary psychopathy groups showed similar physiological reactions to sad stimuli assessed during childhood. Also, young adults in the primary and secondary subtypes showed lower medial prefrontal cortex activation to violent stimuli compared to the anxious group. These findings provide evidence for the value of a multidomain approach for identifying neurophysiological mechanisms that can inform prevention and treatment efforts. [**Child Symptom Inventory-4, Youth's Inventory-4**]

- 18-23. Farhi, A., Glasser, S., Frank, S., Hirsh-Yechezkel, G., Brinton, L., Scoccia, B., Ron-El, R., Lerner-Geva, L., & Gabis, L.V. (2018). When the ideal meets the feasible: constructing a protocol for developmental assessment at early school-age. *Frontiers in Pediatrics*, 6, 256. DOI: 10.3389/fped.2018.00256

Objective: To describe development of a methodology for an outcome study of children born following in-vitro fertilization or spontaneously-conceived, as a model for defining normal and below-normal development of school-age children for research purposes. Study Design: The main issues addressed were defining the major health and developmental domains to be investigated, selection of age-appropriate validated instruments, considering time constraints to maximize compliance, and budgetary limitations. The final protocol included a half-hour structured telephone interview with mothers of all 759 children and a 2-h developmental assessment of 294 of them. Each of the instruments and recruiting methods are described in terms of the abovementioned considerations. Results: Almost all of the mothers who agreed to be interviewed completed it within the half-hour allotted; however only about half of those who agreed to bring the child for the developmental assessment actually did so. The entire examination battery, assessing cognitive ability, executive functions, attention, and learning skills, was completed by almost all 294 children. There was a significant degree of agreement between the maternal report of the child's reading, writing and arithmetic skills and the in-person examination, as well as regarding the child's weight and height measurements. Conclusion: The findings lend support for a low-budget study, relying on telephone interviews. However, limitations such as the

validity of maternal report and recall bias must be taken into consideration. [*Child Symptom Inventory-4*, Hebrew translation]

- 18-24. Fosco, W.D., Sarver, D.E., Kofler, M.J., & Aduen, P.A. (2018). Parent and child neurocognitive functioning predict response to behavioral parent training for youth with ADHD. *ADHD-Attention Deficit and Hyperactivity Disorders*, 10(4), 285-295. DOI: 10.1007/s12402-018-0259-8

Parental cognitive functioning is thought to play a key role in parenting behavior and may inform response to behavioral intervention. This open-label pilot study examined the extent to which parent and child cognition impacted response to behavioral parent training for children with ADHD. Fifty-four participants (27 parent-child dyads; M-ages=10.6 and 45.2 for children and parents, respectively) completed tasks assessing visuospatial and phonological working memory, inhibitory control, and choice-reaction speed at pre-treatment. Drift diffusion modeling decomposed choice-reaction time data into indicators of processing speed (drift rate) and response caution (boundary separation). Parents completed a 10-week manualized behavioral parent training program. Primary outcomes were pre- and post-treatment child ADHD and conduct problem severity, and parent-reported relational frustration and parenting confidence. Bayesian multiple regressions assessed parent and child cognitive processes as predictors of post-treatment outcomes, controlling for pre-treatment behavior. Better child visuospatial and phonological WM and higher parental response caution were associated with greater reductions in inattention. For conduct problems, better parental self-regulation (stronger inhibitory control and greater response caution) predicted fewer post-treatment conduct problems. Higher parental response caution also predicted lower post-treatment relational frustration and higher parental confidence. Bayesian evidence supported no relation between parent and child cognitive functions and treatment-related changes in hyperactivity. This pilot study demonstrates that cognitive processes central to etiologic theories of ADHD and models of parenting behavior can be successfully integrated into treatment outcome research to inform which families are most likely to benefit from behavioral interventions. This study demonstrates the feasibility of bridging the translational research gap between basic and applied clinical science and facilitates research on the role of cognition in psychosocial interventions. [*Child Symptom Inventory-4*]

- 18-25. Foster, D.W., Ye, F.F., O'Malley, S.S., Chung, T., Hipwell, A.E., & Sartor, C.E. (2018). Longitudinal associations between alcohol-related cognitions and use in African American and European American adolescent girls. *Alcoholism-Clinical and Experimental Research*, 42(5), 962-971. DOI: 10.1111/acer.13618

Background: African American (AA) girls initiate alcohol use later and drink less than European American (EA) girls, potentially reflecting differences in the development of drinking behaviors. This study examined alcohol-related cognitions: expectancies, attitudes, and intention to drink, as possible sources of variation by race in alcohol use. The aim of this study was to characterize the nature and degree of association between cognitions and use over time and by race in EA and AA girls. Methods: Data were drawn from the longitudinal Pittsburgh Girls Study (N=2,450), an urban population-based sample of girls and their caregivers recruited when girls were between ages 5 and 8, and assessed annually through adolescence. Cross-lagged panel models were conducted separately by race (56.2% AA, 43.8% EA) to identify patterns of association between alcohol use and cognitions from ages 12 to 17 in 2,173 girls. Results: Endorsement of cognitions and use was higher overall in EA than AA girls but the magnitude of cross-lagged path coefficients did not differ significantly by race. In both groups, bidirectional effects emerged between intentions and use, and alcohol use largely predicted cognitions across ages. However, intention to drink was the only alcohol-related cognition that consistently predicted subsequent use (odds ratios ranged from 1.55 to 2.71). Conclusions: Although rates of alcohol use and endorsement of cognitions were greater in EA than AA girls, the anticipated racial differences in longitudinal associations between cognitions and use did not emerge, indicating that variation in associations between use and cognitions does not account for the lower prevalence of alcohol use in AA compared with EA girls. Furthermore, our finding that intention to drink is a consistent, robust predictor of subsequent alcohol use suggests the need to investigate potentially modifiable factors that influence intention to drink across racial groups. [*Child Symptom Inventory-4*]

- 18-26. Friedman, L.M., Rapport, M.D., Orban, S.A., Eckrich, S.J., & Calub, C.A. (2018). Applied problem solving in children with ADHD: the mediating roles of working memory and mathematical calculation. *Journal of Abnormal Child Psychology*, 46(3), 491-504. DOI: 10.1007/s10802-017-0312-7

The difficulties children with ADHD experience solving applied math problems are well documented; however, the independent and/or interactive contributions of cognitive processes underlying these difficulties are not fully

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understood and warrant scrutiny. The current study examines two primary cognitive processes integral to children's ability to solve applied math problems: working memory (WM) and math calculation skills (i.e., the ability to utilize specific facts, skills, or processes related to basic math operations stored in long-term memory). Thirty-six boys with ADHD-combined presentation and 33 typically developing (TD) boys aged 8-12 years old were administered multiple counterbalanced tasks to assess upper (central executive [CE]) and lower level (phonological [PH STM] and visuospatial [VS STM] short-term memory) WM processes, and standardized measures of mathematical abilities. Bias-corrected, bootstrapped mediation analyses revealed that CE ability fully mediated between-group differences in applied problem solving whereas math calculation ability partially mediated the relation. Neither PH STM nor VS STM was a significant mediator. When modeled together via serial mediation analysis, CE in tandem with math calculation ability fully mediated the relation, explained 79% of the variance, and provided a more parsimonious explication of applied mathematical problem solving differences among children with ADHD. Results suggest that interventions designed to address applied math difficulties in children with ADHD will likely benefit from targeting basic knowledge of math facts and skills while simultaneously promoting the active interplay of these skills with CE processes. [**Child Symptom Inventory-4**]

18-27. Goffin, K.C., Boldt, L.J., & Kochanska, G. (2018). A secure base from which to cooperate: security, child and parent willing stance, and adaptive and maladaptive outcomes in two longitudinal studies. *Journal of Abnormal Child Psychology*, 46(5), 1061-1075. DOI: 10.1007/s10802-017-0352-z

Early secure attachment plays a key role in socialization by inaugurating a long-term mutual positive, collaborative interpersonal orientation within the parent-child dyad. We report findings from Family Study (community mothers, fathers, and children, from age 2 to 12, N = 102, 51 girls) and Play Study (exclusively low-income mothers and children, from age 3.5 to 7, N = 186, 90 girls). We examined links among observed secure attachment at toddler age, child and parent receptive, willing stance to each other, observed in parent-child contexts at early school age, and developmental outcomes. The developmental outcomes included parent-rated child antisocial behavior problems and observed positive mutuality with regard to conflict issues at age 12 in Family Study, and mother-rated child antisocial behavior problems and observed child regard for rules and moral self at age 7 in Play Study. In mother-child relationships, the child's willing stance mediated indirect effects of child security on positive mutuality in Family Study and on all outcomes in Play Study. In father-child relationships, both the child's and the parent's willing stance mediated indirect effects of child security on both outcomes. Early security initiates an adaptive developmental cascade by enlisting the child and the parent as active, willingly receptive and cooperative agents in the socialization process. Implications for children's parenting interventions are noted. [**Adolescent Symptom Inventory-4**]

18-28. Goffin, K.C., Boldt, L.J., Kim, S., & Kochanska, G. (2018). A unique path to callous-unemotional traits for children who are temperamentally fearless and unconcerned about transgressions: a longitudinal study of typically developing children from age 2 to 12. *Journal of Abnormal Child Psychology*, 46(4), 769-780. DOI: 10.1007/s10802-017-0317-2

Despite the acknowledged significance of callous-unemotional (CU) traits in developmental psychopathology, few studies have examined their early antecedents in typically developing children, in long-term longitudinal designs, using observational measures. In 102 community mothers, fathers, and children (N = 51 girls), we examined main and interactive effects of children's fearless temperament and low concern about transgressions from toddler to early school age as predictors of CU traits in middle childhood and early preadolescence. In laboratory paradigms, we observed children's concern about breaking valuable objects (twice at each age of 2, 3, 4.5, 5.5, and 6.5 years) and about hurting the parent (twice at each age of 2, 3, and 4.5 years). We observed fearless temperament during scripted exposure to novel and mildly threatening objects and events (twice at each age of 2, 3, 4.5, and 5.5 years). Mothers and fathers rated children's CU traits and externalizing behavior problems at ages 8, 10, and 12. Children's low concern about both types of transgressions predicted CU traits, but those effects were qualified by the expected interactions with fearless temperament: Among relatively fearless children, those who were unconcerned about transgressions were at the highest risk for CU traits, even after controlling for the strong overlap between CU traits and externalizing problems. For fearful children, variation in concern about transgressions was unrelated to CU traits. Those interactions were not significant in the prediction of externalizing problems. The study highlights a potentially unique etiology of CU traits in early development. [**Child Symptom Inventory-4, Adolescent Symptom Inventory-4**]

18-29. Haack, L.M., Meza, J., Jiang, Y.Y., Araujo, E.J., & Piffner, L. (2018). Influences to ADHD problem recognition: mixed-method investigation and recommendations to reduce disparities for Latino youth. *Administration and*

*Policy in Mental Health and Mental Health Services Research*, 45(6), 958-977. DOI: 10.1007/s10488-018-0877-7

ADHD problem recognition serves as the first step of help seeking for ethnic minority families, such as Latinos, who underutilize ADHD services. The current mixed-method study explores underlying factors influencing recognition of ADHD problems in a sample of 159 school-aged youth. Parent-teacher informant discrepancy results suggest that parent ethnicity, problem domain, and child age influence ADHD problem recognition. Emerging themes from semi-structured qualitative interviews/focus groups conducted with eighteen Spanish-speaking Latino parents receiving school-based services for attention and behavior concerns support a range of recognized ADHD problems, beliefs about causes, and reactions to ADHD identification. Findings provide recommendations for reducing disparities in ADHD problem recognition and subsequent help seeking. [**Child Symptom Inventory-4**]

18-30. Hoffmann, F., Viding, E., Puetz, V.B., Gerin, M.I., Sethi, A., Rankin, G., & McCrory, E.J. (2018). Evidence for depressogenic spontaneous thoughts and altered resting-state connectivity in adolescents with a maltreatment history. *Journal of the American Academy of Child and Adolescent Psychiatry*, 57(9), 687-+. DOI: 10.1016/j.jaac.2018.05.020

Objective: Childhood maltreatment has been associated with major depressive disorder (MDD). Atypical self-generated thoughts (SGT), lacking in positive and privileging negative content a feature of ruminative thinking might represent one vulnerability factor for developing depression. Rumination in MDD has been linked to alterations in resting-state functional connectivity (RSFC) of the subgenual anterior cingulate cortex (sgACC) to the default mode network and the fronto-parietal network (FPN). This study aimed to investigate online SGT content and its variability, as well as sgACC RSFC, as potential risk markers for depression in adolescents who experienced maltreatment. Method: Adolescents 12 to 16 years old (29 with maltreatment history [MT] and 39 with no maltreatment history [NMT]) performed an established mind-wandering task. Participants made nondemanding number discriminations during which intermittent questions probed their SGTs that were classified as off-task, positive, negative, self-related, other-related, past-oriented, or future-oriented. Resting-state data were acquired separately for 22 of 29 MT and 27 39 NMT adolescents, and seed-based functional connectivity analyses of the sgACC were performed. Results: MT, relative to the NMT adolescents, generated significantly fewer positively valenced thoughts, and exhibited more extreme ratings for positively valenced thoughts. MT adolescents also showed significantly reduced RSFC between the sgACC and the FPN. Group differences in depressive symptoms between the MT and NMT adolescents were partly accounted by differences in sgACC-FPN RSFC. Conclusion: Adolescents who experienced maltreatment show a reduction in positively valenced spontaneous thoughts and reduced sgACC-FPN RSFC at the neural level. These may contribute to a ruminative thinking style, representing risk factors for developing depression later in life. [**Child and Adolescent Symptom Inventory-4R**]

18-31. Horowitz, L.M., Thurm, A., Farmer, C., Mazefsky, C., Lanzillo, E., Bridge, J.A., Greenbaum, R., Pao, M. & Siegel, M. (2018). Talking about death or suicide: prevalence and clinical correlates in youth with autism spectrum disorder in the psychiatric inpatient setting. *Journal of Autism and Developmental Disorders*, 48(11), 3702-3710.

Little is known about suicidal ideation in youth with autism spectrum disorder (ASD), making it difficult to identify those at heightened risk. This study describes the prevalence of thoughts about death and suicide in 107 verbal youth with ASD with non-verbal IQ >55, assessed during inpatient psychiatric admission. Per parent report, 22% of youth with ASD had several day periods when they talked about death or suicide often, or very often. Clinical correlates included the presence of a comorbid mood (OR 2.71, 95% CI 1.12-6.55) or anxiety disorder (OR 2.32, 95% CI 1.10-4.93). The results suggest a need for developmentally appropriate suicide risk screening measures in ASD. Reliable detection of suicidal thoughts in this high-risk population will inform suicide prevention strategies. [**Child and Adolescent Symptom Inventory-5**]

18-32. Jonas, K., & Kochanska, G. (2018). An imbalance of approach and effortful control predicts externalizing problems: support for extending the dual-systems model into early childhood. *Journal of Abnormal Child Psychology*, 46(8), 1573-1583. DOI: 10.1007/s10802-018-0400-3

Although the association between deficits in effortful control and later externalizing behavior is well established, many researchers (Nigg *Journal of Child Psychology and Psychiatry*, 47(3-4), 395-422, 2006; Steinberg *Developmental*

Review, 28(1), 78-106, 2008) have hypothesized this association is actually the product of the imbalance of dual systems, or two underlying traits: approach and self-regulation. Very little research, however, has deployed a statistically robust strategy to examine that compelling model; further, no research has done so using behavioral measures, particularly in longitudinal studies. We examined the imbalance of approach and self-regulation (effortful control, EC) as predicting externalizing problems. Latent trait models of approach and EC were derived from behavioral measures collected from 102 children in a community sample at 25, 38, 52, and 67 months (2 to 5 1/2 years), and used to predict externalizing behaviors, modeled as a latent trait derived from parent-reported measures at 80, 100, 123, and 147 months (6 1/2 to 12 years). The imbalance hypothesis was supported: Children with an imbalance of approach and EC had more externalizing behavior problems in middle childhood and early preadolescence, relative to children with equal levels of the two traits. [*Child Symptom Inventory-4, Adolescent Symptom Inventory-4*]

18-33. Kim, H., Keifer, C.M., Rodriguez-Seijas, C., Eaton, N.R., Lerner, M.D., & Gadow, K.D. (2018). Structural hierarchy of autism spectrum disorder symptoms: an integrative framework. *Journal of Child Psychology and Psychiatry*, 59(1), 30-38.

Background: In an attempt to resolve questions regarding the symptom classification of autism spectrum disorder (ASD), previous research generally aimed to demonstrate superiority of one model over another. Rather than adjudicating which model may be optimal, we propose an alternative approach that integrates competing models using Goldberg's bass-ackwards method, providing a comprehensive understanding of the underlying symptom structure of ASD. Methods: The study sample comprised 3,825 individuals, consecutive referrals to a university hospital developmental disabilities specialty clinic or a child psychiatry outpatient clinic. This study analyzed DSM-IV-referenced ASD symptom statements from parent and teacher versions of the *Child and Adolescent Symptom Inventory-4R*. A series of exploratory structural equation models was conducted in order to produce interpretable latent factors that account for multivariate covariance. Results: Results indicated that ASD symptoms were structured into an interpretable hierarchy across multiple informants. This hierarchy includes five levels; key features of ASD bifurcate into different constructs with increasing specificity. Conclusions: This is the first study to examine an underlying structural hierarchy of ASD symptomatology using the bass-ackwards method. This hierarchy demonstrates how core features of ASD relate at differing levels of resolution, providing a model for conceptualizing ASD heterogeneity and a structure for integrating divergent theories of cognitive processes and behavioral features that define the disorder. These findings suggest that a more coherent and complete understanding of the structure of ASD symptoms may be reflected in a metastructure rather than at one level of resolution. [*Child and Adolescent Symptom Inventory-4R*]

18-34. Kofler, M.J., Harmon, S.L., Aduen, P.A., Day, T.N., Austin, K.E., Spiegel, J.A., Irwin, L., & Sarver, D.E. (2018). Neurocognitive and behavioral predictors of social problems in ADHD: a Bayesian framework. *Neuropsychology*, 32(3), 344-355. DOI: 10.1037/neu0000416

Objective: Social problems are a key area of functional impairment for children with attention deficit hyperactivity disorder (ADHD), and converging evidence points to executive dysfunction as a potential mechanism underlying ADHD-related social dysfunction. The evidence is mixed, however, with regard to which neurocognitive abilities account for these relations. Method: A well-characterized group of 117 children ages 8-13 (M = 10.45, SD = 1.53; 43 girls; 69.5% Caucasian/Non-Hispanic) with ADHD (n = 77) and without ADHD (n = 40) were administered multiple, counterbalanced tests of neurocognitive functioning and assessed for social skills via multi-informant reports. Results: Bayesian linear regressions revealed strong support for working memory and cross-informant interfering behaviors (inattention, hyperactivity/impulsivity) as predictors of parent-and teacher-reported social problems. Working memory was also implicated in social skills acquisition deficits, performance deficits, and strengths based on parent and/or teacher report; inattention and/or hyperactivity showed strong correspondence with cross-informant social problems in all models. There was no evidence for, and in most models strong evidence against, effects of inhibitory control and processing speed. The ADHD group was impaired relative to the non-ADHD group on social skills (d = 0.82-0.88), visuospatial working memory (d = 0.89), and phonological working memory (d = 0.58). In contrast, the Bayesian ANOVAs indicated that the ADHD and non-ADHD groups were equivalent on processing speed, IQ, age, gender, and socioeconomic status (SES). There was no support for or against group differences in inhibition. Conclusions: These findings confirm that ADHD is associated with impaired social performance and implicate working memory and core ADHD symptoms in the acquisition and performance of socially skilled behavior. [*Child Symptom Inventory-4*]

- 18-35. Kofler, M.J., Sarver, D.E., Harmon, S.L., Moltisanti, A., Aduen, P.A., Soto, E.F., & Ferretti, N. (2018). Working memory and organizational skills problems in ADHD. *Journal of Child Psychology and Psychiatry*, 59(1), 57-67.

Background: This study tested model-driven predictions regarding working memory's role in the organizational problems associated with ADHD. Method: Children aged 8-13 ( $M = 10.33$ ,  $SD = 1.42$ ) with and without ADHD ( $N = 103$ ; 39 girls; 73% Caucasian/Non-Hispanic) were assessed on multiple, counterbalanced working memory tasks. Parents and teachers completed norm-referenced measures of organizational problems (Children's Organizational Skills Scale; COSS). Results: Results confirmed large magnitude working memory deficits ( $d = 1.24$ ) and organizational problems in ADHD ( $d = 0.85$ ). Bias-corrected, bootstrapped conditional effects models linked impaired working memory with greater parent-and teacher-reported inattention, hyperactivity/impulsivity, and organizational problems. Working memory predicted organization problems across all parent and teacher COSS subscales ( $R^2 = .19-.23$ ). Approximately 38%-57% of working memory's effect on organization problems was conveyed by working memory's association with inattentive behavior. Unique effects of working memory remained significant for both parent-and teacher-reported task planning, as well as for teacher-reported memory/materials management and overall organization problems. Attention problems uniquely predicted worse organizational skills. Hyperactivity was unrelated to parent-reported organizational skills, but predicted better teacher-reported task planning. Conclusions: Children with ADHD exhibit multisetting, broad-based organizational impairment. These impaired organizational skills are attributable in part to performance deficits secondary to working memory dysfunction, both directly and indirectly via working memory's role in regulating attention. Impaired working memory in ADHD renders it extraordinarily difficult for these children to consistently anticipate, plan, enact, and maintain goal-directed actions. [*Child Symptom Inventory-4*]

- 18-36. Kofler, M.J., Spiegel, J.A., Austin, K.E., Irwin, L.N., Soto, E.F. & Sarver, D.E. (2018). Are episodic buffer processes intact in ADHD? Experimental evidence and linkage with hyperactive behavior. *Journal of Abnormal Child Psychology*, 46(6), 1171-1185. DOI: 10.1007/s10802-017-0346-x

Working memory deficits are present in a substantial proportion of children with ADHD, and converging evidence links these deficits with ADHD-related behavioral and functional impairments. At the same time, working memory is not a unitary construct, and evidence is lacking regarding the role of several components of this system in ADHD. Preclinical behavioral studies are needed to fractionate the multicomponent working memory system, determine which specific subcomponent(s) are impaired in ADHD, and more importantly link these subcomponent(s) with specific ADHD-related behavioral symptoms/functional impairments. The current study reflects one piece of that puzzle, and focuses on the episodic buffer component of working memory. Across multiple testing days, a well-characterized sample of 86 children ages 8-13 ( $M=10.52$ ,  $SD=1.54$ ; 34 girls; 64% Caucasian/Non-Hispanic) with ADHD ( $n=49$ ) and without ADHD ( $n=37$ ) completed three counterbalanced working memory tests that were identical in all aspects except the key subcomponent process (phonological, visuospatial, episodic buffer). Gross motor movement during these and control tasks were measured using 4 high-precision actigraphs. There was no evidence of group differences in gender, age, SES, or IQ. Bayesian mixed-model ANOVAs indicated that the ADHD group performed significantly worse on all three working memory tests ( $d=1.17-1.44$ ) and was significantly more hyperactive than controls ( $d=0.66-1.05$ ) during the visuospatial and episodic buffer tests. In contrast, the ADHD and Non-ADHD groups were equivalent with regard to effects of episodic buffer demands on performance and hyperactive behavior. The most parsimonious conclusion is that the episodic buffer is likely intact in ADHD, and unrelated to ADHD hyperactivity symptoms. [*Child Symptom Inventory-4*]

- 18-37. Kohls, G., Antezana, L., Mosner, M.G., Schultz, R.T., & Yerys, B.E. (2018). Altered reward system reactivity for personalized circumscribed interests in autism. *Molecular Autism*, 9, article #9.

Background: Neurobiological research in autism spectrum disorders (ASD) has paid little attention on brain mechanisms that cause and maintain restricted and repetitive behaviors and interests (RRBIs). Evidence indicates an imbalance in the brain's reward system responsiveness to social and non-social stimuli may contribute to both social deficits and RRBIs. Thus, this study's central aim was to compare brain responsiveness to individual RRBIs (i.e., circumscribed interests), with social rewards (i.e., social approval), in youth with ASD relative to typically developing controls (TDCs). Methods: We conducted a 3T functional magnetic resonance imaging (fMRI) study to investigate the blood-oxygenation-level-dependent effect of personalized circumscribed interest rewards versus social rewards in 39 youth with ASD relative to 22 TDC. To probe the reward system, we employed short video clips as reinforcement in an

instrumental incentive delay task. This optimization increased the task's ecological validity compared to still pictures that are often used in this line of research. Results: Compared to TDCs, youth with ASD had stronger reward system responses for CIs mostly within the non-social realm (e.g., video games) than social rewards (e.g., approval). Additionally, this imbalance within the caudate nucleus' responsiveness was related to greater social impairment. Conclusions: The current data support the idea of reward system dysfunction that may contribute to enhanced motivation for RRBIs in ASD, accompanied by diminished motivation for social engagement. If a dysregulated reward system indeed supports the emergence and maintenance of social and non-social symptoms of ASD, then strategically targeting the reward system in future treatment endeavors may allow for more efficacious treatment practices that help improve outcomes for individuals with ASD and their families. [**Child and Adolescent Symptom Inventory-4R**]

- 18-38. Ladouceur, C.D., Schlund, M.W., & Segreti, A.M. (2018). Positive reinforcement modulates fronto-limbic systems subserving emotional interference in adolescents. *Behavioural Brain Research*, 338, 109-117.

Fronto-limbic systems play an important role in supporting resistance to emotional distraction to promote goal directed behavior. Despite evidence that alterations in the functioning of these systems are implicated in developmental trajectories of psychopathology, most studies have been conducted in adults. This study examined the functioning of fronto-limbic systems subserving emotional interference in adolescents and whether differential reinforcement of correct responding can modulate these neural systems in ways that could promote resistance to emotional distraction. Fourteen healthy adolescents (ages 9-15) completed an emotional delayed working memory task during fMRI with emotional distracters (none, neutral, negative) while positive reinforcement (i.e., monetary reward) was provided for correct responses under some conditions. Adolescents showed slightly reduced behavioral performance and greater activation in amygdala and prefrontal cortical regions (ventrolateral, ventromedial, dorsolateral) on correct trials with negative distracters compared to those with no or neutral distracters. Positive reinforcement yielded an overall improvement in accuracy and reaction times and counteracted the effects of negative distracters as evidenced by significant reductions in activation in key fronto-limbic regions. The present findings extend results on emotional interference from adults to adolescents and suggest that positive reinforcement could be used to potentially promote insulation from emotional distraction. A challenge for the future will be to build upon these findings for constructing reinforcement-based attention training programs that could be used to reduce emotional attention biases in anxious youth. [**Child Symptom Inventory-4**]

- 18-39. Lerner, M.D., Mazefsky, C.A., Weber, R.J., Transue, E., Siegel, M. & Gadow, K.D. (2018). Verbal ability and psychiatric symptoms in clinically referred inpatient and outpatient youth with ASD. *Journal of Autism and Developmental Disorders*, 48(11), 3689-3701.

Youth with autism spectrum disorder (ASD) experience high rates of psychiatric symptoms, but the relation between verbal ability and psychiatric symptoms is unknown. This study utilized a large sample of clinically referred inpatient and outpatient youth with ASD to compare psychiatric comorbidity between verbal and minimally-verbal youth, adjusting for nonverbal IQ, age, and ASD symptom severity. Results indicated that verbal youth were more likely to present with and meet clinical cutoffs for depression and oppositional defiant disorder symptoms, with greater impairment associated with depression. Youth in inpatient settings had greater symptom severity and impairment across almost all psychiatric comorbidities. These results present the most direct estimate to date of the association between verbal ability and psychiatric comorbidity in ASD. [**Child and Adolescent Symptom Inventory-4R**]

- 18-40. Leviton, A., Hooper, S.R., Hunter, S.J., Scott, M.N., Allred, E.N., Joseph, R.M., O'Shea, T.M., & Kuban, K. (2018). Antecedents of screening positive for attention deficit hyperactivity disorder in ten-year-old children born extremely preterm. *Pediatric Neurology*, 81, 25-30. DOI: 10.1016/j.pediatrneurol.2017.12.010

BACKGROUND: The incidence of attention deficit hyperactivity disorder is higher among children born very preterm than among children who are mature at birth. METHODS: We studied 583 ten-year-old children who were born before 28 weeks of gestation whose IQ was above 84 and had a parent-completed Child Symptom Inventory-4, which allowed classification of the child as having or not having symptoms of attention deficit hyperactivity disorder. For 422 children, we also had a teacher report, and for 583 children, we also had a parent report of whether or not a physician made an attention deficit hyperactivity disorder diagnosis. RESULTS: The risk profile of screening positive for attention deficit hyperactivity disorder based on a parent's report differed from the risk profile based on the teacher's report, whereas the risk profile according to a physician and according to any two observers closely resembled the parent-reported



profile. Among the statistically significant risk factors were young maternal age (parent, physician, and two observers), maternal obesity (parent, physician, and two observers), maternal smoking (parent, physician, and two observers), magnesium given at delivery for seizure prophylaxis (parent and two observers), recovery of *Mycoplasma* sp. from the placenta (teacher and two observers), low gestational age (parent and two observers), low birth weight (teacher and physician), singleton (parent, physician, and two observers), male (parent, teacher, physician, and two observers), mechanical ventilation on postnatal day seven (physician), receipt of a sedative (parent and two observers), retinopathy of prematurity (parent), necrotizing enterocolitis (physician), antibiotic receipt (physician and two observers), and ventriculomegaly on brain scan (parent and two observers). CONCLUSIONS: The multiplicity of risk factors identified can be subsumed as components of four broad themes: low socioeconomic state, immaturity or vulnerability, inflammation, and epigenetic phenomena. [*Child Symptom Inventory-4*]

- 18-41. Loeber, R., Clark, D.B., Ahonen, L., FitzGerald, D., Trucco, E.M., & Zucker, R.A. (2018). A brief validated screen to identify boys and girls at risk for early marijuana use. *Developmental Cognitive Neuroscience*, 32, 23-29. DOI: 10.1016/j.dcn.2018.03.011

To guide recruitment, the ABCD Study requires a method for identifying children at high risk for early-onset substance use that may be utilized during the recruitment process. This study was undertaken to inform the development of a brief screen for identifying youths' risk of early-onset substance use and other adverse outcomes. To be acceptable by participants in this context, consideration of potential items was limited to child characteristics previously determined to be potentially pertinent and parental cigarette smoking. To focus the analyses on a single target substance use outcome pertinent to the stated goals of the ABCD Study, early-onset marijuana use was selected. Utilizing data collected prior to the initiation of the ABCD Study, four longitudinal data sets were used in nine secondary data analyses to test, replicate and validate a brief screening assessment for boys and girls to identify those at risk for early-onset marijuana use by ages 14-15. The combination of child externalizing problems reported by the parent (4 items: destroys things belonging to his/her family or others; disobedience at school; lying or cheating; steals outside the home) and parent smoking (1 item) proved to be the optimal screen. This was largely replicated across the four data sets. Indicators of predictive efficiency were modest in magnitude and statistically significant in 8 out of the 9 analyses. The results informed the screen's optimal threshold for identifying children at risk for early-onset marijuana use. The addition of child internalizing problems did not improve these predictions. Further analyses showed the predictive utility of the screen for several other substance use outcomes at ages 15 to 18, including alcohol and nicotine use. The results support the use of a short screening assessment to identify youth at risk for early-onset substance use in the ABCD Study and other research. [*Child Symptom Inventory-4*]

- 18-42. McDonough-Caplan, H., Klein, D.N., & Beauchaine, T.P. (2018). Comorbidity and continuity of depression and conduct problems from elementary school to adolescence. *Journal of Abnormal Psychology*, 127(3), 326-337. DOI: 10.1037/abn0000339

Despite nonoverlapping criterion sets, conduct disorder and depression co-occur at much higher rates than expected by chance. Contemporary model-based approaches to explaining heterotypic comorbidity use factor analysis and its variants to evaluate interrelations among symptoms in large population-based and twin samples. These analyses invariably yield broadband internalizing and externalizing factors, which load on a higher-order general liability factor—findings that are robust across age and informant. Although model-based approaches elucidate structural aspects of comorbidity, they are variable-centered, and usually cross-sectional. Most therefore do not assess developmental continuity of comorbidity, or whether noncomorbid individuals are prospectively vulnerable to heterotypic comorbidity. We use an accelerated longitudinal design to evaluate growth in parent-reported conduct problems (CPs) and depression among children, ages 8-15 years, who were recruited at study entry into depressed only ( $n = 27$ ), CPs only ( $n = 28$ ), comorbid ( $n = 81$ ), and control ( $n = 70$ ) groups based on levels of symptoms. Consistent with normative developmental trends across this age range, steep growth in depression was exhibited by all groups, including those who reported only CPs at study entry. In contrast, growth in CPs was restricted to those who reported high symptoms at intake (with or without comorbid depression), compared with low and stable among depressed only and control participants. To our knowledge, this is the first study to demonstrate, using carefully ascertained "pure" versus comorbid groups who were followed naturalistically, that comorbid depression is likely to develop among those with pure CPs, but comorbid CPs are not likely to develop among those with pure depression. [*Child Symptom Inventory-4*]

- 18-43. Na, J.J., & Mikami, A.Y. (2018). Pre-existing perceptions of ADHD predict children's sociometrics given to

classmates with ADHD. *Journal of Child and Family Studies*, 27(10), 3218-3231.

Considerable research documents that even young children possess stigma about mental illness, which may affect how they evaluate peers with mental health conditions. This study examined children's pre-existing perceptions of Attention Deficit/Hyperactivity Disorder (ADHD) behaviors as predictors of their subsequent sociometric judgments of classmates with ADHD in a 2-week summer day camp. Participants were previously unacquainted children ages 6.8-9.8 years (113 typically-developing and 24 with ADHD; 48.2% boys; 81% White). Children initially more inclined to interact with a hypothetical classmate with ADHD gave fewer "dislike" nominations to real-life classmates with ADHD at camp. Children who initially believed that ADHD symptoms were uncontrollable gave more "dislike" nominations and lower liking ratings to classmates with ADHD when those classmates displayed severe ADHD symptoms. For children who had ADHD, their attribution of uncontrollability for ADHD symptoms predicted fewer "like" nominations and more "dislike" nominations given to classmates with ADHD. Lastly, children who initially reported they would help a hypothetical classmate with ADHD gave higher liking ratings to classmates with ADHD. These results were found after statistical control of the actual level of ADHD behaviors displayed by the classmates with ADHD. In summary, other children's pre-existing or stigmatizing perceptions of ADHD behaviors may contribute, in part, to the substantial peer rejection typically experienced by ADHD populations. Findings have implications for understanding peer problems in children with this common mental health condition. [*Child Symptom Inventory-4*]

18-44. Netten, A.P., Rieffe, C., Ketelaar, L., Soede, W., Gadow, K.D., & Frijns, J.H.M. (2018). Terrible twos or early signs of psychopathology? Developmental patterns in early identified preschoolers with cochlear implants compared with hearing controls. *Ear and Hearing*, 39(3), 495-502. DOI: 10.1097/AUD.0000000000000500

Objective: Cochlear implants (CIs) have dramatically improved the lives of children who are deaf or hard of hearing; however, little is known about its implications for preventing the development of psychiatric symptoms in this at-risk population. This is the first longitudinal study to examine the early manifestation of emotional and behavioral disorders and associated risk and protective factors in early identified preschoolers with CIs compared with hearing peers. Design: Participants were 74 children with CIs and 190 hearing controls between ages 1 and 5 years (mean age, 3.8 years). Hearing loss was detected using the Newborn Hearing Screening in The Netherlands and Flanders. Parents completed the Early Childhood Inventory-4, a well-validated measure, to evaluate the symptoms of DSM-IV-defined psychiatric disorders, during three consecutive years. Language scores were derived from each child's medical notes. Results: Children with CIs and hearing controls evidenced comparable levels of disruptive behavior and anxiety/depression (which increased with age in both groups). Greater proficiency in language skills was associated with lower levels of psychopathology. Early CI and longer duration of CI use resulted in better language development. In turn, higher early language skills served as a protective factor against the development of disruptive behavior symptoms. Conclusions: This longitudinal study uniquely shows that improvement in language skills mitigates the development of early signs of psychopathology. Early identification of hearing loss and CIs help children improve their language skills. [*Early Childhood Inventory-4*, Dutch translation]

18-45. Orban, S.A., Rapport, M.D., Friedman, L.M., Eckrich, S.J., & Kofler, M.J. (2018). Inattentive behavior in boys with ADHD during classroom instruction: the mediating role of working memory processes. *Journal of Abnormal Child Psychology*, 46(4), 713-727. DOI: 10.1007/s10802-017-0338-x

Children with ADHD exhibit clinically impairing inattentive behavior during classroom instruction and in other cognitively demanding contexts. However, there have been surprisingly few attempts to validate anecdotal parent/teacher reports of intact sustained attention during 'preferred' activities such as watching movies. The current investigation addresses this omission, and provides an initial test of how ADHD-related working memory deficits contribute to inattentive behavior during classroom instruction. Boys ages 8-12 ( $M = 9.62$ ,  $SD = 1.22$ ) with ADHD ( $n = 32$ ) and typically developing boys (TD;  $n = 30$ ) completed a counterbalanced series of working memory tests and watched two videos on separate assessment days: an analogue math instructional video, and a non-instructional video selected to match the content and cognitive demands of parent/teacher-described 'preferred' activities. Objective, reliable observations of attentive behavior revealed no between-group differences during the non-instructional video ( $d = -0.02$ ), and attentive behavior during the non-instructional video was unrelated to all working memory variables ( $r = -0.11$  to  $0.19$ , ns). In contrast, the ADHD group showed disproportionate attentive behavior decrements during analogue classroom instruction ( $d = -0.71$ ). Bias-corrected, bootstrapped, serial mediation revealed that 59% of this between-group difference was attributable to ADHD-related impairments in central executive working memory, both directly ( $ER = 41\%$ ) and indirectly via its role in coordinating phonological short-term memory ( $ER = 15\%$ ). Between-

group attentive behavior differences were no longer detectable after accounting for ADHD-related working memory impairments ( $d = -0.29$ , ns). Results confirm anecdotal reports of intact sustained attention during activities that place minimal demands on working memory, and indicate that ADHD children's inattention during analogue classroom instruction is related, in large part, to their underdeveloped working memory abilities. [**Child Symptom Inventory-4**]

- 18-46. Ozmen, S., Demirci, E., Dogan, H., Ozsoy, S.D., Per, H., & Oztup, D.B. (2018). Psychopathology and life quality in children with epilepsy and psychopathology in their parents. *Guncel Pediatri-Journal of Current Pediatrics*, 16(1), 55-68.

**INTRODUCTION:** Epilepsy is one of the most common chronic neurological disorders. It is known that epileptic children have more psychiatric diseases than normal population and children with other chronic diseases. The present study was aimed to identify the psychopathology of children with epilepsy, their life quality and the psychopathology of their parents. **METHODS:** 48 children with epilepsy, 48 children for control group and their parents were included in this study. We used Ankara Development Screening Inventory (ADSI), Brief Infant Toddler Social Emotional Assessment (BITSEA), Early Childhood Inventory-Parent Scale (ECI-4), Pediatric Quality of Life Inventory (PedsQL) and Symptoms Checklist-90 (SCL-90) for assessments. **RESULTS:** There was no difference between the epilepsy and the control groups in BITSEA scores for 1-3 years. In the ECI-4 assessment for 4-6 years, Attention Deficit Hyperactivity Disorder (ADHD), general anxiety disorder (GAD), social phobia (SP), posttraumatic stress disorder (PTSD), dysthymic disorders and elimination disorder (ED) were found higher in the children with epilepsy. In the mothers of the children with epilepsy, psychiatric symptoms were found higher than the controls. There was no difference in quality of life scores between the children with epilepsy and the control groups. **DISCUSSION AND CONCLUSION:** In the present study, no psychopathology was detected in the children with epilepsy 1-3 years of age, while frequency of psychopathology was increased in those 4- 6 years of age. Also, it was found that the frequency of psychiatric symptoms was increased in the mothers of the children with epilepsy. [**Early Childhood Inventory-4**, Turkish translation]

- 18-47. Pearce, A.L., Mackey, E., Nadler, E.P., & Vaidya, C.J. (2018). Sleep health and psychopathology mediate executive deficits in pediatric obesity. *Childhood Obesity*, 14(3), DOI: 10.1089/chi.2017.0281

**Objective:** Executive and motivational dysfunction have been associated with pediatric obesity. Poor sleep quality and psychopathology, often comorbid with obesity, are also associated with executive and motivational dysfunction. We examined the contribution of these comorbid factors to the association between obesity and executive function and reward-related decision-making. **Methods:** Seven- to 18-year-old children with and without obesity performed a working memory task with low and high loads, a response inhibition task, and a probabilistic reward-related decision-making task. Parents filled out standardized measures of executive function in everyday behavior, sleep health, and psychiatric symptoms. Analyses controlled for age, gender, IQ, and parental education. **Results:** Children with obesity showed worse working memory performance under higher load ( $p = 0.007$ ), and worse parent-reported behavioral regulation ( $p = 0.05$ ) and metacognition ( $p = 0.04$ ) in everyday behavior and their reward-related decision-making was less consistent with learned probabilistic conditions ( $p = 0.04$ ). Response inhibition did not differ between groups. Children with obesity had worse parent-reported sleep health ( $p < 0.01$ ) and 4.27 greater odds of clinically relevant internalizing symptomology ( $p = 0.03$ ), both of which mediated the effect of obesity on behavioral regulation ( $p$ 's  $< 0.01$ ) and metacognition ( $p$ 's  $< 0.01$ ). Performance-based assessments were not associated with sleep health or psychopathology. **Conclusions:** Sleep quality and internalizing psychopathology were worse in children with obesity and contributed to parent-reported executive dysfunction in their everyday behavior. Performance-based measures of working memory and decision-making were not associated with those comorbidities of obesity. [**Child and Adolescent Symptom Inventory-4R**]

- 18-48. Pendar, R., Azarmehr, R., Shokrpour, N., Taghinezhad, A., Azadikhah, M., & Nourinezhad, H. (2018). Comparing the effect of neurofeedback and verbal self-instruction on children afflicted with attention-deficit hyperactivity disorder: a cognitive-behavioral approach. *Brain-Broad Research in Artificial Intelligence and Neuroscience*, 9(2), 128-138.

Attention deficit hyperactivity disorder is one of the developmental-behavioral disorders whose prevalence is between three to five years of age. There are several ways to cope with this problem. Two common methods for treating this disorder are verbal self-instruction and neurofeedback. This study intended to compare the effect of neurofeedback and verbal self-instruction on children afflicted with attention-deficit hyperactivity disorder using a cognitive-behavioral

approach. To this end, 84 children afflicted with attention deficit hyperactivity disorder (ADHD) were selected. They were selected using purposeful sampling, and then they were randomly assigned to three groups of 28. The first two groups were selected as the experimental groups and the third group was selected as the control group. The children in the first group received verbal self-instruction for 16 sessions for sixteen weeks and the children in the second group received neurofeedback training for 32 sessions for sixteen weeks (twice a week). The third group, however, received no treatment whatsoever. Three instruments were used in this study, namely, Child Symptom Inventory-4 (CSI-4), Strengths and Difficulties Questionnaire (SDQ), and the Wechsler Intelligence Scale for Children (WISC-IV). Having analyzed the data, the researchers found that by controlling for the effect of pretest, there was a significant difference in the posttest scores of the groups. According to the post-hoc analysis, there was a significant decrease in the ADHD symptoms of the two experimental groups. However, the effectiveness of neurofeedback was higher than that of verbal self-instruction. [**Child Symptom Inventory-4**, Persian translation]

- 18-49. Pfiffner, L.J., Rooney, M.E., Jiang, Y.Y., Haack, L.M., Beaulieu, A., & McBurnett, K. (2018). Sustained effects of collaborative school-home intervention for attention-deficit/hyperactivity disorder symptoms and impairment. *Journal of the American Academy of Child and Adolescent Psychiatry*, 57(4), 245-251.  
DOI: 10.1016/j.jaac.2018.01.016

Objectives: The Collaborative Life Skills (CLS) program is a school-home intervention for students with attention-deficit/hyperactivity disorder (ADHD) symptoms and impairment. CLS integrates school, parent, and student treatments followed by booster sessions during a maintenance period into the subsequent school year. The program is delivered by school-based mental health providers. Beneficial post-treatment effects have been documented. This study evaluated the effects of CLS after the maintenance period in the subsequent school year. Method: Using a cluster randomized design, schools within a large urban public school district were randomly assigned to CLS (12 schools) or usual services (11 schools). Approximately 6 students participated at each school (N = 135, grade range = 2-5). Measures were completed at baseline, after treatment, and follow-up during the next school year. Results: Students from schools assigned to CLS compared with those assigned to usual services showed significantly greater improvement at follow-up on parent, but not teacher, ratings of ADHD and oppositional defiant disorder symptom severity, organizational skills, and global impairment. Within group analyses indicated that parent- and teacher-reported post-treatment gains for CLS in ADHD and oppositional defiant disorder symptoms, organizational skills, and academic competence were maintained into the next school year. Conclusions: These results extend support for CLS to the following school year by demonstrating sustained benefits on parent-reported ADHD and oppositional defiant disorder symptoms and functional impairment. The lack of significant teacher-reported differences between CLS and usual services highlights the need for further study of booster treatments for improving outcomes with new teachers across school years. [**Child Symptom Inventory-4**]

- 18-50. Politte, L.C., Scahill, L., Figueroa, J., McCracken, J.T., King, B., & McDougle, C.J. (2018). A randomized, placebo-controlled trial of extended-release guanfacine in children with autism spectrum disorder and ADHD symptoms: an analysis of secondary outcome measures. *Neuropsychopharmacology*, 43(8), 1772-1778.  
DOI: 10.1038/s41386-018-0039-3

In a prior report, we showed that extended-release guanfacine (GEXR) is safe and effective for children with autism spectrum disorder (ASD) accompanied by ADHD symptoms. Here, we examine the impact of GEXR on oppositional behavior, anxiety, repetitive behavior, and sleep disturbance. Sixty-two subjects with ASD (53 boys, 9 girls; ages 5-14 years) were randomly assigned to GEXR (n = 30) or placebo (n = 32) for 8 weeks. Outcomes include the Home Situation Questionnaire-Modified for ASD (HSQ-ASD), Anxiety scale of the Child and Adolescent Symptom Inventory (CASI), Children's Yale-Brown Obsessive-Compulsive Scale-Modified for ASD (CYBOCS-ASD), and Children's Sleep Habits Questionnaire (CSHQ). A repeated measures linear mixed model was used to determine the effects of treatment group and time on HSQ scores. For other measures, change from baseline was evaluated with Analysis of Covariance (ANCOVA). After 8 weeks of treatment, parent ratings of oppositional behavior on the HSQ declined by 44% (per item mean from 3.4 to 1.9) in the GEXR group compared to 12% (from 3.3 to 2.9) for placebo (p = 0.004). Repetitive behavior on the CYBOCS-ASD showed a significantly greater decline in GEXR-treated participants compared to placebo (24% vs. < 1%, p = 0.01). No group differences were observed on CASI Anxiety or CSHQ (p = 0.64 and 0.75, respectively). GEXR was effective in reducing oppositional behavior and, more modestly, repetitive behavior. GEXR was not superior to placebo for anxiety, though baseline anxiety ratings were low. GEXR did not significantly improve sleep habits. Future studies could focus on repetitive behavior or anxiety, symptoms with limited treatment options. [**CASI Anxiety Scale**]

- 18-51. Raspa, M., Fitzgerald, T., Furberg, R.D., Wylie, A., Moultrie, R., DeRamus, M., Wheeler, A.C., & McCormack, L. (2018). Mobile technology use and skills among individuals with fragile X syndrome: implications for healthcare decision making. *Journal of Intellectual Disability Research*, 62(10), 821-832. DOI: 10.1111/jir.12537

Background: Little is known about how individuals with fragile X syndrome (FXS) and their families use technology in daily life and what skills individuals with FXS can perform when using mobile technologies. Methods: Using a mixed-methods design, including an online survey of parents (n=198) and a skills assessment of individuals with FXS (n=6), we examined the experiences and abilities of individuals with FXS for engaging with mobile technology. Results: Parents reported that individuals with FXS often used technology in their daily lives, with variations based on age of child, sex, autism status, depression, and overall ability. Parents frequently sought and shared FXS-related information online. Assessment data revealed that individuals with FXS demonstrated proficiency in interacting with technology. Conclusions: Mobile technology is a tool that can be used in FXS to build skills and increase independence rather than simply for recreational purposes. Implications for using mobile technology to enhance healthcare decision making are discussed. [**Adolescent Symptom Inventory-4, Adult Self Report Inventory-4**]

- 18-52. Roberts, R., McCrory, E., Joffe, H., De Lima, N., & Viding, E. (2018). Living with conduct problem youth: family functioning and parental perceptions of their child. *European Child & Adolescent Psychiatry*, 27(5), 595-604. DOI: 10.1007/s00787-017-1088-6

Parenting children with conduct problems (CP) is challenging, yet very little is known about the impact of the child's behaviour on family functioning or how parents of children with CP perceive their child. The aim of this research was to examine whether families with children with CP and high vs. low levels of callous-unemotional traits (HCU vs. LCU) experience differences in family functioning and parental perceptions. One hundred and one parents/caregivers of boys aged 11-16 [Typically developing (TD) n = 31; CP/HCU n = 35; CP/LCU n = 35] completed the McMaster Family Assessment Device, measuring multiple domains of family functioning. Parents/caregivers also completed a written statement describing their child, used for qualitative analysis. Families with CP/HCU children had poorer affective involvement than TD (p = 0.00; d = - 1.17) and CP/LCU (p = 0.03; d = - 0.62) families. Families with CP/HCU children showed significantly poorer general family functioning (p = 0.04; d = - 0.63) and more poorly defined family roles (p = 0.005; d = - 0.82) than families with TD children. Qualitative analyses indicated that parents/caregivers of CP/HCU children characterised them as having a dichotomous personality and being superficially charming. CP/LCU children were characterised as cheeky and endearing, with parents reporting good rapport. Families with CP/HCU children presented with specific difficulties in affective involvement and parents described challenges which were in line with the child's specific presentation of lack of empathy and shallow affect. These findings may be used to help clinicians identify targets for family interventions. [**Child and Adolescent Symptom Inventory-4R**]

- 18-53. Rosen, T.E., & Lerner, M.D. (2018). Error-related brain activity and anxiety symptoms in youth with autism spectrum disorder. *Autism Research*, 11(2), 342-354.

Individuals with autism spectrum disorder (ASD) often experience symptoms associated with generalized anxiety disorder, obsessive-compulsive disorder, and social anxiety disorder. In other populations, these same symptoms are associated with a larger error-related negativity (ERN), an event-related potential that reflects endogenous threat sensitivity. As such, it is possible that the ERN may relate to the clinical presentation of anxiety in ASD. However, studies examining these associations in youth with ASD have yielded mixed results. The present study aimed to clarify this relationship by examining the ERN in relation to these specific anxiety symptoms in ASD, and by accounting for typical covariates (e.g., age, verbal abilities, depression, ASD symptoms) of the ERN. Fifty-one youth, ages 8-17, with ASD and intact cognitive ability completed a modified Flanker task, from which the ERN component was obtained. Measures of anxiety, verbal abilities, depression, and ASD symptoms were collected from participants and parents. Results revealed that greater self-reported social anxiety symptoms, specifically performance fears but not humiliation/rejection fears, were associated with an increased neural response to errors, as measured by the ERN. This relationship remained after controlling for other anxiety symptoms, as well as age, verbal IQ, depression symptoms, and ASD symptoms. Findings suggest that heightened threat sensitivity may be characteristic of individuals with ASD who exhibit social fearfulness. [**Child and Adolescent Symptom Inventory-5**]

- 18-54. Seeley, J.R., Small, J.W., Feil, E.G., Frey, A.J., Walker, H.M., Golly, A., & Forness, S.R. (2018). Effects of the First Step to Success intervention on preschoolers with disruptive behavior and comorbid anxiety problems.

*School Mental Health*, 10(3), 243-253. DOI: 10.1007/s12310-017-9226-3

Preschoolers with elevated anxiety symptoms are at high risk not only of developing more severe mental health disorders in later life but are also apt to respond more poorly to intervention if they present with comorbid disruptive behavior. Because early signs of anxiety disorders may not be recognized as such in preschool settings, many children selected for Tier 2 interventions that target externalizing problem behaviors may also have co-occurring anxiety symptoms and disorders. The First Step to Success intervention has recently been adapted for preschoolers with externalizing behaviors and was found to be efficacious in a randomized controlled trial. The current report examines effects of the First Step intervention on a subsample of 38 preschoolers with comorbid anxiety symptoms. Compared to usual-care controls, preschoolers who were assigned to the First Step intervention demonstrated medium-to-large effects in reducing externalizing behavior and improving social functioning outcomes, but had small effects for reductions in internalizing behaviors. Implications for intervening with preschoolers at risk of comorbid disruptive and anxiety behaviors are discussed. [**Early Childhood Inventory-4**]

- 18-55. Shirazi, E., Sayyahfar, S., Motamed, M., & Alaghband-rad, J. (2018). A case of congenital insensitivity to pain with anhidrosis comorbid with attention deficit hyperactivity disorder clinical implications for pathophysiology and treatment. *Journal of Nervous and Mental Disease*, 206(4), 296-299.  
DOI: 10.1097/NMD.0000000000000785

Congenital insensitivity to pain with anhidrosis (CIPA) is a rare autosomal recessive genetic disorder caused by a mutation in the neurotrophic tyrosine kinase receptor (NTRK1) gene. CIPA is accompanied by abnormal catecholamine metabolism and decreased blood concentration of dopamine and norepinephrine. Attention deficit hyperactivity disorder (ADHD) is a neurodevelopmental disorder of heterogeneous etiology and presentation, and recent reports have suggested a pathophysiological role of neurotrophins in ADHD. Furthermore, dopamine and norepinephrine are known to play major roles in the pathophysiology of ADHD, and the imbalance of monoaminergic and cholinergic systems as an underlying cause of ADHD has recently been studied. Here, we report the case of an 11-year-old boy with CIPA and comorbid ADHD. Our observations have important clinical implications for patients with CIPA. Because of deficiencies in self-control, proper management of these patients necessitates a highly structured and monitored environment, made dually important by possible comorbidity of ADHD. [**Child Symptom Inventory-4**]

- 18-56. Siegel, M. (2019). The severe end of the spectrum: insights and opportunities from the Autism Inpatient Collection (AIC). *Journal of Autism and Developmental Disorders*, 48(11), 3641-3646.

Research on individuals severely affected by autism, including those who are minimally verbal, have intellectual disability or challenging behaviors, has become less common. The Autism Inpatient Collection (AIC) was initiated so data on this group is available to the research community. Ten studies utilizing phenotypic data from the first 350 AIC participants are presented. Greater autism severity, sleep disturbance, and psychiatric disorders are risks for hospitalization; fluently verbal youth experience more depression and oppositional symptoms; lower adaptive/coping skills are associated with increased problem behaviors; lower IQ is a risk for SIB; post-traumatic and suicidal symptoms are common; and challenging behaviors improve with specialized inpatient treatment. A new measure of emotion regulation and prescribing practices are described and future research discussed. [**Child and Adolescent Symptom Inventory-5**]

- 18-57. Tan, P.Z., Silk, J.S., Dahl, R.E., Kronhaus, D., & Ladouceur, C.D. (2018). Age-related developmental and individual differences in the influence of social and non-social distractors on cognitive performance. *Frontiers in Psychology*, 9, N0. 863. DOI: 10.3389/fpsyg.2018.00863

This study sought to examine age-related differences in the influences of social (neutral, emotional faces) and non-social/non-emotional (shapes) distractor stimuli in children, adolescents, and adults. To assess the degree to which distractor, or task-irrelevant, stimuli of varying social and emotional salience interfere with cognitive performance, children (N = 12; 8-12y), adolescents (N = 17; 13-17y), and adults (N = 17; 18-52y) completed the Emotional Identification and Dynamic Faces (EIDF) task. This task included three types of dynamically-changing distractors: (1) neutral-social (neutral face changing into another face); (2) emotional-social (face changing from 0% emotional to 100% emotional); and (3) non-social/non-emotional (shapes changing from small to large) to index the influence of task-irrelevant social and emotional information on cognition. Results yielded no age-related differences in accuracy but showed an age-related linear reduction in correct reaction times across distractor conditions. An age-related effect

in interference was observed, such that children and adults showed slower response times on correct trials with socially-salient distractors; whereas adolescents exhibited faster responses on trials with distractors that included faces rather than shapes. A secondary study goal was to explore individual differences in cognitive interference. Results suggested that regardless of age, low trait anxiety and high effortful control were associated with interference to angry faces. Implications for developmental differences in affective processing, notably the importance of considering the contexts in which purportedly irrelevant social and emotional information might impair, vs. improve cognitive control, are discussed. [**Adolescent Symptom Inventory-4, Child Symptom Inventory-4, Adult Self-Report Inventory-4**]

18-58. Tangen, R.B., & Diekroger, E.A. (2018). Practical considerations for the assessment and treatment of ADHD in children with epilepsy. *Journal of Pediatric Epilepsy*, 7(3), 89-96. DOI: 10.1055/s-0038-1676584

Attention deficit hyperactivity disorder (ADHD) is one of the most prevalent psychiatric comorbidities in children with epilepsy, but it is under diagnosed and under treated which can impact the quality of life. Knowledge regarding ADHD characteristics, epilepsy-related risk factors, and associations with specific types of epilepsy provide a base for assessment. Epilepsy-related variables have not consistently predicted ADHD status, so screening and assessment for ADHD in children with epilepsy should be systematic and broad. Different assessment tools and techniques can be helpful including rating scales, diagnostic interviews, and neuropsychological testing. Treatment of ADHD with methylphenidate has been found to be safe and effective including in populations with uncontrolled seizures and coexisting intellectual disability. There are limited data on other medication and behavioral treatments. To improve assessment, diagnosis and treatment, medical provider knowledge, and practices, as well as family barriers to behavioral health should be targeted. [**Child Symptom Inventory-4**]

18-59. Wells, E.L., Kofler, M.J., Soto, E.F., Schaefer, H.S., & Sarver, D.E. (2018). Assessing working memory in children with ADHD: Minor administration and scoring changes may improve digit span backward's construct validity. *Research in Developmental Disabilities*, 72, 166-178.

Background: Pediatric ADHD is associated with impairments in working memory, but these deficits often go undetected when using clinic-based tests such as digit span backward. Aims: The current study pilot-tested minor administration/scoring modifications to improve digit span backward's construct and predictive validities in a well-characterized sample of children with ADHD. Methods and procedures: WISC-IV digit span was modified to administer all trials (i.e., ignore discontinue rule) and count digits rather than trials correct. Traditional and modified scores were compared to a battery of criterion working memory (construct validity) and academic achievement tests (predictive validity) for 34 children with ADHD ages 8-13 (M = 10.41; 11 girls). Outcomes and results: Traditional digit span backward scores failed to predict working memory or KTEA-2 achievement (all ns). Alternate administration/scoring of digit span backward significantly improved its associations with working memory reordering ( $r = .58$ ), working memory dual-processing ( $r = .53$ ), working "memory updating" ( $r = .28$ ), and KTEA-2 achievement ( $r = .49$ ). Conclusions and implications: Consistent with prior work, these findings urge caution when interpreting digit span performance. Minor test modifications may address test validity concerns, and should be considered in future test revisions. Digit span backward becomes a valid measure of working memory at exactly the point that testing is traditionally discontinued. [**Child Symptom Inventory-4**]

18-60. Vilgis, V., Gelardi, K.L., Helm, J.L., Forbes, E.E., Hipwell, A.E., Keenan, K., & Guyer, A.E. (2018). Dorsomedial prefrontal activity to sadness predicts later emotion suppression and depression severity in adolescent girls. *Child Development*, 89(3), 758-772. DOI: 10.1111/cdev.13023

The present study used cross-lagged panel analyses to test longitudinal associations among emotion regulation, prefrontal cortex (PFC) function, and depression severity in adolescent girls. The ventromedial and dorsomedial PFC (vmPFC and dmPFC) were regions of interest given their roles in depression pathophysiology, self-referential processing, and emotion regulation. At ages 16 and 17, seventy-eight girls completed a neuroimaging scan to assess changes in vmPFC and dmPFC activation to sad faces, and measures of depressive symptom severity and emotion regulation. The 1-year cross-lagged effects of dmPFC activity at age 16 on expressive suppression at age 17 and depressive symptomatology at age 17 were significant, demonstrating a predictive relation between dmPFC activity and both suppression and depressive severity. [**Adolescent Symptom Inventory-4**]

- 17-1. Allred, E.N., Dammann, O., Fichorova, R.N., Hooper, S.R., Hunter, S.J., Joseph, R.M., Kuban, K., Leviton, A., O'Shea, T.M., & Scott, M.N. (2017). Systemic inflammation during the first postnatal month and the risk of attention deficit hyperactivity disorder characteristics among 10 year-old children born extremely preterm. *Journal of Neuroimmune Pharmacology*, 12(3), 531-543.

Although multiple sources link inflammation with attention difficulties, the only human study that evaluated the relationship between systemic inflammation and attention problems assessed attention at age 2 years. Parent and/or teacher completion of the **Childhood Symptom Inventory-4** (CSI-4) provided information about characteristics that screen for attention deficit hyperactive disorder (ADHD) among 793 10-year-old children born before the 28th week of gestation who had an IQ  $\geq 70$ . The concentrations of 27 proteins in blood spots obtained during the first postnatal month were measured. 151 children with ADHD behaviors were identified by parent report, while 128 children were identified by teacher report. Top-quartile concentrations of IL-6R, TNF-alpha, IL-8, VEGF, VEGFR1, and VEGF-R2 on multiple days were associated with increased risk of ADHD symptoms as assessed by a teacher. Some of this increased risk was modulated by top-quartile concentrations of IL-6R, RANTES, EPO, NT-4, BDNF, bFGF, IGF-1, PIGF, Ang-1, and Ang-2. Systemic inflammation during the first postnatal month among children born extremely preterm appears to increase the risk of teacher-identified ADHD characteristics, and high concentrations of proteins with neurotrophic properties appear capable of modulating this increased risk.

- 17-2. Barrios, C.S., Bufferd, S.J., Klein, D.N., & Dougherty, L.R. (2017). The interaction between parenting and children's cortisol reactivity at age 3 predicts increases in children's internalizing and externalizing symptoms at age 6. *Development and Psychopathology*, 29(4), 1319-1331.

Little is known about the role of stress reactivity in the emergence of psychopathology across early childhood. In this longitudinal study, we tested the hypothesis that child cortisol reactivity at age 3 moderates associations between early parenting and children's internalizing and externalizing symptoms from age 3 to age 6. One hundred and sixty children were assessed at age 3, and 135 children were reassessed at age 6. At age 3, we exposed children to stress-inducing laboratory tasks, during which we obtained four salivary cortisol samples, and parental hostility was assessed using an observational parent-child interaction task. At ages 3 and 6, child psychiatric symptoms were assessed using a clinical interview with parents. The results indicated that the combination of high child cortisol reactivity and high observed parental hostility at age 3 was associated with greater concurrent externalizing symptoms at age 3 and predicted increases in internalizing and externalizing symptoms from age 3 to age 6. Findings highlight that increased stress reactivity, within the context of hostile parenting, plays a role in the emergence of psychopathology from preschool to school entry. [**Early Childhood Inventory-4**]

- 17-3. Bertocci, M.A., Bebeko, G., Versace, A., Iyengar, S., Bonar, L., Forbes, E.E., Almeida, J.R.C., Perlman, S.B., Schirada, C., Travis, M.J. et al. (2017). Reward-related neural activity and structure predict future substance use in dysregulated youth. *Psychological Medicine*, 47(8), 1357-1369.

Background. Identifying youth who may engage in future substance use could facilitate early identification of substance use disorder vulnerability. We aimed to identify biomarkers that predicted future substance use in psychiatrically unwell youth. Method. LASSO regression for variable selection was used to predict substance use 24.3 months after neuroimaging assessment in 73 behaviorally and emotionally dysregulated youth aged 13.9 (s.d. = 2.0) years, 30 female, from three clinical sites in the Longitudinal Assessment of Manic Symptoms (LAMS) study. Predictor variables included neural activity during a reward task, cortical thickness, and clinical and demographic variables. Results. Future substance use was associated with higher left middle prefrontal cortex activity, lower left ventral anterior insula activity, thicker caudal anterior cingulate cortex, higher depression and lower mania scores, not using antipsychotic medication, more parental stress, older age. This combination of variables explained 60.4% of the variance in future substance use, and accurately classified 83.6%. Conclusions. These variables explained a large proportion of the variance, were useful classifiers of future substance use, and showed the value of combining multiple domains to provide a comprehensive understanding of substance use development. This may be a step toward identifying neural measures that can identify future substance use disorder risk, and act as targets for therapeutic interventions. [**Child and Adolescent Symptom Inventory-4R**]

- 17-4. Bitsika, V., & Sharpley, C.F. (2017). The association between parents' ratings of ASD symptoms and anxiety in a sample of high-functioning boys and adolescents with Autism Spectrum Disorder. *Research in Developmental*



*Disabilities*, 63, 38-45.

Background: The relationship between symptoms of Autism Spectrum Disorder (ASD) and Generalised Anxiety Disorder (GAD) is complex and sometimes confounding. However, exploration of that relationship has significant potential to assist in treatment or avoidance of GAD by identifying ASD-related behaviours as 'targets' for intervention with anxious children as well as for preventative treatments that could be implemented into daily routines before children become anxious. To further understanding of this relationship, the association between parent-ratings of their sons' ASD symptoms and GAD symptoms was investigated in two samples of boys with high-functioning ASD. Methods: Parents of a sample of 90 pre-adolescent (M age = 8.8yr) and 60 adolescent males (M age =14.6yr) completed the Social Responsiveness Scale (SRS) and the GAD subscale of the **Child and Adolescent Symptom Inventory** (CASI-4 GAD) about their sons. Results: Pre-adolescents had significantly higher SRS scale scores than adolescents. For pre-adolescents, high levels of tension in social situations were associated with 3.5-times greater likelihood of having GAD; for adolescents, experiencing difficulty in changes in routine was associated with a 10-fold increase in risk of GAD. Conclusions: In addition to focussing upon GAD itself, preventative and treatment options aimed at reducing GAD or its risk might profitably recognise and focus upon these two aspects of ASD that are different across the two age groups but each of which was significantly associated with GAD severity and prevalence in this study. [**Child and Adolescent Symptom Inventory-4**]

17-5. Bitsika, V., Sharpley, C.F., Sweeney, J.A., Andronicos, N.M., Agnew, L.L., & Arnold, W.M. (2017). A comparison of age, cognitive, hormonal, symptomatic and mood correlates of aggression towards others in boys with ASD. *Research in Developmental Disabilities*, 66, 44-54.

Background: Aggression is a major problem in children with Autism Spectrum Disorder (ASD) but little is known about the possible contributors to this behaviour. Aims: To determine the relative strength of the relationships between developmental, cognitive, symptomatic, hormonal and mood factors and 'Aggression towards Others' in boys with ASD. Method: Predictors of Aggression towards Others were investigated in a sample of 136 boys with Autism Spectrum Disorder (M age = 11.3yr, SD = 3.2yr, range = 6yr to 17yr). Data were collected from the boys themselves and their parents (14 fathers, 122 mothers). Results: Results indicated that age and Low Registration on the Sensory Profile were the only significant correlates of this form of aggression. Importantly, testosterone levels did not account for level of social aggression. Conclusions: These data suggest that these boys may have learnt more effective methods of dealing with their frustration as they grew older or benefitted from cognitive maturation, and that having a high neurological threshold may be a source of frustration for these boys. The relationship between Aggression towards Others and Low Registration is discussed and clinical implications of the findings explicated. [**Child and Adolescent Symptom Inventory-4**]

17-6. Boldt, L.J., Kochanska, G., & Jonas, K. (2017). Infant attachment moderates paths from early negativity to preadolescent outcomes for children and parents. *Child Development*, 88(2), 584-596.

Although infant attachment has been long seen as key for development, its long-term effects may be complex. Attachment may be a catalyst or moderator of future developmental sequelae rather than a source of main effects. In 102 mothers, fathers, and infants, attachment was assessed at 15 months; children's negativity (rejection of parental rules and modeling attempts) at 25, 38, 52, and 67 months; and developmental outcomes (the child's parent-rated externalizing problems and the parent-child observed relationship quality) at ages 10 and 12. In both mother-child and father-child relationships, children's higher negativity was associated with more detrimental outcomes but only in dyads with formerly insecure infants. Infant insecurity appears to amplify detrimental cascades, whereas infant security appears to defuse such risks. [**Child Symptom Inventory-4, Adolescent Symptom Inventory-4**]

17-7. Boylan, K., Rowe, R., Duku, E., Waldman, I., Stepp, S., Hipwell, A., & Burke, J. (2017). Longitudinal profiles of girls' irritable, defiant and antagonistic oppositional symptoms: evidence for group based differences in symptom severity. *Journal of Abnormal Child Psychology*, 45(6), 1133-1145.

Three subdimensions of ODD symptoms have been proposed -angry/irritable (IR), argumentative/defiant (DF) and antagonism (AN). This study tested whether longitudinal symptom trajectories could be identified by these subdimensions. Group-based trajectory analysis was used to identify developmental trajectories of IR, DF and AN symptoms. Multi-group trajectory analysis was then used to identify how subdimension trajectories were linked together over time. Data were drawn from the Pittsburgh Girls Study (PGS; N = 2450), an urban community sample of

girls between the ages of five--eight at baseline. We included five waves of annual data across ages five-13 to model trajectories. Three trajectories were identified for each ODD subdimension: DF and AN were characterized by high, medium and low severity groups; IR was characterized by low, medium stable, and high increasing groups. Multi-trajectory analysis confirmed these subdimensions were best linked together based on symptom severity. We did not identify girls' trajectory groups that were characterized predominantly by a particular subdimension of ODD symptoms. Membership in more severe symptom groups was significantly associated with worse outcomes five years later. In childhood and early adolescence girls with high levels of ODD symptoms can be identified, and these youth are characterized by a persistently elevated profile of IR, DF and AN symptoms. Further studies in clinical samples are required to examine the ICD-10 proposal that ODD with irritability is a distinct or more severe form of ODD. [**Child Symptom Inventory-4**]

- 17-8. Catchpole, R.E.H., McLeod, S.L., Brownlie, E.B., Allison, C.J., & Grewal, A. (2017). Cigarette smoking in youths with mental health and substance use problems: prevalence, patterns, and potential for intervention. *Journal of Child & Adolescent Substance Abuse*, 26(1), 41-55.

Mental health symptoms and substance use disorders are clear risk factors for cigarette smoking and nicotine dependence among young people, yet research on cigarette smoking among youths with concurrent mental health and substance use disorders (dual diagnosis) is considerably lacking. We examined smoking history and perspectives regarding smoking, cessation, and mental health and substance use in 97 adolescents and emerging adults (ages 14 to 24) referred to a program for youths with concurrent mental health and substance use disorders in Canada. Results show high rates of cigarette smoking, and modest interest in quitting but little interest in attending formalized programs to assist with cessation. Many participants reported smoking more when mental health was worse; most reported that they frequently smoke cigarettes and use drugs or alcohol concurrently. Current smokers perceived more benefits from cigarette smoking in regulating emotions and ameliorating their mental health symptoms than former smokers. In contrast, perceived detrimental effects of smoking were unrelated to current smoking status. Results suggest a need for integrated treatment that incorporates emotion regulation as part of cessation approaches. Integrating smoking cessation approaches into existing mental health and substance use treatments may be more palatable to adolescents and emerging adults than stand-alone smoking cessation programs. [**Child Symptom Inventory-4, Adolescent Symptom Inventory-4, Youth's (Self-Report) Inventory-4, Adult Self Report Inventory-4**]

- 17-9. Cecil, C.A.M., Viding, E., Fearon, P., Glaser, D., & McCrory, E.J. (2017). Disentangling the mental health impact of childhood abuse and neglect. *Child Abuse & Neglect*, 63, 106-119.

It is unclear whether maltreatment types exert common or specific effects on mental health. In the current study, we aimed to systematically characterize the unique, shared and cumulative effects of maltreatment types on psychiatric symptoms, using data drawn from a community sample of high-risk youth ( $n = 204$ ,  $M = 18.85$ ). Analyses controlled for a range of potentially confounding variables, including socio-demographic variables, neighbourhood deprivation and levels of community violence exposure. Outcome measures included multi-informant reports of internalizing difficulties, as well as data on externalizing problems and trauma-related symptoms. We found that (i) consistent with previous studies, maltreatment types were highly interrelated and frequently co-occurred; (ii) symptom severity linearly increased with the number of maltreatment types experienced (more so for self-report vs informant ratings); and (iii) while most forms of maltreatment were significantly associated with mental health outcomes when examined individually, few unique effects were observed when modelling maltreatment types simultaneously, pointing to an important role of shared variance in driving maltreatment effects on mental health. Emotional abuse emerged as the main independent predictor of psychiatric symptomatology - over and above other maltreatment types - and this effect was comparable for males and females (i.e. no significant interaction with sex). Findings contribute to a better understanding of heterogeneity in individual responses to maltreatment. [**Adolescent Symptom Inventory-4**]

- 17-10. Chang, J.P.C., & Gau, S.S.F. (2017). Mother-child relationship in youths with attention-deficit hyperactivity disorder and their siblings. *Journal of Abnormal Child Psychology*, 45(5), 871-882.

Despite impaired mother-child interactions noted in youth with attention-deficit/hyperactivity disorder (ADHD), there is no such information for their siblings. This study aimed to test whether the affected and unaffected siblings, like youth with ADHD, also encountered impaired mothering and mother-child relationships as compared to typically developing youth (TD). The sample consisted of 122 probands (107 males, 87.7 %), aged 10-16, with DSM-IV ADHD, 44 affected (26 males, 59.1 %) and 78 unaffected (28 males, 35.9 %) siblings, and 122 TD youth. Both participants and their

mothers received psychiatric interviews (K-SADS-E) about the participants and reported maternal parenting style, mother-child interactions and child behavioral problems at home. Based on both reports, probands with ADHD and affected siblings (only youth report) had more impaired relationships, more behavioral problems at home, and less perceived family support than unaffected siblings and TD youth. Probands with ADHD had higher maternal authoritarian control than unaffected siblings. The findings suggest that impaired mothering, mother-child interactions, and family support are related to the presence of ADHD diagnosis in both probands and their affected siblings. [**Adult Self Report Inventory-4**, Chinese translation]

- 17-11. Clements, C.C., Wenger, T.L., Zoltowski, A.R., Bertollo, J.R., Miller, J.S., de Marchena, A.B., Mitteer, L.M., Carey, J.C., Yerys, B.E., Zackai, E.H., et al. (2017). Critical region within 22q11.2 linked to higher rate of autism spectrum disorder. *Molecular Autism*, 8, Article Number: 58.

Background: Previous studies have reported no clear critical region for medical comorbidities in children with deletions or duplications of 22q11.2. The purpose of this study was to evaluate whether individuals with small nested deletions or duplications of the LCR-A to B region of 22q11.2 show an elevated rate of autism spectrum disorder (ASD) compared to individuals with deletions or duplications that do not include this region. Methods: We recruited 46 patients with nested deletions ( $n = 33$ ) or duplications ( $n = 13$ ) of 22q11.2, including LCR-A to B ( $n(\text{del}) = 11$ ), LCR-A to C ( $n(\text{del}) = 4$ ), LCR-B to D ( $n(\text{del}) = 14$ ;  $n(\text{dup}) = 8$ ), LCR-C to D ( $n(\text{del}) = 4$ ;  $n(\text{dup}) = 2$ ), and smaller nested regions ( $n = 3$ ). Parent questionnaire, record review, and, for a subset, in-person evaluation were used for ASD diagnostic classification. Rates of ASD in individuals with involvement of LCR-B to LCR-D were compared with Fisher's exact test to LCR-A to LCR-B for deletions, and to a previously published sample of LCR-A to LCR-D for duplications. The rates of medical comorbidities and psychiatric diagnoses were determined from questionnaires and chart review. We also report group mean differences on psychiatric questionnaires. Results: Individuals with deletions involving LCR-A to B showed a 39-44% rate of ASD compared to 0% in individuals whose deletions did not involve LCR-A to B. We observed similar rates of medical comorbidities in individuals with involvement of LCR-A to B and LCR-B to D for both duplications and deletions, consistent with prior studies. Conclusions: Children with nested deletions of 22q11.2 may be at greater risk for autism spectrum disorder if the region includes LCR-A to LCR-B. Replication is needed. [**Child and Adolescent Symptom Inventory-4R**]

- 17-12. Daniels, B., Volpe, R.J., Briesch, A.M., & Gadow, K.D. (2017). Dependability and treatment sensitivity of multi-item direct behavior rating scales for interpersonal peer conflict. *Assessment for Effective Intervention*, 43(1), 48-59. DOI: 10.1177/1534508417698456

Direct Behavior Rating (DBR) represents a feasible method for monitoring student behavior in the classroom; however, limited work to date has focused on the use of multi-item scales. The purposes of the study were to examine the (a) dependability of data obtained from a multi-item DBR designed to assess peer conflict and (b) treatment sensitivity of abbreviated DBR-MIS constructed using factor-derived and individualized methods. Analyses were performed using teacher ratings of 65 students (53 boys, 12 girls) between 6 and 12 years old. Results of decision studies indicated that an acceptable criterion of dependability ( $\phi > .70$ ) for low stakes, intra-individual decision-making could be achieved using a 3-item scale across 8 occasions, a 4- or 5- item scale across 4 occasions, or a 6-item scale across 3 occasions. Subsequent analyses verified a 6-item DBR demonstrated acceptable treatment sensitivity when ratings were conducted on 3 days during baseline and 3 days during treatment with methylphenidate. Implications for practice and future research are discussed. [**Peer Conflict Scale**]

- 17-13. Douglass, L.M., Heeren, T.C., Stafstrom, C.E., DeBassio, W., Allred, E.N., Leviton, A., O'Shea, T.M., Hirtz, D., Rollins, J., & Kuban, K. (2017). Cumulative incidence of seizures and epilepsy in ten-year-old children born before 28 weeks' gestation. *Pediatric Neurology*, 73, 13-19.

OBJECTIVE: We evaluated the incidence of seizures and epilepsy in the first decade of life among children born extremely premature (less than 28 weeks' gestation). METHOD: In a prospective, multicenter, observational study, 889 of 966 eligible children born in 2002 to 2004 were evaluated at two and ten years for neurological morbidity. Complementing questionnaire data to determine a history of seizures, all caregivers were interviewed retrospectively for postneonatal seizures using a validated seizure screen followed by a structured clinical interview by a pediatric epileptologist. A second pediatric epileptologist established an independent diagnosis based on recorded responses of the interview. A third epileptologist determined the final diagnosis when evaluators disagreed (3%). Life table survival methods were used to estimate seizure incidence through ten years. RESULTS: By age ten years, 12.2% (95%

confidence interval: 9.8, 14.5) of children had experienced one or more seizures, 7.6% (95% confidence interval: 5.7, 9.5) had epilepsy, 3.2% had seizure with fever, and 1.3% had a single, unprovoked seizure. The seizure incidence increased with decreasing gestational age. In more than 75% of children with seizures, onset was after one year of age. Seizure incidence was comparable in both sexes. Two-thirds of those with epilepsy had other neurological disorders. One third of children with epilepsy were not recorded on the medical history questionnaire. SIGNIFICANCE: The incidence of epilepsy through age ten years among children born extremely premature is approximately 7- to 14-fold higher than the 0.5% to 1% lifetime incidence reported in the general pediatric population. Seizures in this population are under recognized, and possibly underdiagnosed, by parents and providers. **[Child Symptom Inventory-4]**

- 17-14. Esmaeilpour, K., Fanid, L.M., & Nejad, A.H. (2017). *International Journal of Pediatrics-Mashhad*, 5(10), 5907-U115. DOI: 10.22038/ijp.2017.25322.2149

Background: The attention deficit/hyperactivity disorder (ADHD) is one of the most compromising mental disorders of childhood and adolescence. Subsequently, different studies in recent years were conducted on the relationship between sleep disturbances and ADHD in children. About 30% of children and 60% to 80% of adults with ADHD develop sleep disorders, which may result in cognitive and behavioral changes in the patients. The current study aimed at comparing sleep disorders in children with ADHD and their normal peers in Tabriz, Iran. Materials and Methods: The current case-control study was conducted on the target population of children within the age range of 6 to 12 years, which included 50 children with ADHD receiving medication, 55 children with ADHD symptoms without receiving any medication, and 71 normal children, all of which screened from the school students of Tabriz using the child symptom inventory-4 (CSI-4) and selected by the multi-stage cluster sampling method. The children's sleep habits questionnaire (CSHQ) was completed by their mothers and data were analyzed using the multivariate analysis of variance (MANOVA). Results: According to the results of the current study, a significant number of children with ADHD showed sleep disorder that can accounts for some degree of their behavioral dysregulation. There was a significant difference among the study groups regarding the subscales of sleep resistance and sleep duration, daytime sleep, parasomnia, and sleep apnea ( $p < 0.05$ ). However, evaluation of the sleep onset delay, anxiety, and nighttime awakening hypotheses showed no significant difference between ADHD and normal children ( $P > 0.05$ ). Conclusion: Since children with ADHD usually have more sleep problems, considering the sleep quality in such children is of great importance; in the treatment of such children their sleep problems should be considered particularly. **[Child Symptom Inventory-4, Persian translation]**

- 17-15. Farmer, C., Epstein, J., Findling, R., Gadow, K.D., Arnold, L., Kipp, H., Kolko, D., Butter, E., Schneider, J., Bukstein, O., McNamara, N., Molina, B., & Aman, M. (2017). Risperidone added to psychostimulant in children with severe aggression and attention-deficit/hyperactivity disorder: Lack of effect on attention and short-term memory. *Journal of Child and Adolescent Psychopharmacology*, 27, 117-124

Objective: Professionals have periodically expressed concern that atypical antipsychotics may cause cognitive blunting in treated patients. In this study, we report data from a double-blind, randomized, controlled study of stimulant plus placebo versus combined stimulant and risperidone to evaluate the effects of the atypical antipsychotic on attention and short-term memory. Methods: A total of 165 ( $n = 83$  combined treatment;  $n = 82$  stimulant plus placebo) children with attention-deficit/hyperactivity disorder and severe physical aggression, aged 6–12 years, were evaluated with Conners' Continuous Performance Test (CPT-II) and the Wechsler Intelligence Scale for Children-III (WISC) Digit Span subscale at baseline, after 3 weeks of stimulant-only treatment, and after six additional weeks of randomized treatment (stimulant+placebo vs. stimulant+risperidone). Results: At 3 weeks, improvement on CPT-II performance (Commissions and Reaction Time Standard Error;  $p < 0.001$ ) and on Digit Span memory performance ( $p < 0.006$ ) was noted for the full sample. At study week 9, no difference in CPT-II or Digit Span performance was observed between the randomized groups ( $ps = 0.41$  to  $0.83$ ). Conclusions: Similar to other studies, we found no deleterious effects on attention and short-term memory associated with short-term use of risperidone. **[Child and Adolescent Symptom Inventory-4R]**

- 17-16. Findling, R.L., Townsend, L., Brown, N.V., Arnold, L.E., Gadow, K.D., Kolko, D.J., McNamara, N.K., Gary, D.S., Kaplin, D.B., Farmer, C.A., Kipp, H., Williams, C., Butter, E.M., Bukstein, O.G., Rice, Jr, R., Buchan-Page, K., Molina, B.S.G., & Aman, M.G. (2017). The Treatment of Severe Childhood Aggression (TOSCA) study: Twelve weeks of extended, blinded treatment in clinical responders. *Journal of Child and Adolescent*

*Psychopharmacology*, 27, 52-65.

Objectives: Previous *Treatment of Severe Childhood Aggression* (TOSCA) reports demonstrated that many children with severe physical aggression and ADHD responded well to two randomized treatments (parent training [PT]+stimulant+placebo=*Basic* vs. PT+stimulant+risperidone=*Augmented*) for 9 weeks in an acute trial. An important clinical question is whether these favorable outcomes are maintained over longer times. Methods: Clinical responders to the 9-week trial (N=103/168), defined as Clinical Global Impressions-Improvement (CGI-I) rating of much/very much improved plus substantial reduction in parent-rated Nisonger Child Behavior Rating Form (NCBRF) disruptive total score (D-total), were followed another 12 weeks (21 weeks total) while remaining on blinded treatment. Outcome measures included CGI and NCBRF, other parent/teacher-rated scales, laboratory tests, clinician ratings of abnormal movement, and other adverse events (AEs). Results: *Primary*. Parent NCBRF ratings showed minimal worsening of behavior from end of the 9-week acute trial (expected from regression to the mean after selecting best responders), but outcomes at Extension end-point were meaningfully improved compared with acute-study baseline. As expected, outcomes for *Basic* and *Augmented* treatment did not differ among these children selected for good clinical response. During Extension, more *Augmented* participants had elevated prolactin. There were no clinically confirmed cases of tardive dyskinesia. Delayed sleep onset was the most frequent *Basic* AE. *Secondary*: A last-observation-carried-forward analysis found that, at the end of Extension, *Augmented* participants had more improvement than *Basic* participants for NCBRF prosocial subscale ( $p = .005$ ;  $d = 0.44$ ), a measure of reactive aggression ( $p = .03$ ;  $d = 0.36$ ), and marginally so for the NCBRF D-total ( $p = .058$ ;  $d = 0.29$ ), the primary outcome. Conclusions: Compared with prior extension studies, the medium-term outcomes were good for the participants in both treatment groups, perhaps because they were selected for good response. When nonresponders were included in ITT analyses, there was some indication that *Augmented* surpassed *Basic* treatment. [**Child and Adolescent Symptom Inventory-4R**]

17-17. Friedman, L.M., Rapport, M.D., Raiker, J.S., Orban, S.A., & Eckrich, S.J. (2017). Reading comprehension in boys with ADHD: the mediating roles of working memory and orthographic conversion. *Journal of Abnormal Child Psychology*, 45(2), 273-287.

Reading comprehension difficulties in children with ADHD are well established; however, limited information exists concerning the cognitive mechanisms that contribute to these difficulties and the extent to which they interact with one another. The current study examines two broad cognitive processes known to be involved in children's reading comprehension abilities-(a) working memory (i.e., central executive processes [CE], phonological short-term memory [PH STM], and visuospatial short-term memory [VS STM]) and (b) orthographic conversion (i.e., conversion of visually presented text to a phonological code)-to elucidate their unique and interactive contribution to ADHD-related reading comprehension differences. Thirty-one boys with ADHD-combined type and 30 typically developing (TD) boys aged 8 to 12 years ( $M = 9.64$ ,  $SD = 1.22$ ) were administered multiple counterbalanced tasks assessing WM and orthographic conversion processes. Relative to TD boys, boys with ADHD exhibited significant deficits in PH STM ( $d = -0.70$ ), VS STM ( $d = -0.92$ ), CE ( $d = -1.58$ ), and orthographic conversion ( $d = -0.93$ ). Bias-corrected, bootstrapped mediation analyses revealed that CE and orthographic conversion processes modeled separately mediated ADHD-related reading comprehension differences partially, whereas PH STM and VS STM did not. CE and orthographic conversion modeled jointly mediated ADHD-related reading comprehension differences fully wherein orthographic conversion's large magnitude influence on reading comprehension occurred indirectly through CE's impact on the orthographic system. The findings suggest that adaptive cognitive interventions designed to improve reading-related outcomes in children with ADHD may benefit by including modules that train CE and orthographic conversion processes independently and interactively. [**Child Symptom Inventory-4**]

17-18. Gadow, K.D., Perlman, G., & Weber, R.J. (2017). Parent-reported developmental regression in autism: Epilepsy, IQ, schizophrenia symptoms, and special education. *Journal of Autism and Developmental Disabilities*, 47, 918-926.

Objective: Examined the psychiatric and clinical correlates of loss of previously acquired skills (regression) as reported by parents of youth with autism spectrum disorder (ASD). Methods: Study sample comprised 6- to 18-year old ( $N=213$ ) children and adolescents with ASD. Results: Parents reported regression in 77 (36%) youth. A more homogeneous subgroup with regression between 18-36 months ( $n=48$ ) had higher rates of intellectual disability, epilepsy, and special education, more socially restrictive educational settings, and more severe ASD communication deficits and schizophrenia spectrum symptoms than non-regressed youth ( $n=136$ ). Similar results were obtained for a more inclusive definition of regression ( $n=77$ ). Conclusion: A brief parent report of developmental regression may be a useful

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clinical indicator of later general functioning. [*Child and Adolescent Symptom Inventory-4R*]

- 17-19. Goetz, M., Schwabova, J., Hlavka, Z., Ptacek, R., Zumrova, A., Hort, V., & Doyle, R. (2017). Cerebellar symptoms are associated with omission errors and variability of response time in children with ADHD. *Journal of Attention Disorders*, 21(3), 190-199.

Objective: We examined the presence of cerebellar symptoms in ADHD and their association with behavioral markers of this disorder. Method: Sixty-two children with ADHD and 62 typically developing (TD) children were examined for cerebellar symptoms using the ataxia rating scale and tested using Conners' Continuous Performance Test. Results: Children with ADHD had significantly more cerebellar symptoms compared with the TD children. Cerebellar symptom scores decreased with age in the ADHD group; in the TD group remained stable. In both groups, cerebellar symptoms were associated with parent-rated hyperactive/impulsive symptoms, variability of response time standard error (RT-SE) and increase of RT-SE as the test progresses. More variables were associated with cerebellar symptoms in the ADHD group including omission errors, overall RT-SE and its increase for prolonged interstimulus intervals. Conclusion: Our results highlight the importance of research into motor functions in children with ADHD and indicate a role for cerebellar impairment in this disorder. [*Child Symptom Inventory-4*]

- 17-20. Gouze, K.R., Hopkins, J., Bryant, F.B., & Lavigne, J.V. (2017). Parenting and anxiety: bi-directional relations in young children. *Journal of Abnormal Child Psychology*, 45(6), 1169-1180.

Developmental psychopathologists have long posited a reciprocal relation between parenting behaviors and the development of child anxiety symptoms. Yet, little empirical research has utilized a longitudinal design that would allow exploration of this bi-directional influence. The present study examined the reciprocal relations between parental respect for autonomy, parental hostility, and parental support, and the development of childhood anxiety during a critical developmental period-the transition from preschool to kindergarten and then first grade. Study participants included a community sample of 391 male and 405 female socioeconomically, racially and ethnically diverse 4 to 6-7 year olds. 54 % of the sample was White, non-Hispanic, 16.8 % was African American, 20.4 % was Hispanic, 2.4 % were Asian and 4.4 % self-identified as Other or mixed race. Parent report and observational methodology were used. Parenting and anxiety were found to interact reciprocally over time. Higher levels of age 4 anxiety led to reduced respect for child autonomy at age 5. At age 4 higher levels of parental hostility led to small increases in age 5 anxiety, and increased age 5 anxiety led to increased levels of age 6 parent hostility. Parental support at age 5 resulted in decreased anxiety symptoms at age 6-7 while higher age 5 anxiety levels were associated with reductions in age 6-7 parental support. No relations were found between these variables at the younger ages. Although the magnitude of these findings was small, they suggest that early treatment for childhood anxiety should include both parent intervention and direct treatment of the child's anxiety symptoms. [*Early Childhood Inventory-4*]

- 17-21. Green, A.E., Kenworthy, L., Gallagher, N.M., Antezana, L., Mosner, M.G., Krieg, S., Dudley, K., Ratto, A., & Yerys, B.E. (2017). Social analogical reasoning in school-aged children with autism spectrum disorder and typically developing peers. *Autism*, 21(4), 403-411.

Analogical reasoning is an important mechanism for social cognition in typically developing children, and recent evidence suggests that some forms of analogical reasoning may be preserved in autism spectrum disorder. An unanswered question is whether children with autism spectrum disorder can apply analogical reasoning to social information. In all, 92 children with autism spectrum disorder completed a social content analogical reasoning task presented via photographs of real-world social interactions. Autism spectrum disorder participants exhibited performance that was well above chance and was not significantly worse than age- and intelligence quotient-matched typically developing children. Investigating the relationship of social content analogical reasoning performance to age in this cross-sectional dataset indicated similar developmental trajectories in the autism spectrum disorder and typically developing children groups. These findings provide new support for intact analogical reasoning in autism spectrum disorder and have theoretical implications for analogy as a metacognitive skill that may be at least partially dissociable from general deficits in processing social content. As an initial study of social analogical reasoning in children with autism spectrum disorder, this study focused on a basic research question with limited ecological validity. Evidence that children with autism spectrum disorder can apply analogical reasoning ability to social content may have long-range applied implications for exploring how this capacity might be channeled to improve social cognition in daily life. [*Child and Adolescent Symptom Inventory-4*]

- 17-22. Haack, L.M., Villodas, M., McBurnett, K., Hinshaw, S., & Pfiffner, L.J. (2017). Parenting as a mechanism of change in psychosocial treatment for youth with ADHD, predominantly inattentive presentation. *Journal of Abnormal Child Psychology*, 45(5), 841-855.

We investigated whether parenting and child behavior improve following psychosocial treatment for Attention-Deficit/Hyperactivity Disorder, Predominantly Inattentive Presentation (ADHD-I) and whether parenting improvements mediate child outcomes. We analyzed data from a randomized clinical trial investigating the efficacy of a multicomponent psychosocial intervention (Child Life and Attention Skills, CLAS,  $n = 74$ ) in comparison to Parent-Focused Treatment (PFT,  $n = 74$ ) and treatment as usual (TAU,  $n = 51$ ) for youth with ADHD-I (average child age = 8.6 years, range 7-11 years, 58 % boys). Child and parent/family functioning were assessed prior to treatment, immediately following treatment, and at follow-up into the subsequent school year using parent and teacher reports of inattention, organization, social skills, academic competency (teachers only), parenting daily hassles, and positive and negative parenting behaviors (parents only). Both treatment groups improved on negative parenting and home impairment, but only CLAS families also improved on positive parenting as well as academic impairment. Improvements in positive and negative parenting mediated treatment effects on child impairment independent of improvements in child inattention, implicating parenting as an important mechanism of change in psychosocial treatment for ADHD-I. Further, whereas parent-focused training produces improvements in negative parenting and impairment at home for children with ADHD-I, a multicomponent approach (incorporating child skills training and teacher consultation) more consistently produces improvements at school and in positive parenting, which may contribute to improvements in social skills into the next school year. [**Child Symptom Inventory-4**]

- 17-23. Haack, L.M., Jiang, Y., Delucchi, K., Kaiser, N., Mcburnett, K., Hinshaw, S., & Pfiffner, L. (2017). *Family Process*, 56(3), 716-733.

We investigate the Depression-Distortion Hypothesis in a sample of 199 school-aged children with ADHD-Predominantly Inattentive presentation (ADHD-I) by examining relations and cross-sectional mediational pathways between parental characteristics (i.e., levels of parental depressive and ADHD symptoms) and parental ratings of child problem behavior (inattention, sluggish cognitive tempo, and functional impairment) via parental cognitive errors. Results demonstrated a positive association between parental factors and parental ratings of inattention, as well as a mediational pathway between parental depressive and ADHD symptoms and parental ratings of inattention via parental cognitive errors. Specifically, higher levels of parental depressive and ADHD symptoms predicted higher levels of cognitive errors, which in turn predicted higher parental ratings of inattention. Findings provide evidence for core tenets of the Depression-Distortion Hypothesis, which state that parents with high rates of psychopathology hold negative schemas for their child's behavior and subsequently, report their child's behavior as more severe. [**Child Symptom Inventory-4**]

- 17-24. Horwitz, S.M., Storfer-Isser, A., Young, A.S., Youngstrom, E.A., Taylor, H.G., Frazier, T.W., Arnold, L.E., Fristad, M.A., Birmaher, B., & Findling, R.L. (2017). Development of alcohol and drug use in youth with manic symptoms. *Journal of the American Academy of Child and Adolescent Psychiatry*, 56(2), 149-156.

Objective: This analysis examined alcohol and drug use over a 6-year follow-up of children in the Longitudinal Assessment of Manic Symptoms (LAMS) study. Method: LAMS screened 6- to 12.9-year-old children visiting 9 child outpatient mental health (MH) clinics, using the Parent General Behavior Inventory 10-item mania scale. All children with scores  $\geq 12$  and a matched group with scores  $\leq 12$  were invited to enroll. Children were assessed every 6 months. Assessments included demographics, family, MIT history, child diagnoses, child stress, and alcohol and drug use. Univariate, bivariate, and interval censored survival analyses were conducted. Results: Of those  $>9$  years at baseline, 34.9% used alcohol at least once, with 11.9% regular users; 30.1% used drugs at least once, with 16.2% regular users. Predictors of any alcohol use were parental marital status, older age at study entry, a primary diagnosis of disruptive behavior disorders at baseline, and number of impactful child life events. Predictors of regular alcohol use included parental marital status, age, and sustained high mania symptoms over the first 24 months of follow-up. Predictors of any drug use were single parent, parental substance use, and stressful child life events. Predictors of regular drug use were parental marital status, stressful child life events, and a baseline disruptive behavior disorder diagnosis. Baseline medications decreased the risk of regular drug use. Conclusion: Longitudinal data on youth with elevated manic symptoms suggest that comorbid disruptive behavior disorder, manic symptom burden, family environment, and stress are predictors of initiation and regular use of substances. [**Child and Adolescent Symptom Inventory-4; Youth's (Self Report) Inventory-4; Adult Self Report Inventory-4**]

- 17-25. Kaufman, E.A., Puzia, M.E., Mead, H.K., Crowell, S.E., McEachern, A., & Beauchaine, T.P. (2017). Children's emotion regulation difficulties mediate the association between maternal borderline and antisocial symptoms and youth behavior problems over 1 year. *Journal of Personality Disorders*, 31(2), 170-192.

Borderline personality disorder (BPD) and antisocial personality disorder (ASPD) are among the most debilitating psychiatric conditions. Behaviors and traits associated with these disorders can have profound influences on those surrounding the affected individual. Accordingly, researchers have begun to examine effects of these symptoms on parent-child relationships. Theoretical and empirical work suggests that one mechanism linking maternal psychopathology to child symptoms is familial transmission of emotion dysregulation. The authors examined children's emotion regulation difficulties as a mediator between maternal BPD/ASPD symptoms and child behavior problems 1 year later. Analyses revealed that a composite of maternal BPD/ASPD symptoms had a direct effect on child internalizing, externalizing, and total symptoms. Associations between maternal BPD/ASPD symptoms and youth problems were partially mediated by child emotion regulation difficulties, even with maternal depression and other relevant covariates included in the models. Thus, maternal BPD/ASPD symptoms and child emotion regulation difficulties represent potential targets for prevention of psychopathology among youth. [**Adolescent Symptom Inventory-4**]

- 17-26. Kemp, K., Thamocharan, S., Poindexter, B., Barker, D., Tolou-Shams, M., & Houck, C.D. (2017). Emotion regulation as a predictor of juvenile arrest. *Criminal Justice and Behavior*, 44(7), 912-926.

The current study examines emotion regulation as a novel dynamic factor of juvenile arrest as it compares with known static and dynamic risk factors. Participants included seventh graders at five urban public schools (N = 420, M-age = 13, 53% male). The predictive relationship between adolescent self-, parent-, and teacher-report of baseline adolescent emotional competence and arrest at 30-month follow-up was assessed. Stepwise logistic regression analyses revealed that teacher report of emotion regulation strategies, minority status, and lifetime marijuana use were significant predictors of arrest. Findings indicate teacher report of emotion regulation competence in early adolescence may be an important consideration for prevention program development. [**Youth (Self Report) Inventory-4**]

- 17-27. Kessel, EM, Allmann, AES, Goldstein, BL, Finsaas, M, Dougherty, LR, Bufferd, SJ, Carlson, GA, & Klein, DN (2017). Predictors and outcomes of childhood primary enuresis. *Journal of the American Academy of Child and Adolescent Psychiatry*, 56(3), 250-257. DOI: 10.1016/j.jaac.2016.12.007

Objective: Although enuresis is relatively common in early childhood, research exploring its antecedents and implications is surprisingly limited, perhaps because the condition typically remits in middle childhood. Method: We examined the prevalence, predictors, prognostic factors, and outcomes of primary enuresis in a large (N = 559) multi-method, multi-informant prospective study with a community-based sample of children followed from age 3 years to age 9 years. Results: We found that 12.7% of our sample met criteria for lifetime enuresis, suggesting that it is a commonly occurring childhood disorder. Males were more than twice as likely as females to have a lifetime diagnosis. Significant age 3 predictors of developing primary enuresis by age 9 included child anxiety and low positive affectivity, maternal history of anxiety, and low authoritative parenting. In addition, poorer global functioning and more depressive and anxiety symptoms at age 3 years predicted a greater likelihood of persistence through age 9. By age 9 years, 77% of children who had received a diagnosis of primary enuresis were in remission and continent. However, children who had remitted exhibited a higher rate of attention-deficit/hyperactivity disorder (ADHD) and greater ADHD and depressive symptoms at age 9 compared to children with no lifetime history of enuresis. Conclusion: Results of the present study underscore the clinical significance of primary enuresis and demonstrate that it shows both strong antecedent and prospective associations with psychopathology. The findings also highlight the possible role of parenting in the development of enuresis. [**Early Childhood Inventory-4**]

- 17-28. Kim, H., Keifer, C., Rodriguez-Seijas, C., Eaton, N.R., Lerner, M.D., & Gadow, K.D. (in press). Structural hierarchy of autism spectrum disorder symptoms: An integrative framework. *Journal of Child Psychology and Psychiatry*.

Background. In an attempt to resolve questions regarding the symptom classification of autism spectrum disorder (ASD), previous research generally aimed to demonstrate superiority of one model over another. Rather than adjudicating which model may be optimal, we propose an alternative approach that integrates competing models using



Goldberg's *bass-ackwards* method, providing a comprehensive understanding of the underlying symptom structure of ASD. **Methods.** The study sample comprised 3,825 individuals, consecutive referrals to a university hospital developmental disabilities specialty clinic or a child psychiatry outpatient clinic. This study analyzed *DSM-IV*-referenced ASD symptom statements from parent and teacher versions of the *Child and Adolescent Symptom Inventory-4R* (CASI-4R). A series of exploratory structural equation models was conducted in order to produce interpretable latent factors that account for multivariate covariance. **Results.** Results indicated that ASD symptoms were structured into an interpretable hierarchy across multiple informants. This hierarchy includes five levels; key features of ASD bifurcate into different constructs with increasing specificity. **Conclusions.** This is the first study to examine an underlying structural hierarchy of ASD symptomatology using the *bass-ackwards* method. This hierarchy demonstrates how core features of ASD relate at differing levels of resolution, providing a model for conceptualizing ASD heterogeneity and a structure for integrating divergent theories of cognitive processes and behavioral features that define the disorder. These findings suggest that a more coherent and complete understanding of the structure of ASD symptoms may be reflected in a meta-structure rather than at one level of resolution. [*Child and Adolescent Symptom Inventory-4R*]

17-29. Kochanska, G., Brock, R.L., & Boldt, L.J. (2017). A cascade from disregard for rules of conduct at preschool age to parental power assertion at early school age to antisocial behavior in early preadolescence: Interplay with the child's skin conductance level. *Development and Psychopathology*, 29(3), 875-885.

Young children's disregard for conduct rules (failing to experience discomfort following transgressions and violating adults' prohibitions) often foreshadows future antisocial trajectories, perhaps in part because it elicits more power-assertive parental discipline, which in turn promotes children's antisocial behavior. This process may be particularly likely for children with low skin conductance level (SCL). In 102 two-parent community families, we tested a model in which children's SCL, assessed at 8 years, was posed as a moderator of the cascade from children's disregard for conduct rules at 4.5 years to parents' power assertion at 5.5 and 6.5 years to antisocial behavior at 10 and 12 years. Children's disregard for conduct rules was observed in scripted laboratory paradigms, parents' power assertion was observed in discipline contexts, and children's antisocial behavior was rated by parents. Conditional process analyses revealed that the developmental cascade from early disregard for rules to future parental power assertion to antisocial outcomes occurred only for the children with low SCL (below median), but not their high-SCL (above median) peers. By elucidating the specific interplay among children's disregard for rules, the parenting they receive, and their psychophysiology, this study represents a developmentally informed, multilevel approach to early etiology of antisocial behavior. [*Child and Adolescent Symptom Inventory-4R*]

17-30. Kofler, M.J., Sarver, D.E., Austin, K.E., Schaefer, H.S., Holland, E., Aduen, P.A., Wells, E.L., Soto, E.F., Irwin, L.N., Schatschneider, C., et al. (2018). Can working memory training work for ADHD development of central executive training and comparison with behavioral parent training. *Journal of Consulting and Clinical Psychology*, 86(12), 964-979. DOI: 10.1037/ccp0000308

**Objective:** Working memory deficits have been linked experimentally and developmentally with attention-deficit/hyperactivity disorder (ADHD)-related symptoms/impairments. Unfortunately, substantial evidence indicates that extant working memory training programs fail to improve these symptoms/impairments. We hypothesized that this discrepancy may reflect insufficient targeting, such that extant protocols do not adequately engage the specific working memory components linked with the disorder's behavioral/functional impairments. **Method:** The current study describes the development, empirical basis, and initial testing of central executive training (CET) relative to gold-standard behavioral parent training (BPT). Children with ADHD ages 8-13 ( $M = 10.43$ ,  $SD = 1.59$ ; 21 girls; 76% Caucasian/non-Hispanic) were treated using BPT ( $n = 27$ ) or CET ( $n = 27$ ). Detailed data analytic plans for the pre/post design were preregistered. Primary outcomes included phonological and visuospatial working memory, and secondary outcomes included actigraphy during working memory testing and two distal far-transfer tasks. Multiple feasibility/acceptability measures were included. **Results:** The BPT and CET samples did not differ on any pretreatment characteristics. CET was rated as highly acceptable by children and was equivalent to BPT in terms of feasibility/acceptability as evidenced by parent-reported high satisfaction, low barriers to participation, and large ADHD symptom reductions. CET was superior to BPT for improving working memory (Group  $\times$  Time  $d = 1.06$ ) as hypothesized. CET was also superior to BPT for reducing actigraph-measured hyperactivity during visuospatial working memory testing and both distal far-transfer tasks (Group  $\times$  Time  $d = 0.74$ ). **Conclusions:** Results provide strong support for continued testing of CET and, if replicated, would support recent hypotheses that next-generation ADHD cognitive training protocols may overcome current limitations via improved targeting. [*Child Symptom Inventory-4*]

- 17-31. Korzeniewski, S.J., Allred, E.N., Joseph, R.M., Heeren, T., Kuban, K.C.K., O'Shea, T.M., & Leviton, A. (2017). Group neurodevelopment at age 10 years of children born < 28 weeks with fetal growth restriction. *Pediatrics*, 140 (5), Article Number: e20170697.

**OBJECTIVES:** We sought to evaluate the relationships between fetal growth restriction (FGR) (both severe and less severe) and assessments of cognitive, academic, and adaptive behavior brain function at age 10 years. **METHODS:** At age 10 years, the Extremely Low Gestational Age Newborns Cohort Study assessed the cognitive function, academic achievement, social-communicative function, psychiatric symptoms, and overall quality of life of 889 children born before 28 weeks' gestation. A pediatric epileptologist also interviewed parents as part of a seizure evaluation. The 52 children whose birth weight z scores were <-2 were classified as having severe FGR, and the 113 whose birth weight z scores were between -2 and -1 were considered to have less severe FGR. **RESULTS:** The more severe the growth restriction in utero, the lower the level of function on multiple cognitive and academic achievement assessments performed at age 10 years. Growth-restricted children were also more likely than their extremely preterm peers to have social awareness impairments, autistic mannerisms, autism spectrum diagnoses, difficulty with semantics and speech coherence, and diminished social and psychosocial functioning. They also more frequently had phobias, obsessions, and compulsions (according to teacher, but not parent, report). **CONCLUSIONS:** Among children born extremely preterm, those with severe FGR appear to be at increased risk of multiple cognitive and behavioral dysfunctions at age 10 years, raising the possibility that whatever adversely affected their intrauterine growth also adversely affected multiple domains of cognitive and neurobehavioral development. [*Child Symptom Inventory-4*]

- 17-32. Kyranides, M.N., Fanti, K.A., Sikki, M., & Patrick, C.J. (2017). Triarchic Dimensions of psychopathy in young adulthood: associations with clinical and physiological measures after accounting for adolescent psychopathic traits. *Personality Disorders-Theory Research and Treatment*, 8(2), 140-149.

This study examined associations of psychopathy facets of boldness, meanness, and disinhibition with clinically relevant variables and physiological reactivity to affective stimuli. These associations were examined after accounting for developmental associations with adolescent psychopathic traits, namely callous-unemotional traits, narcissism, and impulsivity. Psychopathic traits were assessed during adolescence using the Antisocial Process Screening Device and the Inventory of Callous Unemotional traits and during young adulthood via the Triarchic Psychopathy Measure. Clinical variables (N = 99, M-age = 15.91, 53% female), as well as affective and physiological responses (heart rate, skin conductance, startle modulation) to violent and erotic videos (N = 88, Mage = 19.92, 50% female) were also assessed during adulthood. After accounting for adolescent psychopathic traits, boldness was associated with high cognitive reappraisal and low anxiety, fear, and hostility, and meanness was related to callous-unemotional traits, hostility, less sympathy to victims, and less use of cognitive reappraisal. Disinhibition, by contrast, was associated with impulsivity, increased anxiety, and hostile and aggressive tendencies, as well as conduct disorder, antisocial personality disorder symptoms, and cognitive suppression. In addition, evidence was found for different physiological measures operating as biological indicators of these distinctive dimensions, with reduced resting heart rate and cardiac reactivity to violent stimuli indicative of boldness, above and beyond adolescent psychopathic traits, and low startle potentiation for violent stimuli indicative of callous-unemotional traits and meanness. These findings provide evidence for the value of a multidomain approach for clarifying neurobiological mechanisms of psychopathic tendencies that can inform prevention and treatment efforts. [*Adult Self Report Inventory-4*, Greek translation]

- 17-33. Ladouceur, C.D., Schlund, M.W., & Segreti, A.M. (2018). Positive reinforcement modulates fronto-limbic systems subserving emotional interference in adolescents. *Behavioural Brain Research*, 338, 109-117.

Fronto-limbic systems play an important role in supporting resistance to emotional distraction to promote goal directed behavior. Despite evidence that alterations in the functioning of these systems are implicated in developmental trajectories of psychopathology, most studies have been conducted in adults. This study examined the functioning of fronto-limbic systems subserving emotional interference in adolescents and whether differential reinforcement of correct responding can modulate these neural systems in ways that could promote resistance to emotional distraction. Fourteen healthy adolescents (ages 9-15) completed an emotional delayed working memory task during fMRI with emotional distracters (none, neutral, negative) while positive reinforcement (i.e., monetary reward) was provided for correct responses under some conditions. Adolescents showed slightly reduced behavioral performance and greater activation in amygdala and prefrontal cortical regions (ventrolateral, ventromedial, dorsolateral) on correct trials with negative distracters compared to those with no or neutral distracters. Positive reinforcement yielded an overall

improvement in accuracy and reaction times and counteracted the effects of negative distracters as evidenced by significant reductions in activation in key fronto-limbic regions. The present findings extend results on emotional interference from adults to adolescents and suggest that positive reinforcement could be used to potentially promote insulation from emotional distraction. A challenge for the future will be to build upon these findings for constructing reinforcement-based attention training programs that could be used to reduce emotional attention biases in anxious youth. [**Child Symptom Inventory-4**]

- 17-34. Latendresse, S.J., Ye, F.F., Chung, T., Hipwell, A., & Sartor, C.E. (2017). Parental monitoring and alcohol use across adolescence in black and white girls: a cross-lagged panel mixture model. *Alcoholism-Clinical and Experimental Research*, 41(6), 1144-1153.

Background: The link between parental monitoring and adolescent alcohol use is well established, but the directionality of this relationship is somewhat elusive. The literature suggests that parental engagement serves a protective function with respect to alcohol use, but that parental monitoring may also diminish in response to recurrent risk behavior. The lower rate of alcohol use despite evidence of lower levels of parental monitoring in Black versus White youth raises the question of for whom and under what conditions parental monitoring and alcohol use are associated. Methods: Data were drawn from a community sample of 1,634 female adolescents (954 Black, 680 White) from 4 age cohorts, assessed annually in an accelerated longitudinal design. This study uses data spanning ages 12 to 17; parental monitoring and alcohol use were assessed via self-report, while demographic and adolescent psychosocial risk factors were derived from parent reports when the girls were age 12. An autoregressive cross-lagged panel mixture model was used to identify discrete patterns of parental monitoring and alcohol use associations across adolescence, and psychosocial factors that differentiate between them. Results: Two discrete patterns of codeveloping alcohol use and parental monitoring emerged: one with stable bidirectional and autoregressive links (79%) and another differing from the majority profile in terms of the absence (alcohol use to parental monitoring) and direction (parental monitoring to alcohol use) of cross-construct influences (21%). Those in the minority profile were, at age 12, more likely to have received public assistance, resided in single-parent households, reached puberty, and manifest more severe conduct problems. Conclusions: Identifying subgroups of girls with distinct patterns of codeveloping alcohol use and parental monitoring is particularly relevant to the development and implementation of family-level interventions, both in terms of targeting those with known demographic risk factors, and tailoring programs to address behavioral correlates, such as conduct problems. [**Youth (Self Report) Inventory-4**]

- 17-35. Lazarus, S.A., Beardslee, J., Pedersen, S.L., & Stepp, S.D. (2017). A within-person analysis of the association between borderline personality disorder and alcohol use in adolescents. *Journal of Abnormal Child Psychology*, 45(6), 1157-1167.

Many studies examining the association between borderline personality disorder (BPD) and alcohol use during adolescence have focused on between-individual differences (rank order stability), comparing whether adolescents with elevated rates of alcohol use have higher BPD symptoms than those with lower rates of alcohol use. As such, the extent to which an individual's alcohol use is associated with concurrent and future BPD symptoms has been relatively unstudied. The current study assessed year-to-year fluctuations in alcohol use and BPD symptoms in a large urban sample of girls from age 14 to age 17 (N = 2450). The primary aim was to examine whether increases in alcohol use were associated with increases in adolescent girls' BPD symptoms in the same year and in the following year. Results of fixed-effects (within-individual) models revealed that even while controlling for the time-varying impact of symptoms of both internalizing and externalizing disorders, prior and concurrent other substance use, and all time invariant, pre-existing differences between individuals, higher past-year alcohol use was associated with higher levels of BPD symptoms. Furthermore, this association did not vary by age, or by sociodemographic factors, including child race and socioeconomic status of the family. The results of this study indicate heightened risk for the exacerbation of BPD symptoms following increases in alcohol use frequency and highlight the potential utility of interventions targeting drinking behavior for preventing escalations in BPD symptoms. [**Adolescent Symptom Inventory-4**]

- 17-37. Lecavalier, L., Smith, T., Johnson, C., Bearss, K., Swiezy, N., Aman, M.G., Sukhodolsky, D.G., Deng, Y.H., Dziura, J., & Scahill, L. (2017). Moderators of parent training for disruptive behaviors in young children with autism spectrum disorder. *Journal of Abnormal Child Psychology*, 45(6), 1235-1245.

We conducted a 6 month, randomized trial of parent training (PT) versus a parent education program (PEP) in 180 young children (158 boys, 22 girls), ages 3-7 years, with autism spectrum disorder (ASD). PT was superior to PEP in

decreasing disruptive and noncompliant behaviors. In the current study, we assess moderators of treatment response in this trial. Thirteen clinical and demographic variables were evaluated as potential moderators of three outcome variables: the Aberrant Behavior Checklist-Irritability subscale (ABC-I), Home Situations Questionnaire (HSQ), and Clinical Global Impressions-Improvement Scale (CGI-I). We used an intent-to-treat model and random effects regression. Neither IQ nor ASD severity moderated outcome on the selected outcome measures. Severity of Attention Deficit Hyperactivity Disorder (ADHD) and anxiety moderated outcomes on the ABC-I and HSQ. For instance, there was a 6.6 point difference on the ABC-I between high and low ADHD groups ( $p = .05$ ) and a 5.3 point difference between high and low Anxiety groups ( $p = .04$ ). Oppositional defiant disorder symptoms and household income moderated outcomes on the HSQ. None of the baseline variables moderated outcome on the CGI-I. That IQ and ASD symptom severity did not moderate outcome suggests that PT is likely to benefit a wide range of children with ASD and disruptive behavior. [*Early Childhood Inventory-4*]

- 17-38. Lerner, M.D., De Los Reyes, A., Drabick, D.A.G., Gerber, A.H., & Gadow, K.D. (2017). Informant discrepancy defines discrete, clinically-useful autism spectrum disorder subgroups. *Journal of Child Psychology and Psychiatry*, 58(7), 829-839.

**Background:** Discrepancy between informants (parents and teachers) in severity ratings of core symptoms commonly arise when assessing autism spectrum disorder (ASD). Whether such discrepancy yields unique information about the ASD phenotype and its clinical correlates has not been examined. We examined whether degree of discrepancy between parent and teacher ASD symptom ratings defines discrete, clinically-meaningful subgroups of youth with ASD using an efficient, cost-effective procedure. **Methods:** Children with ASD ( $N = 283$ ; 82% boys;  $M_{age} = 10.5$  years) were drawn from a specialty ASD clinic. Parents and teachers provided ratings of the three core *DSM-IV-TR* domains of ASD symptoms (communication, social, and perseverative behavior) with the *Child and Adolescent Symptom Inventory-4R* (CASI-4R). External validators included child psychotropic medication status, frequency of ASD-relevant school-based services, and the *Autism Diagnostic Observation Schedule* (ADOS-2). **Results:** Four distinct subgroups emerged that ranged from large between-informant discrepancy (informant-specific) to relative lack of discrepancy (i.e., informant agreement; cross-situational): Moderate Parent/Low Teacher or Low Parent/Moderate Teacher Severity (Discrepancy), and Moderate or High Symptom Severity (Agreement). Subgroups were highly distinct (mean probability of group assignment = 94%). Relative to Discrepancy subgroups, Agreement subgroups were more likely to receive psychotropic medication, school-based special education services, and an ADOS-2 diagnosis. These differential associations would not have been identified based solely on CASI-4R scores from one informant. **Conclusions:** The degree of parent-teacher discrepancy about ASD symptom severity appears to provide more clinically useful information than reliance on a specific symptom domain or informant, and thus yields an innovative, cost-effective approach to assessing functional impairment. This conclusion stands in contrast to existing symptom clustering approaches in ASD, which treat within-informant patterns of symptom severity as generalizable across settings. Within-child variability in symptom expression across settings may yield uniquely useful information for characterizing the ASD phenotype. [*Child and Adolescent Symptom Inventory-4R*]

- 17-39. Leviton, A., Hunter, S.J., Scott, M.N., Hooper, S.R., Joseph, R.M., O'Shea, T.M., Allred, E.N., & Kuban, K. (2017). Observer variability identifying attention deficit/hyperactivity disorder in 10-year-old children born extremely preterm. *Acta Paediatrica*, 106(8), 1317-1322.

A DSM-5 diagnosis of attention deficit/hyperactive disorder (ADHD) requires that symptoms be present in two settings. We wanted to see how teachers and parents compare on their assessments. **Methods:** We evaluated how well *Child Symptom Inventory-4* (CSI-4) reports from 871 parents and 634 teachers of 10-year-old children born before the 28th week of gestation provided information about indicators of school dysfunction. **Results:** Kappa values for parent and teacher agreement of any ADHD were at best fair to poor ( $<0.41$ ). Nevertheless, ADHD identified by each alone provided a moderate amount of information about such indicators of school dysfunction as grade repetition. Only occasionally did agreement provide more information than provided by only one reporter. Mother's social class and intelligence level did not discriminate between parents who did and did not agree with the teacher. **Conclusion:** ADHD identified by a single observer can provide appreciable information about a range of the child's functions needed for success in school and, therefore, should not be discounted when another observer does not consider the child to have ADHD symptoms.

- 17-40. Logan, J.W., Dammann, O., Allred, E.N., Dammann, C., Beam, K., Joseph, R.M., O'Shea, T.M., Leviton, A., & Kuban, K.C.K. (2017). Early postnatal illness severity scores predict neurodevelopmental impairments at 10

years of age in children born extremely preterm. *Journal of Perinatology*, 37(5), 606-614.

**OBJECTIVE:** A neonatal illness severity score, The Score for Neonatal Acute Physiology-II (SNAP-II), predicts neurodevelopmental impairments at two years of age among children born extremely preterm. We sought to evaluate to what extent SNAP-II is predictive of cognitive and other neurodevelopmental impairments at 10 years of age. **STUDY DESIGN:** In a cohort of 874 children born before 28 weeks of gestation, we prospectively collected clinical, physiologic and laboratory data to calculate SNAP-II for each infant. When the children were 10 years old, examiners who were unaware of the child's medical history assessed neurodevelopmental outcomes, including neurocognitive, gross motor, social and communication functions, diagnosis and treatment of seizures or attention deficit hyperactivity disorder (ADHD), academic achievement, and quality of life. We used logistic regression to adjust for potential confounders. **RESULTS:** An undesirably high SNAP-II ( $\geq 30$ ), present in 23% of participants, was associated with an increased risk of cognitive impairment (IQ, executive function, language ability), adverse neurological outcomes (epilepsy, impaired gross motor function), behavioral abnormalities (attention deficit disorder and hyperactivity), social dysfunction (autistic spectrum disorder) and education-related adversities (school achievement and need for educational supports). In analyses that adjusted for potential confounders, Z-scores  $\leq -1$  on 11 of 18 cognitive outcomes were associated with SNAP-II in the highest category, and 6 of 18 were associated with SNAP-II in the intermediate category. Odds ratios and 95% confidence intervals ranged from 1.4 (1.01, 2.1) to 2.1 (1.4, 3.1). Similarly, 2 of the 8 social dysfunctions were associated with SNAP-II in the highest category, and 3 of 8 were associated with SNAP-II in the intermediate category. Odds ratios and 95% confidence intervals were slightly higher for these assessments, ranging from 1.6 (1.1, 2.4) to 2.3 (1.2, 4.6). **CONCLUSION:** Among very preterm newborns, physiologic derangements present in the first 12 postnatal hours are associated with dysfunctions in several neurodevelopmental domains at 10 years of age. We are unable to make inferences about causality. [**Child Symptom Inventory-4**]

17-41. Marmorstein, N.R. (2017). Sleep patterns and problems among early adolescents: Associations with alcohol use. *Addictive Behaviors*, 66, 13-16.

**Introduction:** Sleep and sleep-related problems are associated with alcohol use and related problems among adults. However, existing research on associations between sleep and alcohol use among early adolescents is minimal, and potential individual and family factors that may affect this association remain largely unexplored. We examined potential associations between frequency of alcohol use and initial insomnia, subjective daytime sleepiness, sleep irregularity, and disturbed sleep among a low-income, ethnic minority sample of early adolescents; we also considered whether psychopathology symptoms and/or parental monitoring accounted for any associations found. **Methods:** 127 youth who participated in the Camden Youth Development Study (64 male; mean age = 13.2; 71% Hispanic, 32% African-American) were assessed using self-report measures of sleep, alcohol use, psychopathology symptoms (depressive and conduct disorder), and parental monitoring; in addition, teacher reports of attention-deficit hyperactivity disorder were used. **Results:** Initial insomnia and daytime sleepiness (but not sleep irregularity or disturbed sleep) were associated with frequency of alcohol use. The association between initial insomnia and alcohol use remained significant when each form of psychopathology and parental monitoring were adjusted for. **Conclusions:** Among early adolescents, frequency of alcohol use is associated with initial insomnia, even once symptoms of psychopathology and family environment (parental monitoring) are adjusted for. Longitudinal research investigating the direction of this effect and other possible mediators and moderators would be useful in developing preventative and treatment interventions. [**Child and Adolescent Symptom Inventory-4R**]

17-42. Mikami, A.Y., & Mercer, S.H. (2017). Teacher behaviors toward children with attention-deficit/hyperactivity disorder predict peers' initial liking and disliking impressions in a summer camp setting. *Journal of Social and Clinical Psychology*, 36(6), 506-534.

Psychological studies traditionally focus on problem behaviors and clinical diagnoses of children to explain their liking and disliking by peers. Children with Attention-Deficit/Hyperactivity Disorder (ADHD), in particular, often display problem behaviors resulting in their social impairment. However, adults' behaviors toward a child are an understudied factor that may also affect the impressions that peers form about that child. Participants were 137 previously unacquainted children ages 6.8-9.8 (24 with ADHD and 113 typically developing children) in a 2-week summer day program, along with their camp teachers. Data were analyzed via longitudinal social network analyses that controlled for children's ADHD diagnostic status and disruptive and internalizing behaviors. Results suggested that camp teachers' observed highlighting of children's personal strengths predicted these children receiving more liking

nominations from peers and, for children with ADHD, fewer disliking nominations over the course of camp. Camp teachers' highlighting of behavioral compliance was not associated with peers' impressions of children. Camp teachers' public correction of children predicted these children's receipt of fewer liking nominations, among children with low disruptive behavior. Camp teachers' discreet corrections did not show this effect. Specific adult behaviors toward children, when displayed in front of peers, may influence peers' liking and disliking impressions. [**Child Symptom Inventory-4**]

- 17-43. Mpango, R.S., Kinyanda, E., Rukundo, G.Z., Gadow, K.D., & Patel, V. (2017). Cross-cultural adaptation of the Child and Adolescent Symptom Inventory-5 (CASI-5) for use in central and south-western Uganda: the CHAKA project. *Tropical Doctor*, 47(4), 347-354.

Our study was to examine the applicability of translating and culturally adapting the **Child and Adolescent Symptom Inventory-5** (CASI-5) for use in Uganda. This process followed guidelines recommended by the International Test Commission. A number of the CASI-5 concepts needed to be revised to capture the idioms for emotional, behavioural disorders and individual functioning among children and adolescents in Uganda. Our experience is that before introduction into another culture, psychological assessment instruments should undergo an adaptation process such as the one used. [**CASI-5**, Luganda translation]

- 17-44. Mpango, R.S., Kinyanda, E., Rukundo, G.Z., Levin, J., Gadow, K.D., & Patel, V. (2017). Prevalence and correlates for ADHD and relation with social and academic functioning among children and adolescents with HIV/AIDS in Uganda. *BMC PSYCHIATRY*, 17, Article Number: 336.

Background: Aim of this study was to determine the prevalence of attention-deficit/hyperactivity disorder (ADHD), its associated correlates and relations with clinical and behavioural problems among children and adolescents with HIV/AIDS (CA-HIV) attending five HIV clinics in central and South Western Uganda. Methods: This study used a quantitative design that involved a random sample of 1339 children and adolescents with HIV and their caregivers. The Participants completed an extensive battery of measures including a standardized DSM-5 referenced rating scale, the parent version (5-18 years) of the **Child and Adolescent Symptom Inventory-5** (CASI-5). Using logistic regression, we estimated the prevalence of ADHD and presentations, correlates and its impact on negative clinical and behavioural factors. Results: The overall prevalence of ADHD was 6% (n = 81; 95% CI, 4.8-7.5%). The predominantly inattentive presentation was the most common (3.7%) whereas the combined presentation was the least prevalent (0.7%). Several correlates were associated with ADHD: socio-demographic (age, sex and socio-economic status); caregiver (caregiver psychological distress and marginally, caregiver educational attainment); child's psychosocial environment (quality of child-caregiver relationship, history of physical abuse and marginally, orphanhood); and HIV illness parameters (marginally, CD4 counts). ADHD was associated with poor academic performance, school disciplinary problems and early onset of sexual intercourse. Conclusions: ADHD impacts the lives of many CA-HIV and is associated with poorer academic performance and earlier onset of sexual intercourse. There is an urgent need to integrate the delivery of mental health services into routine clinical care for CA-HIV in Sub-Saharan Africa. [**CASI-5**, Luganda translation]

- 17-45. Ong, M.L., Youngstrom, E.A., Chua, J.J.X., Halverson, T.F., Horwitz, S.M., Storfer-Isser, A., Frazier, T.W., Fristad, M.A., Arnold, L.E., Phillips, M.L., ... LAMS Grp (2017). Comparing the CASI-4R and the PGBI-10 M for differentiating bipolar spectrum disorders from other outpatient diagnoses in youth. *Journal of Abnormal Child Psychology*, 45(3), 611-623.

We compared 2 rating scales with different manic symptom items on diagnostic accuracy for detecting pediatric bipolar spectrum disorder (BPSDs) in outpatient mental health clinics. Participants were 681 parents/guardians of eligible children (465 male, mean age = 9.34) who completed the Parent General Behavior Inventory-10-item Mania (PGBI-10 M) and mania subscale of the **Child and Adolescent Symptom Inventory-Revised** (CASI-4R). Diagnoses were based on KSADS interviews with parent and youth. Receiver operating characteristic (ROC) analyses and diagnostic likelihood ratios (DLRs) determined discriminative validity and provided clinical utility, respectively. Logistic regressions tested for incremental validity in the CASI-4R mania subscale and PGBI-10 M in predicting youth BPSD status above and beyond demographic and common diagnostic comorbidities. Both CASI-4R and PGBI-10 M scales significantly distinguished BPSD (N = 160) from other disorders (CASI-4R: Area under curve (AUC) = .80, p < 0.0005; PGBI-10 M: AUC = 0.79, p < 0.0005) even though scale items differed. Both scales performed equally well in differentiating BPSDs (Venkatraman test p > 0.05). Diagnostic likelihood ratios indicated low scores on either scale (CASI: 0-5; PGBI-10 M:

0-6) cut BPSD odds to 1/5 of those with high scores (CASI DLR- = 0.17; PGBI-10 M DLR- = 0.18). High scores on either scale (CASI: 14+; PGBI-10 M: 20+) increased BPSD odds about fourfold (CASI DLR+ = 4.53; PGBI-10 M DLR+ = 3.97). Logistic regressions indicated the CASI-4R mania subscale and PGBI-10 M each provided incremental validity in predicting youth BPSD status. The CASI-4R is at least as valid as the PGBI-10 M to help identify BPSDs, and can be considered as part of an assessment battery to screen for pediatric BPSDs. [**Child and Adolescent Symptom Inventory-Revised**]

17-46. O'Nions, E., Lima, C.F., Scott, S.K., Roberts, R., McCrory, E.J., & Viding, E. (2017). Reduced laughter contagion in boys at risk for psychopathy. *Current Biology*, 27(19), 3049+.

Humans are intrinsically social animals, forming enduring affiliative bonds [1]. However, a striking minority with psychopathic traits, who present with violent and antisocial behaviors, tend to value other people only insofar as they contribute to their own advancement [2, 3]. Extant research has addressed the neurocognitive processes associated with aggression in such individuals, but we know remarkably little about processes underlying their atypical social affiliation. This is surprising, given the importance of affiliation and bonding in promoting social order and reducing aggression [4, 5]. Human laughter engages brain areas that facilitate social reciprocity and emotional resonance, consistent with its established role in promoting affiliation and social cohesion [6-8]. We show that, compared with typically developing boys, those at risk for antisocial behavior in general (irrespective of their risk of psychopathy) display reduced neural response to laughter in the supplementary motor area, a premotor region thought to facilitate motor readiness to join in during social behavior [9-11]. Those at highest risk for developing psychopathy additionally show reduced neural responses to laughter in the anterior insula. This region is implicated in auditory-motor processing and in linking action tendencies with emotional experience and subjective feelings [10, 12, 13]. Furthermore, this same group reports reduced desire to join in with the laughter of others—a behavioral profile in part accounted for by the attenuated anterior insula response. These findings suggest that atypical processing of laughter could represent a novel mechanism that impoverishes social relationships and increases risk for psychopathy and antisocial behavior. [**Adolescent Symptom Inventory-4**]

17-47. Patel, S., Day, T.N., Jones, N., & Mazefsky, C.A. (2017). Association between anger rumination and autism symptom severity, depression symptoms, aggression, and general dysregulation in adolescents with autism spectrum disorder. *Autism*, 21(2), 181-189.

Rumination has a large direct effect on psychopathology but has received relatively little attention in autism spectrum disorder despite the propensity to perseverate in this population. This study provided initial evidence that adolescents with autism spectrum disorder self-report more anger-focused rumination than typically developing controls, though there was substantial within-group variability. Anger rumination was positively correlated with autism symptom severity with both groups combined. Future studies that include measures of perseveration on special interests are needed to understand whether anger rumination is a manifestation of a perseverative type of repetitive behavior or a distinct trait. Even when controlling for autism symptom severity, however, anger-focused rumination was associated with poorer functioning, including more depression symptoms and overall emotional and behavioral dysregulation. Therefore, further inquiry regarding anger rumination in autism spectrum disorder is clinically important, and the potential impact of rumination-focused interventions should be explored. [**Adolescent Symptom Inventory-4**]

17-48. Salcedo, S., Chen, Y. L., Youngstrom, E. A., Fristad, M. A., Gadow, K. D., Horwitz, S. M., Frazier, T. W., Arnold, L. E., Phillips, M. L., Birmaher, B., Kowatch, R. A., & Findling, R. L. (2017). Diagnostic efficiency of the Child and Adolescent Symptom Inventory (CASI-4R) depression subscales for identifying youth mood disorders. *Journal of Clinical Child and Adolescent Psychology*.

This study examined the diagnostic and clinical utility of the Child and Adolescent Symptom Inventory-4 R (CASI-4 R) Depressive and Dysthymia subscale for detecting mood disorders in youth (ages 6–12; M = 9.37) visiting outpatient mental health clinics. Secondary analyses (N = 700) utilized baseline data from the Longitudinal Assessment of Manic Symptoms study. Semistructured interviews with youth participants and their caregivers determined psychiatric diagnoses. Caregivers and teachers completed the CASI-4 R. CASI-4 R depressive symptom severity and symptom count scores each predicted mood disorder diagnoses. Both caregiver versions of the CASI-4 R subscale significantly identified youth mood disorders (areas under the curve [AUCs] = .78–.79,  $ps < .001$ ). The symptom severity version showed a small but significant advantage. Teacher symptom severity report did not significantly predict mood disorder diagnosis (AUC = .56,  $p > .05$ ), whereas the teacher symptom count report corresponded to a small effect size (AUC =

.61,  $p < .05$ ). The CASI-4 R Depression scale showed strong incremental validity even controlling for the other CASI-4 R scales. Caregiver subscale cutoff scores were calculated to assist in ruling in (diagnostic likelihood ratio [DLR] = 3.73) or ruling out (DLR = 0.18) presence of a mood disorder. The CASI-4R Depressive subscale caregiver report can help identify youth mood disorders, and using DLRs may help improve diagnostic accuracy. Depression affects a significant number of children and adolescents: Epidemiological studies report 3% lifetime depressive disorder prevalence in preadolescence and up to 45 25% experiencing at least one episode by the end of adolescence (Kessler, Avenevoli, & Ries Merikangas, 2001; Lewinsohn & Essau, 2002). Twenty percent to 50% of youth self-report depressive symptoms at clinically significant levels (Kessler et al., 2001). Although there are no differences in prevalence by sex during childhood, by early adolescence girls' rates increase dramatically, to up to 2 times higher by age 15 (Hankin et al., 1998). This sex difference remains throughout adulthood (Kessler et al., 2012). Individuals with depressive symptoms can experience a wide range of severe impairments, such as deficient academic performance, relationship conflicts, and negative self-concepts (Garber & Horowitz, 2002; Hammen & Rudolph, 2003; Lewinsohn & Essau, 2002). [**Child and Adolescent Symptom Inventory-4R**]

- 17-49. Scott, M.N., Hunter, S.J., Joseph, R.M., O'Shea, T.M., Hooper, S.R., Allred, E.N., Leviton, A., & Kuban, K. (2017). Neurocognitive correlates of attention-deficit hyperactivity disorder symptoms in children born at extremely low gestational age. *Journal of Developmental and Behavioral Pediatrics*, 38(4), 249-259.

Objective: Compared with children born near term, those born extremely preterm (EP) are at much higher risk for attention-deficit hyperactivity disorder (ADHD). Little information is available about differences in neuropsychological outcomes among EP children with and without ADHD. Our analyses aimed to evaluate the neuropsychological correlates of ADHD symptoms in extremely low gestational age newborns (ELGANs). Methods: We obtained Child Symptom Inventory-4 reports from parents ( $n = 871$ ) and teachers ( $n = 634$ ) of 10-year-old children born before the 28th week of gestation. Participants completed standardized assessments of neurocognitive and academic functioning. Results: In the total sample, children who screened positive for ADHD symptoms were at increased risk for neurocognitive limitations. These associations were weaker when the sample was limited to those with intelligence quotient (IQ)  $\geq 70$  or  $\geq 85$ . Even those with IQ  $\geq 85$  who screened positive for ADHD symptoms were more likely than their peers to have deficits on the DAS-II Working Memory Cluster and the NEPSY-II Auditory Response subtest. The risks for impaired academic performance ( $Z \leq -1$ ) on components of the WIAT-III were 2-to-3 times higher in this group than among ELGANs not classified as having ADHD symptoms. Conclusion: Among children born EP, those with ADHD symptoms are more likely to have global neurocognitive impairment. When IQ is within normal limits, ADHD symptoms are associated with deficits in executive functioning skills. These findings highlight a group at risk for executive functioning deficits and related academic difficulties, even in the absence of intellectual disability. [**Child Symptom Inventory-4**]

- 17-50. Spaulding, C.J., Lerner, M.D., & Gadow, K.D. (2017). Trajectories and correlates of special education supports for youth with autism spectrum disorder and psychiatric comparisons. *Autism*, 21(4), 423-435.

Relatively little is known about patterns of school-based supportive services for youth with autism spectrum disorder. This study describes these supportive services and their correlates, both cross-sectionally and retrospectively, in a large sample ( $N=283$ ) of 6- to 18-year-old youth. To assess whether special education designation and classroom placement patterns were peculiar to autism spectrum disorder, we also conducted analyses comparing youth with autism spectrum disorder to those with other psychiatric diagnoses ( $N=1088$ ). In higher grades, the relative quantity of three common supportive services received by youth with autism spectrum disorder decreased, while total supportive service quantity remained stable over time. Youth with autism spectrum disorder were more likely to receive a special education designation and were placed in less inclusive classroom settings than youth with other psychiatric diagnoses. These findings suggest that as youth with autism spectrum disorder reach higher grades, changes in service provision occur in terms of both time and quantity. [**Child and Adolescent Symptom Inventory-4**]

- 17-51. Stepp, S.D., & Lazarus, S.A. (2017). Identifying a borderline personality disorder prodrome: Implications for community screening. *Personality and Mental Health*, 11(3), 195-205.

Elucidating early signs and symptoms of borderline personality disorder (BPD) has important implications for screening and identifying youth appropriate for early intervention. The purpose of this study was to identify dimensions of child temperament and psychopathology symptom severity that predict conversion to a positive screen for BPD over a 14-year follow-up period in a large, urban community sample of girls ( $n=2450$ ). Parent and teacher reports of child



temperament and psychopathology symptom severity assessed when girls were ages 5-8 years were examined as predictors of new-onset BPD cases when girls were ages 14-22 years. In the final model, parent and teacher ratings of emotionality remained significant predictors of new-onset BPD. Additionally, parent ratings of hyperactivity/impulsivity and depression severity, as well as teacher ratings of inattention severity, were also predictive. Results also revealed that elevations in these dimensions pose a notable increase in risk for conversion to BPD over the follow-up period. Supplementary analyses revealed that with the exception of parent-reported depression severity, these same predictors were associated with increases in BPD symptom severity over the follow-up period. These findings suggest BPD onset in adolescence and early adulthood can be detected from parent and teacher reports of temperament and symptom severity dimensions assessed in childhood. The identification of this prodrome holds promise for advancing early detection of children at risk prior to the development of the full-blown disorder. [**Child Symptom Inventory-4**]

- 17-52. Tager-Flusberg, H., Plesa Skwerer, D., Joseph, R.M., Brukilacchio, B., Decker, J., Eggleston, B., Meyer, S., & Yoder, A. (2017). Conducting research with minimally verbal participants with autism spectrum disorder. *Autism*, 21(7), 852-861.

A growing number of research groups are now including older minimally verbal individuals with autism spectrum disorder in their studies to encompass the full range of heterogeneity in the population. There are numerous barriers that prevent researchers from collecting high-quality data from these individuals, in part because of the challenging behaviors with which they present alongside their very limited means for communication. In this article, we summarize the practices that we have developed, based on applied behavioral analysis techniques, and have used in our ongoing research on behavioral, eye-tracking, and electrophysiological studies of minimally verbal children and adolescents with autism spectrum disorder. Our goal is to provide the field with useful guidelines that will promote the inclusion of the entire spectrum of individuals with autism spectrum disorder in future research investigations. [**Child and Adolescent Symptom Inventory-5**]

- 17-53. van der Burg, J.W., Jensen, E.T., van de Bor, M., Joseph, R.M., O'Shea, T.M., Kuban, K., Allred, E.N., Scott, M., Hunter, S., Hooper, S.R., et al. (2017). Maternal obesity and attention-related symptoms in the preterm offspring. *Early Human Development*, 115, 9-15.

Background: Maternal pre-pregnancy obesity, in term-born children, is associated with an increased risk of at tendon problems, however this relationship has not been explored among children born extremely preterm. Aim: To estimate the risk of attention problems at age 10 years in children born very preterm to overweight (i.e., body mass index (BMI) 25-29 kg/m<sup>2</sup>) and obese (i.e., BMI 30 kg/m<sup>2</sup>) women relative to the risk among children born to women who were neither overweight nor obese (i.e. BMI < 25 kg/m<sup>2</sup>). Study design: Multi-center prospective cohort study. Methods: A total of 764 children born before the 28th week of gestation and whose mother's pre-pregnancy height and pre-pregnancy weight were obtained at birth had an IQ 70 at age 10 years when parents and teachers completed **Child Symptom Inventory-4** questionnaires that included items about the presence of ADHD. Results: Compared to children whose mother's pre-pregnancy weight was in the normal range (BMI < 25 kg/m<sup>2</sup>), children were at increased risk of parent-identified ADHD behaviors if their mother was overweight (odds ratio (OR) = 1.9; 95% confidence interval (CI): 1.1, 3.3), or obese (OR = 2.3; 95% CI: 1.4, 3.9). They were not at increased risk of teacher-identified ADHD characteristics if their mother was overweight before her pregnancy (OR = 1.0; 95% CI: 0.6, 1.8), or obese (OR = 1.0; 95% CI: 0.6, 1.6). Conclusion: Maternal overweight and obesity are associated with increased risk of parent-identified ADHD characteristics at 10 years of age in children born extremely preterm.

- 17-54. Weber, B.J., & Gadow, K.D. (2017). Relation of psychiatric symptoms with epilepsy, asthma, and allergy in youth with, ASD vs. psychiatry referrals. *Journal of Abnormal Child Psychology*, 45(6), 1247-1257.

Objective: To characterize association of psychopathology and clinical correlates of epilepsy, asthma, and allergy within and between neurobehavioral syndromes. Method: Participants comprised large samples of consecutively evaluated youth (6-18 years) with autism spectrum disorder (ASD;  $n=521$ ) and non-ASD outpatient psychiatry referrals ( $n=653$ ). Informants completed a background questionnaire (parents) and a psychiatric symptom severity rating scale (parents, teachers). Results: Youth with ASD had higher rates of epilepsy and allergy but not asthma than psychiatry referrals, even when analyses limited to youth with IQ $\geq$ 70. Somatic conditions evidenced variable associations with medical services utilization, educational interventions, family income, and maternal education. Youth with ASD with versus without epilepsy had more severe ASD social deficits (parents' ratings) and less severe ASD repetitive behaviors (teachers' ratings). Epilepsy was associated with more severe depression, mania, and schizophrenia

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symptoms in youth with ASD. Youth with allergy (psychiatry referrals only) had more severe anxiety and depression symptoms (parents' ratings) but *less* severe aggression (teachers' ratings) thus providing evidence of both context- and diagnostic-specificity. Conclusions: Youth with ASD versus non-ASD psychiatry referrals evidence a variable pattern of relations between somatic conditions and a range of clinical correlates, which suggests that the biologic substrates and psychosocial concomitants of neurodevelopmental disorders and their co-occurring somatic conditions *may* interact to produce unique clinical phenotypes. [***Child and Adolescent Symptom Inventory-4R***]

17-55. White, E.I., Wallace, G.L., Bascom, J., Armour, A.C., Register-Brown, K., Popal, H.S., Ratto, A.B., Martin, A., & Kenworthy, L. (2017). Sex differences in parent-reported executive functioning and adaptive behavior in children and young adults with autism spectrum disorder. *Autism Research*, 10(10), 1653-1662.

This study is the largest to date examining executive function and adaptive skills in females with autism spectrum disorder (ASD). Its primary aim was to utilize parent ratings of real-world executive functioning and adaptive behavior to better understand whether females with ASD differ from males with ASD in these areas of everyday functioning. We compared 79 females with ASD to 158 males with ASD (ages 7-18) who were statistically matched on age, IQ, and level of ADHD or ASD traits. All participants were assessed using the Behavior Rating Inventory of Executive Function (BRIEF) and a subset (56 females and 130 males) also received the Vineland Adaptive Behavior Scales (VABS). Females were rated by parents as having greater problems with executive function on the BRIEF. Parents also rated females as exhibiting more difficulties than males on the Daily Living Skills domain of the VABS. There was a correlation between increased global EF difficulty and decreased adaptive ability in both males and females. Our results indicate relative weaknesses for females compared to males diagnosed with ASD on executive function and daily living skills. These differences occur in the absence of sex differences in our sample in age, IQ, clinician ratings of core ASD symptomatology, parent ratings of ADHD symptoms, and parent-reported social and communication adaptive skills on the VABS. These findings indicate specific liabilities in real world EF and daily living skills for females with ASD and have important implications for targeting their treatments. *Autism Research*, 2017, 10: 1653-1662. [***Child and Adolescent Symptom Inventory-4R***]

17-56. Wu, S.H., Wang, K., Chen, Y., Wang, W.Q., Wang, F., Montgomery, W., & Treuer, T. (2017). Exploratory analysis of early treatment discontinuation and clinical outcomes of patients with attention-deficit/hyperactivity disorder. *Asia-Pacific Psychiatry*, 9(1), e12231.

Introduction: This post-hoc analysis was to investigate the impact of treatment discontinuation on clinical outcomes in patients with attention-deficit/hyperactivity disorder (ADHD). Methods: Data are from a 12-month, observational, multinational study that included outpatients aged 6-17 years who were diagnosed with ADHD and treated with atomoxetine, methylphenidate, or nootropic agents. Treatment effectiveness and proportions of patients who discontinued treatment were compared between China and the other non-Western countries/regions combined. Propensity score matching was used to further estimate the association between treatment discontinuation and effectiveness. Results: Of the 546 patients who entered the study, 337 patients had complete data and were included in the analyses. Compared with the other countries/regions, China subgroup had a higher treatment discontinuation rate (odds ratio=25.80;  $P<0.0001$ ) and poorer treatment effectiveness: least-squares (LS) mean changes were 5.74 versus 8.56 ( $P=0.0225$ ) for the Child Health and Illness Profile-Child Edition (CHIP-CE) Achievement domain and -1.87 versus -2.13 ( $P=0.0401$ ) for Clinical Global Impressions-ADHD-Severity (CGI-ADHD-S). Further analyses of matched discontinuer-maintainer pairs showed that discontinuers demonstrated poorer effectiveness: LS mean changes for the CHIP-CE Achievement domain and CGI-ADHD-S (discontinuer versus maintainer) were 5.36 versus 9.10 ( $P=0.0255$ ) and -1.32 versus -1.96 ( $P=0.0179$ ) for overall population, respectively, and 4.40 versus 10.17 ( $P=0.0065$ ) and -1.48 versus -2.45 ( $P=0.0089$ ), respectively, for China subgroup. Discussion: This analysis found that early treatment discontinuation was associated with worse clinical outcomes for patients with ADHD. China subgroup had substantially higher discontinuation rates and poorer effectiveness outcomes. Strategies to improve medication persistence have the potential to improve outcomes for ADHD patients in China. [***Child Symptom Inventory-4***, Mandarin, Russian, and Arabic translations]

### YEAR: 2016

16-1. Allmann, A.E.S., Kopala-Sibley, D.C., & Klein, D.N. (2016). Preschoolers' psychopathology and temperament predict mothers' later mood disorders. *Journal of Abnormal Child Psychology*, 44 (3), 421-432.

Considerable research exists documenting the relationship between maternal mood disorders, primarily major

depressive disorder (MDD), and a variety of negative child outcomes. By contrast, research exploring the reverse pathway whereby child traits are associated with later maternal mood disorders is much more limited. We examined whether young children's temperament and psychopathology predicted maternal mood disorders approximately 6 years later. Child temperament and symptoms were assessed at age three using semi-structured diagnostic interviews and parent-report inventories. Maternal psychopathology was assessed with semi-structured interviews when children were 3 and 9 years old. Mothers also reported on their marital satisfaction when children were 3 and 6 years old. Child temperamental negative affectivity (NA), depressive symptoms, and externalizing behavior problems significantly predicted maternal mood disorders over and above prior maternal mood, anxiety, and substance disorders. The link between children's early externalizing symptoms and maternal mood disorders 6 years later was mediated by maternal marital satisfaction 3 years after the initial assessment. These findings suggest that early child temperament and psychopathology contribute to risk for later maternal mood disorders both directly and through their impact on the marital system. Research indicates that effective treatment of maternal depression is associated with positive outcomes for children; however, this study suggests that treating early child problems may mitigate the risk of later maternal psychopathology. [**Early Childhood Inventory-4**]

- 16-2. Antezana, L., Mosner, M.G., Troiani, V., & Yerys, B.E. (2016). Social-emotional inhibition of return in children with autism spectrum disorder versus typical development. *Journal of Autism and Developmental Disorders*, 46 (4), 1236-1246.

In typical development there is a bias to orient visual attention to social information. Children with ASD do not reliably demonstrate this bias, and the role of attention orienting has not been well studied. We examined attention orienting via the inhibition of return (IOR) mechanism in a spatial cueing task using social-emotional cues; we studied 8- to 17-year-old children with ASD (n = 41) and typically developing controls (TDC) (n = 25). The ASD group exhibited a significantly stronger IOR effect than the TDC group, and the IOR effect correlated positively with social impairments but was unrelated to co-occurring ADHD or anxiety symptoms. The results provide evidence of an early altered attention mechanism that is associated with core social deficits in ASD. [**Child and Adolescent Symptom Inventory-4R**]

- 16-3. Bitsika, V., & Sharpley, C.F. (2016). Which aspects of challenging behaviour are associated with anxiety across two age groups of young males with an autism spectrum disorder? *Journal of Developmental and Physical Disabilities*, 28 (5), 685-701.

Children with Autism Spectrum Disorder (ASD) also often exhibit elevated anxiety and Challenging Behaviour (CB) but relatively little is known about the detailed association between CB and anxiety. To investigate this issue, the Aberrant Behavior Checklist (ABC) and the **Child and Adolescent Symptom Inventory** subscale for Generalised Anxiety Disorder (CASI-GAD) were completed by 150 parents about their sons with ASD to determine the overall association between CB and GAD. Correlational and regression models were used to describe the links with the total scores, subscales, and the specific items of the ABC and CASI-GAD. Results indicated that only the Irritability subscale of the ABC was significantly associated with GAD. Seven of the eight symptoms of GAD were significantly associated with only one of the ABC Irritability subscale items-the need for demands to be met immediately and/or temper tantrums. This association was most powerful for the GAD symptoms of restlessness and irritability. These data indicate that CB and GAD were linked via relatively discrete subsets of each construct, with an underlying connection based upon insistence on sameness and intolerance of uncertainty, and that intervention protocols need to identify the presence of those parts of these constructs in order to most effectively tailor treatments to individual needs. [**Child and Adolescent Symptom Inventory-4**]

- 16-4. Bitsika, V., & Sharpley, C.F. (2016). Mothers' depressive state "distorts" the ratings of depression they give for their sons with an autism spectrum disorder. *International Journal of Disability Development and Education*, 63 (5), 491-499.

Depression is highly prevalent in children who have an Autism Spectrum Disorder (ASD), potentially confounding accurate diagnosis and treatment planning. Although information about the depressive status of a child is often collected from parents, there is evidence of distortion in parental assessments of their offspring's depression. This distortion was investigated in a sample of 132 mothers of boys with an ASD. Results indicated that, as predicted from previous studies, there was a significant correlation between the depressive state of the mothers and the ratings they gave for their sons' depression. However, in contradiction to the expected influence direction, mothers who were

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minimally depressed under-estimated their sons' depression when cross-validated by structured clinical interviews for depression conducted by a third party, rather than mothers who were more severely depressed exaggerating their sons' depression. Implications for clinical assessment of the presence of depression in boys with an ASD are discussed. [**Child and Adolescent Symptom Inventory-4R**]

- 16-5. Bitsika, V., & Sharpley, C.F. (2016). The association between social responsiveness and depression in high-functioning boys with an autism spectrum disorder. *Journal of Developmental and Physical Disabilities*, 28 (2), 317-331.

The links between behaviours related to Autism Spectrum Disorder (ASD) and depression were investigated in a sample of 90 pre-adolescents (M age = 8.8 yr) and 60 adolescent males (M age = 14.6 yr). Parents completed the Social Responsiveness Scale (SRS) and the Depression subscale from the **Child and Adolescent Symptom Inventory** (CASI-D). Pre-adolescents had significantly higher SRS scores than adolescents, and there were also differences in the associations between SRS subscales and depression across the two age groups. Pre-adolescents' feelings of depression, worthlessness/guilt and fatigue were associated with their lack of self-confidence in social interactions; their anhedonia and fatigue were associated with feeling tense in social situations. Adolescents' feelings of depression and worthlessness/guilt were associated with touching others unusually. [**Child and Adolescent Symptom Inventory-4R**]

- 16-6. Bitsika, V., Sharpley, C.F., Andronicos, N.M., & Agnew, L.L. (2016). Prevalence, structure and correlates of anxiety-depression in boys with an autism spectrum disorder. *Research in Developmental Disabilities*, 49-50, 302-311.

Background: Comorbidity of anxiety and depression predicts impaired treatment outcomes, poor quality of life and increased suicide risk. No study has reported on a combined measure of anxiety-depression in boys with an Autism Spectrum Disorder. Aims: To explore the prevalence, underlying factor structure and relationships between anxiety-depression, physiological stress and symptoms of Autism Spectrum Disorder (ASD). Methods: 150 boys (aged 6-18 years; IQ M = 94.9, range = 73-132) with an ASD plus their parents (135 mothers, 15 fathers) completed scales about the boys' anxiety and depression, and the boys provided samples of their saliva in the morning and afternoon. Parents also completed the ASD Behaviour Checklist about the boys' ASD symptoms. Results: The two sources of ratings were not significantly different for prevalence of anxiety-depression but the factor structures varied between the parents' and boys' responses, with a four-factor solution for the boys' ratings and a three-factor solution for the parents' ratings. There were also differences in the correlations between cortisol and anxiety-depression and between ASD symptoms and anxiety depression across the boys' and parents' data. Conclusions: Assessment of anxiety and depression comorbidity from parents and from children with an ASD themselves could provide a valuable adjunct datum when diagnosing ASD. [**Child and Adolescent Symptom Inventory-4**]

- 16-7. Bitsika, V., Sharpley, C.F., & Mills, R. (2016). Are sensory processing features associated with depressive symptoms in boys with an ASD? *Journal of Autism and Developmental Disorders*, 46(1), 242-252.

The association between Sensory Processing Features (SPF) and depressive symptoms was investigated at two levels in 150 young males (6-18 years) with an ASD. First, a significant correlation was found between SPF and total depressive symptom scores. Second, different aspects of SPF significantly predicted different depressive symptom factors, with Low Registration (or sensory hyposensitivity) being the most powerful predictor of depressive symptoms. There were also differences in these associations according to whether parents' ratings or the boys' self-reports were used to assess SPF and depressive symptoms. Implications for assessment and treatment of SPF-related depressive symptoms are discussed. [**Child and Adolescent Symptom Inventory-4**]

- 16-8. Bitsika, V., Sharpley, C.F., & Mills, R. (2016). How are Sensory Features associated with seven anxiety disorders in boys with Autism Spectrum Disorder? *International Journal of Developmental Neuroscience*, 50, 47-54.

The association between Sensory Features (SF) and seven anxiety disorders was investigated using self reports and parental reports about 140 young males with an Autism Spectrum Disorder (ASD). Although there were significant correlations between SF and self- and parent-ratings of some of the seven anxiety disorders, overall, SF was found to have an inconsistent association across the seven anxiety disorders and this was also found for the 8 symptoms of Generalised Anxiety Disorder. These data challenge the practice of assessing SF and anxiety via global measures and

argue for individualized disorder-specific assessments to develop more effective diagnoses and treatments for the effects of SF. [**Youth's (Self-Report) Inventory-4; Child and Adolescent Symptom Inventory-4**]

- 16-9. Boldt, L.J., Kochanska, G., Grekin, R., & Brock, R.L. (2016). Attachment in middle childhood: predictors, correlates, and implications for adaptation. *Attachment & Human Development*, 18(2), 115-140.

Middle childhood is a relative lacuna in behavioral attachment research. We examined antecedents, correlates, and implications of parent-child attachment at age 10 in a longitudinal study of community families from a Midwestern US state (N=102, mothers, fathers, and children). Dimensions of security, avoidance, ambivalence, and disorganization of children's attachment to each parent were observed in lengthy naturalistic interactions and assessed using Iowa Attachment Behavioral Coding (IABC). IABC scores were meaningfully associated with history of parental responsiveness (7-80months) and with earlier and concurrent attachment security, assessed with other established instruments (parent- and observer-rated Attachment Q-Set at 25months, children's reports at age 8 and 10). Structural equation modeling analyses revealed that the overall history of responsive care was meaningfully associated with Security, Avoidance, and Disorganization at age 10, in both mother-child and father-child relationships, and that most recent care uniquely predicted Security. IABC scores were also meaningfully related to a broad range of measures of child adaptation at ages 10-12. Cumulative history of children's security from infancy to middle childhood, integrating measures across relationships and methodologies, also predicted child adaptation at ages 10-12. [**Child Symptom Inventory-4; Adolescent Symptom Inventory-4**]

- 16-10. Briggs-Gowan, M.J., Grasso, D., Bar-Haim, Y., Voss, J., McCarthy, K.J., Pine, D.S., & Wakschlag, L.S. (2016). Attention bias in the developmental unfolding of post-traumatic stress symptoms in young children at risk. *Journal of Child Psychology and Psychiatry*, 57 (9), 1083-1091.

Background: Threat-related attention bias relates to anxiety and posttraumatic stress symptoms in adults and adolescents, but few longitudinal studies examine such associations in young children. This study examines prospective relations among attention bias, trauma exposure, and anxiety and trauma symptoms in a sample previously reported to manifest cross-sectional associations between attention bias and observed anxiety at preschool age. Methods: Young children [mean (MN)=5.0, 0.7years, n=208] from a community-based sample completed the dot-probe task to assess their attention biases in response to angry faces. At baseline (T1) and at follow-up approximately 9months later (T2), anxiety and trauma exposure (i.e. violent and non-interpersonal events) and symptoms were assessed by maternal report. Results: Neither attention bias nor baseline or recent trauma exposure predicted later anxiety. In contrast, attention bias toward threat and recent trauma exposure significantly predicted later trauma symptoms. There was evidence of symptom specificity such that attention bias toward threat significantly predicted hyperarousal and dissociation, but not avoidance or re-experiencing symptoms. Finally, moderation analyses indicated that the relationship between attention bias and trauma symptoms may differ according to children's experiences of probable abuse. Conclusions: Attention profiles and trauma exposure may increase the risk that young children will develop trauma symptoms. Individual differences in these attentional patterns and children's exposure history may impact outcomes among high-risk children with potential implications for intervention. [**Early Childhood Inventory-4**]

- 16-11. Brock, R.L., & Kochanska, G. (2016). Toward a developmentally informed approach to parenting interventions: Seeking hidden effects. *Development and Psychopathology*, 28 (2), 583-593.

Drawing from developmental psychology and psychopathology, we propose a new, developmentally informed approach to parenting interventions that focuses on elucidating changes in the unfolding developmental process between the parent and child. We present data from 186 low-income mothers of toddlers, randomly assigned to a child-oriented play group or a play-as-usual group. We examined the maladaptive cascade from child difficulty to mother adversarial, negative parenting to child maladjustment, well documented in the literature. The measures incorporated multiple observations and reports. As expected, the sequence from child difficulty (pretest) to mother adversarial, negative parenting (Posttest 1, after 3-month intervention) to child maladjustment (Posttest 2, 6 months later) was present in the play-as-usual group, but absent, or defused, in the child-oriented play group. The findings are consistent with a view of intervention presumably enhancing the mother-child relationship, which in turn served to moderate future mother-child dynamics, altering its otherwise anticipated negative trajectory. A closer examination of the cascade revealed that, at Posttest 1, mothers in the play-as-usual group engaged in more adversarial, negative parenting (controlling for pretest) than did mothers in the child-oriented play group when their children were of high difficulty. The intervention appears to exert its primary influence on the cascade by weakening the link between child

difficulty and maternal adversarial, negative parenting. [*Early Childhood Inventory-4*]

- 16-12. Brock, R.L., & Kochanska, G. (2016). Interparental conflict, children's security with parents, and long-term risk of internalizing problems: A longitudinal study from ages 2 to 10. *Development and Psychopathology*, 28(1), 45-54.

Although the negative impact of marital conflict on children has been amply documented, few studies have examined the process of risk in a long-term, longitudinal design. We examined parent-child attachment security as a mechanism that may account for the impact of interparental conflict on children's long-term risk of internalizing problems. Sixty-two community mothers, fathers, and children were followed from ages 2 to 10. Parents reported on their conflicts when their children were 2. Trained observers produced parent-child attachment security scores (Attachment Q-Set, Waters, 1987), based on lengthy naturalistic observations of the child with each parent. Parents rated children's internalizing problems at age 10. A conditional process model and bootstrap approach were implemented to examine conditional indirect effects of conflict on child internalizing problems through attachment security for girls versus boys. Maladaptive marital conflict (destructive strategies, severity of arguments) increased internalizing problems 8 years later due to the undermined security for girls, whereas negative emotional aftermath of conflict (unresolved, lingering tension) increased internalizing problems for both boys and girls. The emotional aftermath of conflict is often overlooked, yet it appears to be a key dimension influencing emotional security in the family system, with significant consequences for children's development. [*Child Symptom Inventory-4*]

- 16-13. Burgers, D.E., & Drabick, D.A.G. (2016). Community violence exposure and generalized anxiety symptoms: does executive functioning serve a moderating role among low income, urban youth? *Journal of Abnormal Child Psychology*, 44(8), 1543-1557.

Although community violence exposure (CVE) confers risk for generalized anxiety symptoms, not all youth who are exposed to violence exhibit such symptoms, suggesting that other factors moderate this relation. One candidate for moderation is executive functioning (EF), which is linked to both CVE and generalized anxiety symptoms. Nevertheless, little research has examined whether EF moderates the CVE-anxiety relation. To address this gap, we examined associations among CVE (i.e., direct victimization and witnessed violence), EF abilities (i.e., emotional control and shifting), and parent- and child-reported generalized anxiety disorder (GAD) symptoms among low income, urban youth (N = 104, 50 % male, M = 9.93 +/- 1.22 years). In terms of main effects, lower levels of emotional control were associated with increased parent-reported GAD symptoms, whereas lower levels of shifting abilities were associated with increased parent- and child-reported GAD symptoms across both subtypes of CVE. EF abilities moderated the relation between direct victimization and both parent- and child-reported GAD symptoms, but did not moderate the relation between witnessed violence and GAD symptoms. Post-hoc probing indicated that when youth were exposed to higher levels of direct victimization, those with lower EF abilities exhibited elevated GAD symptoms. However, the level of direct victimization did not impact the level of GAD symptoms among youth with higher EF abilities. Findings have implications for prevention and intervention programs among at-risk youth who are exposed to community violence. [*Child and Adolescent Symptom Inventory-4R; Youth's (Self-Report) Inventory-4R*]

- 16-14. Burke, J.D., & Loeber, R. (2016). Mechanisms of behavioral and affective treatment outcomes in a cognitive behavioral intervention for boys. *Journal of Abnormal Child Psychology*, 44(1), 179-189.

Evidence for effective treatment for behavioral problems continues to grow, yet evidence about the effective mechanisms underlying those interventions has lagged behind. The Stop Now and Plan (SNAP) program is a multicomponent intervention for boys between 6 and 11. This study tested putative treatment mechanisms using data from 252 boys in a randomized controlled trial of SNAP versus treatment as usual. SNAP includes a 3 month group treatment period followed by individualized intervention, which persisted through the 15 month study period. Measures were administered in four waves: at baseline and at 3, 9 and 15 months after baseline. A hierarchical linear modeling strategy was used. SNAP was associated with improved problem-solving skills, prosocial behavior, emotion regulation skills, and reduced parental stress. Prosocial behavior, emotion regulation skills and reduced parental stress partially mediated improvements in child aggression. Improved emotion regulation skills partially mediated treatment-related child anxious-depressed outcomes. Improvements in parenting behaviors did not differ between treatment conditions. The results suggest that independent processes may drive affective and behavioral outcomes, with some specificity regarding the mechanisms related to differing treatment outcomes. [*Child Symptom Inventory-4*]

- 16-15. Catal, F., Topal, E., Soylu, N., Ozcan, O.O., Celiksoy, M.H., Babayigit, A., Karakoc, H.T.E., Erge, D., & Sancak, R. (2016). Psychiatric disorders and symptoms severity in preschool children with atopic eczema. *Allergologia et Immunopathologia*, 44(2), 120-124.

Background: To compare with a control group the frequency of psychiatric disorders and severity of psychiatric symptoms in preschool children with atopic eczema. Methods: The study included children between the ages of 3-5 who were diagnosed to have atopic eczema. The parents of the children with atopic eczema were interviewed in person and were asked to fill in "The **Early Childhood Inventory-4**" form. This form assesses the psychiatric disorders and symptoms severity in children between the ages of 3-5. Results: The atopic eczema group included 80 patients (38 male, 42 female) with a mean age of 48.4 +/- 15.7 months and the control group included 74 patients (41 male, 33 female) with a mean age of 49.9 +/- 15.19 months. It was established that 68.8% of the group with atopic eczema received at least one psychiatric diagnosis. Between the psychiatric disorders, ADHD (Odds ratio: 2.57, 95% CI: 1.049-6.298,  $p=0.035$ ), enuresis and encopresis (Odds ratio: 2.39, 95% CI: 1.121-5.097,  $p=0.022$ ) and attachment disorder (Odds ratio: 2.03, 95% CI: 1.046-3.953,  $p=0.035$ ) were found to be significantly higher when compared with the healthy control group. When the groups were compared in terms of psychiatric symptom severity scores calculated by using ECI-4, ADHD severity ( $p=0.043$ ), conduct disorder severity ( $p=0.001$ ), anxiety disorders severity ( $p < 0.001$ ), eating disorders severity ( $p = 0.011$ ) and tic disorder severity ( $p = 0.01$ ) were found to be higher in the atopic eczema group. [**Early Childhood Inventory-4**, Turkish translation]

- 16-17. Cecil, C.A.M., McCrory, E.J., Viding, E., Holden, G.W., & Barker, E.D. (2016). Initial validation of a brief pictorial measure of caregiver aggression: The Family Aggression Screening Tool. *Assessment*, 23 (3), 307-320.

In the present study, we report on the development and initial psychometric properties of the Family Aggression Screening Tool (FAST). The FAST is a brief, self-report tool that makes use of pictorial representations to assess experiences of caregiver aggression, including direct victimization and exposure to intimate partner violence. It is freely available on request and takes under 5 minutes to complete. Psychometric properties of the FAST were investigated in a sample of 168 high-risk youth aged 16 to 24 years. For validation purposes, maltreatment history was assessed using the Childhood Trauma Questionnaire; levels of current psychiatric symptoms were also assessed. Internal consistency of the FAST was good. Convergent validity was supported by strong and discriminative associations with corresponding Childhood Trauma Questionnaire subscales. The FAST also correlated significantly with multi-informant reports of psychiatric symptomatology. Initial findings provide support for the reliability and validity of the FAST as a brief, pictorial screening tool of caregiver aggression. [**Child Symptom Inventory-4**]

- 16-18. Chowdhury, M., Aman, M.G., Lecavalier, L., Smith, T., Johnson, C., Swiezy, N., McCracken, J.T., King, B., McDougale, C.J., Bearss, K., et al. (2016). Factor structure and psychometric properties of the revised Home Situations Questionnaire for autism spectrum disorder: The Home Situations Questionnaire-Autism Spectrum Disorder. *Autism*, 20 (5), 528-537.

Previously, we adapted the Home Situations Questionnaire to measure behavioral non-compliance in everyday settings in children with pervasive developmental disorders. In this study, we further revised this instrument for use in autism spectrum disorder and examined its psychometric properties (referred to as the Home Situations Questionnaire-Autism Spectrum Disorder). To cover a broader range of situations and improve reliability, we prepared seven new items describing situations in which children with autism spectrum disorder might display non-compliance. Parents completed ratings of 242 children with autism spectrum disorder with accompanying disruptive behaviors (ages 4-14years) participating in one of two randomized clinical trials. Results from an exploratory factor analysis indicated that the Home Situations Questionnaire-Autism Spectrum Disorder consists of two 12-item factors: Socially Inflexible ( $=0.84$ ) and Demand Specific ( $=0.89$ ). One-to-two-week test-retest reliability was statistically significant for all scored items and also for subscale totals. The pattern of correspondence between the Home Situations Questionnaire-Autism Spectrum Disorder and parent-rated problem behavior, clinician-rated repetitive behavior, adaptive behavior, and IQ provided evidence for concurrent and divergent validity of the Home Situations Questionnaire-Autism Spectrum Disorder. Overall, the results suggest that the Home Situations Questionnaire-Autism Spectrum Disorder is an adequate measure for assessing non-compliance in a variety of situations in this population, and use of its two subscales will likely provide a more refined interpretation of ratings. [**Early Childhood Inventory-4; Child and Adolescent Symptom Inventory-4**]

- 16-19. Clark, C.A.C., Espy, K.A., & Wakschlag, L. (2016). Developmental pathways from prenatal tobacco and stress exposure to behavioral disinhibition. *Neurotoxicology and Teratology*, 53, 64-74.

Prenatal tobacco exposure (PTE) and prenatal stress exposure (PSE) both have been linked to externalizing behavior, although their effects generally have been considered in isolation. Here, we aimed to characterize the joint or interactive roles of PTE and PSE in early developmental pathways to behavioral disinhibition, a profile of cognitive and behavioral under-control that presages severe externalizing behavior. As part of a prospective, longitudinal study, 296 children were assessed at a mean age of 5 years. Exposures were assessed via repeated interviews across the prenatal period and bioassays of cotinine were obtained. Behavioral disinhibition was assessed using temperament measures in infancy, performance-based executive control tasks and measures of disruptive and inattentive behavior. PSE was associated with a higher probability of difficult temperament in infancy. Each exposure independently predicted poorer executive control at age 5 years. Difficult temperament and executive control difficulties in turn predicted elevated levels of disruptive behavior, although links from PTE and PSE to parent-reported attention problems were less robust. Children who experienced these prenatal exposures in conjunction with higher postnatal stress exposure showed the lowest executive control and highest levels of disruptive behavior. Findings highlight the compounding adverse impact of PTE and PSE on children's behavioral trajectories. Given their high concordance, prenatal health campaigns should target these exposures in tandem. [**Early Childhood Inventory-4**]

- 16-20. Dermody, S.S., Marshal, M.P., Cheong, J., Chung, T., Stepp, S.D., & Hipwell, A. (2016). Adolescent sexual minority girls are at elevated risk for use of multiple substances. *Substance Use & Misuse*, 51(5), 574-585.

Background: Sexual minority youth, especially girls, are at risk for alcohol, cigarette, and marijuana use when these substances are examined individually. However, little is known about concurrent use of these substances (i.e., three-substance use) in relation to sexual orientation. Objectives: The present study compared profiles of past year alcohol, cigarette, and marijuana use between SMGs and heterosexual girls. In addition, because internalizing and externalizing symptoms are associated with substance use, we examined whether sexual orientation was associated with substance use profile over and above co-occurring psychopathology. Methods: Mixture modeling was used to identify patterns of alcohol (including binge drinking), cigarette, and marijuana use in the past year using a cross-sectional sample of urban adolescent girls (Pittsburgh Girls Study; N = 2,064; mean age = 17). Approximately 8% (n = 173) of the girls endorsed a lesbian or bisexual identity. Results: Five substance using classes were identified: low-level substance use (72%), marijuana use (5%), cigarette use (8%), alcohol use (8%), and three-substance use (7%). SMGs were at an increased risk for substance use than heterosexual girls, particularly three-substance use (OR = 6.69, p < .001), cigarette use (OR = 6.26, p < .001), and marijuana use (OR = 3.86, p < .001) classes. Substance use patterns were regressed on sexual orientation, internalizing symptoms (i.e., depression, anxiety), and externalizing symptoms (i.e., conduct problems, oppositional defiant disorder). The disparities remained robust after controlling for internalizing and externalizing symptoms. Conclusions/Importance: Clinicians and researchers should be aware of potential three-substance use among SMGs. Substance use interventions for SMG may benefit from targeting risk factors that cut-across several substances, particularly externalizing symptoms. [**Adolescent Symptom Inventory-4; Adult Self Report Inventory-4**]

- 16-21. Dixon-Gordon, K.L., Whalen, D.J., Scott, L.N., Cummins, N.D., & Stepp, S.D. (2016). The main and interactive effects of maternal interpersonal emotion regulation and negative affect on adolescent girls' borderline personality disorder symptoms. *Cognitive Therapy and Research*, 40 (3), 381-393.

The transaction of adolescent's expressed negative affect and parental interpersonal emotion regulation are theoretically implicated in the development of borderline personality disorder (BPD). Although problem solving and support/validation are interpersonal strategies that foster emotion regulation, little is known about whether these strategies are associated with less BPD severity among adolescents. Adolescent girls (age 16; N = 74) and their mothers completed a conflict discussion task, and maternal problem solving, support/validation, and girls' negative affect were coded. Girls' BPD symptoms were assessed at four time points. A 3-way interaction of girls' negative affect, problem solving, and support/validation indicated that girls' negative affect was only associated with BPD severity in the context of low maternal support/validation and high maternal problem solving. These variables did not predict changes in BPD symptoms over time. Although high negative affect is a risk for BPD severity in adolescent girls, maternal interpersonal emotion regulation strategies moderate this link. Whereas maternal problem solving coupled with low support/validation is associated with a stronger negative affect-BPD relation, maternal problem solving paired with high support/validation is associated with an attenuated relationship. [**Youth's (Self-Report)**]



**Inventory-4, Adolescent Symptom Inventory-4]**

- 16-22. Eisenbarth, H., Demetriou, C.A., Kyranides, M.N., & Fanti, K.A. (2016). Stability subtypes of callous-unemotional traits and conduct disorder symptoms and their correlates. *Journal of Youth and Adolescence*, 45 (9), 1889-1901.

Callous-unemotional traits and conduct disorder symptoms tend to co-occur across development, with existing evidence pointing to individual differences in the co-development of these problems. The current study identified groups of at risk adolescents showing stable (i.e., high on both conduct disorder and callous-unemotional symptoms, high only on either callous-unemotional or conduct disorder symptoms) or increasing conduct disorder and callous-unemotional symptoms. Data were collected from a sample of 2038 community adolescents between 15 and 18 years (1070 females, M-age = 16) of age. A longitudinal design was followed in that adolescent reports were collected at two time points, 1 year apart. Increases in conduct disorder symptoms and callous-unemotional traits were accompanied by increases in anxiety, depressive symptoms, narcissism, proactive and reactive aggression and decreases in self-esteem. Furthermore, adolescents with high and stable conduct disorder symptoms and callous-unemotional traits were consistently at high risk for individual, behavioral and contextual problems. In contrast, youth high on callous-unemotional traits without conduct disorder symptoms remained at low-risk for anxiety, depressive symptoms, narcissism, and aggression, pointing to a potential protective function of pure callous-unemotional traits against the development of psychopathological problems. [**Youth's (Self-Report) Inventory-4, Adult Self Report Inventory-4]**

- 16-23. Esmaili, S.K., Shafaroodi, N., Mehraban, A.H., Parand, A., Qorbani, M., Yazdani, F., & Mahmoudpour, A. (2016). Prevalence of psychiatric symptoms and mental health services in students with specific learning disabilities in Tehran, Iran. *International Journal of Mental Health and Addiction*, 14 (4), 438-448.

Children with specific learning disabilities are at a greater risk of mental health problems than their non-disabled peers. Further interventions and research will be required. This is a cross-sectional study. A sample of 107 students (7 to 11 years old) with specific learning disabilities were randomly selected from educational and rehabilitation settings in Tehran. The **Child Symptom Inventory-4** (CSI-4) (parent checklist) was administered. Among children studied, 86 subjects (82.8 %) in some of the categories of psychiatric symptoms gained scores above the cut-off point. The most prevalent psychiatric symptoms were related to attention-deficit/hyperactivity disorder, generalized anxiety disorder and oppositional defiant disorder. There were not any statistically significant differences between the genders. In addition to direct education, 15 subjects (14 %) were receiving medication, 2 subjects (1.9 %) were receiving only occupational therapy, 2 subjects (1.9 %) were receiving only speech therapy, and 5 subjects (4.7 %) were receiving both occupational and speech therapy. The emphasis on considering co-morbid symptoms and usage of mental health services are important issues for students with specific learning difficulties. [**Child Symptom Inventory-4**, Persian translation]

- 16-24. Estabrook, R., Massey, S.H., Clark, C.A.C., Burns, J.L., Mustanski, B.S., Cook, E.H., O'Brien, T.C., Makowski, B., Espy, K.A., & Wakschlag, L.S. (2016). Separating family-level and direct exposure effects of smoking during pregnancy on offspring externalizing symptoms: bridging the behavior genetic and behavior teratologic divide. *Behavior Genetics*, 46 (3), 389-402.

Maternal smoking during pregnancy (MSDP) has been robustly associated with externalizing problems and their developmental precursors in offspring in studies using behavioral teratologic designs (Wakschlag et al., *Am J Public Health* 92(6):966-974, 2002; Espy et al., *Dev Psychol* 47(1):153-169, 2011). In contrast, the use of behavior genetic approaches has shown that the effects commonly attributed to MSDP can be explained by family-level variables (D'Onofrio et al., *Dev Psychopathol* 20(01):139-164, 2008). Reconciling these conflicting findings requires integration of these study designs. We utilize longitudinal data on a preschool proband and his/her sibling from the Midwest Infant Development Study-Preschool (MIDS-P) to test for teratologic and family level effects of MSDP. We find considerable variation in prenatal smoking patterns both within and across pregnancies within families, indicating that binary smoking measures are not sufficiently capturing exposure. Structural equation models indicate that both conduct disorder and oppositional defiant disorder symptoms showed unique effects of MSDP over and above family level effects. Blending high quality exposure measurement with a within-family design suggests that it is premature to foreclose the possibility of a teratologic effect of MSDP on externalizing problems. Implications and recommendations for future studies are discussed. [**Early Childhood Inventory-4; Child Symptom Inventory-4; Adolescent Symptom Inventory-4]**

- 16-25. Fanti, K.A., Kimonis, E.R., Hadjicharalambous, M.Z., & Steinberg, L. (2016). *European Child & Adolescent Psychiatry*, 25 (9), 989-996.

The present study aimed to test whether neurocognitive deficits involved in decision making underlie subtypes of conduct-disorder (CD) differentiated on the basis of callous-unemotional (CU) traits. Eighty-five participants (M (age) = 10.94 years) were selected from a sample of 1200 children based on repeated assessment of CD and CU traits. Participants completed a multi-method battery of well-validated measures of risky decision making and associated constructs of selective attention and future orientation (Stroop, Stoplight, and Delay-Discounting Tasks). Findings indicated that impaired decision making, selective attention, and future orientation contribute to the antisocial presentations displayed by children with CD, irrespective of level of CU traits. Youth high on CU traits without CD showed less risky decision making, as indicated by their performance on the Stoplight laboratory task, than those high on both CD and CU traits, suggesting a potential protective factor against the development of antisocial behavior. [*Child Symptom Inventory-4*, Greek translation]

- 16-27. Fanti, K.A., Panayiotou, G., Lazarou, C., Michael, R., & Georgiou, G. (2016). The better of two evils? Evidence that children exhibiting continuous conduct problems high or low on callous-unemotional traits score on opposite directions on physiological and behavioral measures of fear. *Development and Psychopathology*, 28(1), 185-198.

The present study examines whether heterogeneous groups of children identified based on their longitudinal scores on conduct problems (CP) and callous-unemotional (CU) traits differ on physiological and behavioral measures of fear. Specifically, it aims to test the hypothesis that children with high/stable CP differentiated on CU traits score on opposite directions on a fear-fearless continuum. Seventy-three participants (M age = 11.21; 45.2% female) were selected from a sample of 1,200 children. Children and their parents completed a battery of questionnaires assessing fearfulness, sensitivity to punishment, and behavioral inhibition. Children also participated in an experiment assessing their startle reactivity to fearful mental imagery, a well-established index of defensive motivation. The pattern of results verifies the hypothesis that fearlessness, assessed with physiological and behavioral measures, is a core characteristic of children high on both CP and CU traits (i.e., receiving the DSM-5 specifier of limited prosocial emotions). To the contrary, children with high/stable CP and low CU traits demonstrated high responsiveness to fear, high behavioral inhibition, and high sensitivity to punishment. The study is in accord with the principle of equifinality, in that different developmental mechanisms (i.e., extremes of high and low fear) may have the same behavioral outcome manifested as phenotypic antisocial behavior. [*Child Symptom Inventory-4*]

- 16-28. Fristad, M.A., Wolfson, H., Algorta, G.P., Youngstrom, E.A., Arnold, L.E., Birmaher, B., Horwitz, S., Axelson, D., Kowatch, R.A., & Findling, R.L. (2016). Disruptive mood dysregulation disorder and bipolar disorder not otherwise specified: fraternal or identical twins? *Journal of Child and Adolescent Psychopharmacology*, 26(2), 138-146.

Objective: The purpose of this study was to examine similarities and differences between disruptive mood dysregulation disorder (DMDD) and bipolar disorder not otherwise specified (BP-NOS) in baseline sociodemographic and clinical characteristics and 36 month course of irritability in children 6-12.9 years of age. Methods: A total of 140 children with DMDD and 77 children with BP-NOS from the Longitudinal Assessment of Manic Symptoms cohort were assessed at baseline, then reassessed every 6 months for 36 months. Results: Groups were similar on most sociodemographic and baseline clinical variables other than most unfiltered (i.e., interviewer-rated regardless of occurrence during a mood episode) Young Mania Rating Scale (YMRS) and parent-reported General Behavior Inventory-10 Item Mania (PGBI-10M) items. Children with DMDD received lower scores on every item (including irritability) except impaired insight; differences were significant except for sexual interest and disruptive-aggressive behavior. Children with DMDD received lower scores on eight of 10 PGBI-10M items, the other two items rated irritability. Youth with DMDD were significantly less likely to have a biological parent with a bipolar diagnosis than were youth with BP-NOS. Children with DMDD were more likely to be male and older than children with BP-NOS, both small effect sizes, but had nearly double the rate of disruptive behavior disorders (large effect). Caregiver ratings of irritability based on the *Child and Adolescent Symptom Inventory-4R* (CASI-4R) were comparable at baseline; the DMDD group had a small but significantly steeper decline in scores over 36 months relative to the BP-NOS group ( $b=-0.24$ ,  $SE=0.12$ , 95% CI -0.48 to -0.0004). Trajectories for both groups were fairly stable, in the midrange of possible scores. Conclusions: In a sample selected for elevated symptoms of mania, twice as many children were diagnosed with

DMDD than with BP-NOS. Children with DMDD and BP-NOS are similar on most characteristics other than manic symptoms, per se, and parental history of bipolar disorder. Chronic irritability is common in both groups. Comprehensive evaluations are needed to diagnose appropriately. Clinicians should not assume that chronic irritability leads exclusively to a DMDD diagnosis. [**Child and Adolescent Symptom Inventory-4R**]

16-29. Gadow, K.D., Brown, N.V., Arnold, L.E., Buchan-Page, K.A., Bukstein, O.G., Butter, E., Farmer, C.A., Findling, R.L., Kolko, D.J., Molina, B.S.G., et al. (2016). Severely aggressive children receiving stimulant medication versus stimulant and risperidone: 12-month follow-up of the TOSCA trial. *Journal of the American Academy of Child and Adolescent Psychiatry*, 55(6), 469-478.

Objective: The objective of this study was to evaluate 52-week clinical outcomes of children with co-occurring attention-deficit/hyperactivity disorder (ADHD), disruptive behavior disorder, and serious physical aggression who participated in a prospective, longitudinal study that began with a controlled, 9-week clinical trial comparing the relative efficacy of parent training + stimulant medication + placebo (Basic; n = 84) versus parent training + stimulant + risperidone (Augmented; n = 84). Method: Almost two-thirds (n = 7.08; 64%) of families in the 9-week study participated in week 52 follow-ups (Basic, n = 55; Augmented, n = 53) and were representative of the initial study sample. The assessment battery included caregiver and clinician ratings and laboratory tests. Results: Only 43% of participants in the Augmented group and 36% in the Basic group still adhered to their assigned regimen (not significant [NS]); 23% of those in the Augmented group and 11% in the Basic group were taking no medication (NS). Both randomized groups improved baseline to follow-up, but the 3 primary parent reported behavioral outcomes showed no significant between-group differences. Exploratory analyses indicated that participants in the Augmented group (65%) were more likely ( $p = .02$ ) to have a Clinical Global Impressions (CGI) severity score of 1 to 3 (i.e., normal to mildly ill) at follow-up than those in the Basic group (42%). Parents rated 45% of children as impaired often or very often from ADHD, noncompliant, or aggressive behavior. The Augmented group had elevated prolactin levels, and the Basic group had decreased weight over time. Findings were generally similar whether groups were defined by randomized assignment or follow-up treatment status. Conclusion: Both treatment strategies were associated with clinical improvement at follow-up, and primary behavioral outcomes did not differ significantly. Many children evidenced lingering mental health concerns, suggesting the need for additional research into more effective interventions. [**Child and Adolescent Symptom Inventory-4R**]

16-30. Gadow, K.D., Perlman, G., Ramdhany, L., & de Ruiter, J. (2016). Clinical correlates of co-occurring psychiatric and autism spectrum disorder (ASD) symptom-induced impairment in children with ASD. *Journal of Abnormal Child Psychology*, 44(1), 129-139.

Although psychiatric symptom severity and impairment are overlapping but nevertheless distinct illness parameters, little research has examined whether variables found to be associated with the severity are also correlated with symptom-induced impairment. Parents and teachers completed ratings of symptom-induced impairment for DSM-IV-referenced syndromes, and parents completed a background questionnaire for a consecutively referred sample of primarily male (81 %) 6-to-12 year olds with autism spectrum disorder (ASD) (N = 221). Some clinical correlates (e.g., IQ < 70, maternal level of education, pregnancy complications, current use of psychotropic medication, season of birth) were associated with impairment for several disorders, whereas others were correlated with only a few syndromes (e.g., gender, co-morbid medical conditions) or were not related to impairment in any disorder (e.g., family psychopathology). There was little convergence in findings for parents' versus teachers' ratings. Some clinical correlates (e.g., season of birth, current psychotropic medication, maternal education) were unique predictors of three or more disorders. Pregnancy complications were uniquely associated with social anxiety and schizoid personality symptom-induced impairment. IQ was a unique predictor of schizophrenia, ASD, oppositional defiant disorder symptom-induced impairment. Children whose mothers had relatively fewer years of education had greater odds for symptom-induced impairment in social anxiety, depression, aggression, and mania and greater number of impairing conditions. Season of birth was the most robust correlate of symptom-induced impairment as rated by teachers but not by parents. Children born in fall evidenced higher rates of co-occurring psychiatric and ASD symptom-induced impairment and total number of impairing conditions. Many variables previously linked with symptom severity are also correlated with impairment. [**Child and Adolescent Symptom Inventory-4R**]

16-31. Golmaryami, F.N., Frick, P.J., Hemphill, S.A., Kahn, R.E., Crapanzano, A.M., & Terranova, A.M. (2016). The social, behavioral, and emotional correlates of bullying and victimization in a school-based sample. *Journal of Abnormal Child Psychology*, 44(2), 381-391.

Bullying is a prevalent problem in schools that is associated with a number of negative outcomes for both the child who bullies and his or her victims. In a community sample of 284 ethnically diverse school-children (54.2 % girls) between the ages of 9 and 14 years ( $M = 11.28$ ,  $SD = 1.82$ ), the current study examined whether the level of victimization moderated the association between bullying and several behavioral, social, and emotional characteristics. These characteristics were specifically chosen to integrate research on distinct developmental pathways to conduct problems with research on the characteristics shown by children who bully others. Results indicated that both bullying and victimization were independently associated with conduct problems. However, there was an interaction between bullying and victimization in the prediction of callous-unemotional (CU) traits, such that the association between bullying and CU traits was stronger for those lower on victimization. Further, bullying was positively associated with positive attitudes towards bullying and anger expression and neither of these associations were moderated by the level of victimization. In contrast, bullying was not associated with the child's perceived problems regulating anger, suggesting that children with higher levels of bullying admit to expressing anger but consider this emotional expression as being under their control. [**Youth's (Self-Report) Inventory-4**]

- 16-32. Haack, L.M., Villodas, M.T., McBurnett, K., Hinshaw, S., & Pfiffner, L.J. (2016). Parenting mediates symptoms and impairment in children with ADHD-inattentive type. *Journal of Clinical Child and Adolescent Psychology*, 45(2), 155-66.

The current study investigates potential pathways between inattentive symptom severity, positive and negative parenting practices, and functional impairment (i.e., academic, social, and home impairment) in a sample of children diagnosed with attention-deficit/hyperactivity disorder, Predominantly Inattentive Type (ADHD-I). Participants included 199 children and their parents and teachers enrolled in a randomized clinical trial investigating the efficacy of an integrated psychosocial intervention for children with ADHD-I. Boys constituted slightly more than half the sample; children averaged 8.6 years of age (range = 7-11) and were from varied ethnic/racial backgrounds. As part of the initial screening and assessment procedures, parents and teachers completed questionnaires assessing child behavior and parent/family functioning. Results supported both main effects of symptoms and parenting on impairment, as well as a mediational path between symptoms and impairment via parenting, as observed by parents in the home setting. Specifically, higher severity of inattention was associated with higher rates of homework, social, and home impairment. Negative parenting contributed to homework and home impairment, and positive and negative parenting contributed to social impairment, incrementally above and beyond the impact of inattention symptom severity alone. Negative parenting partially mediated the relationship between inattentive symptom severity and impairment, such that higher rates of inattention were associated with higher rates of negative parenting, which in turn was associated with higher rates of homework, social, and home impairment. Results provide support for underlying mechanisms for associations between symptoms and impairment in children with ADHD-I and identify potential intervention targets to improve impairment experienced by these children. [**Child Symptom Inventory-4**]

- 16-33 Hipwell, A.E., Stepp, S.D., Moses-Kolko, E.L., Xiong, S.Y., Paul, E., Merrick, N., McClelland, S., Verble, D., & Keenan, K. (2016). Predicting adolescent postpartum caregiving from trajectories of depression and anxiety prior to childbirth: a 5-year prospective study. *Archives of Womens Mental Health*, 19(5), 871-882.

Symptoms of depression and anxiety in pregnancy have been linked to later impaired caregiving. However, mood symptoms are often elevated in pregnancy and may reflect motherhood-specific concerns. In contrast, little is known about the effects of pre-pregnancy depression and anxiety on postpartum caregiving. Understanding these developmental risk factors is especially important when childbearing also occurs during adolescence. The sample comprised 188 adolescent mothers (ages 12-19 years) who had participated in a longitudinal study since childhood. Mothers were observed in face-to-face interaction with the infant at 4 months postpartum, and caregiving behaviors (sensitivity, hostile-intrusive behavior, and mental state talk) were coded independently. Data on self-reported depression and anxiety gathered in the 5 years prior to childbirth were drawn from the large-scale longitudinal study. Parallel process latent growth curve models revealed unique effects of distal anxiety and slow decline in anxiety over time on lower levels of maternal mental state talk after accounting for the overlap with depression development. Depressive symptoms showed significant stability from distal measurement to the postpartum period, but only concurrent postpartum mood was associated with poorer quality of maternal speech. The results highlight specific targets for well-timed preventive interventions with vulnerable dyads. [**Child Symptom Inventory-4; Adolescent Symptom Inventory-4**]

- 16-34. Hipwell, A.E., Murray, J., Xiong, S.Y., Stepp, S.D., & Keenan, K.E. (2016). Effects of adolescent childbearing on maternal depression and problem behaviors: a prospective, population-based study using risk-set propensity scores. *PLOS ONE*, 11 (5), e0155641.

Adolescent mothers are reportedly at risk for depression and problem behaviors in the postpartum period, but studies have rarely considered developmental context and have yet to disentangle the effects of childbearing on adolescent functioning from selection effects that are associated with early pregnancy. The current study examined changes in adolescent depression, conduct problems and substance use (alcohol, tobacco and marijuana) across the peripartum period using risk-set propensity scores derived from a population-based, prospective study that began in childhood (the Pittsburgh Girls Study, PGS). Each of 147 childbearing adolescents (ages 12-19) was matched with two same-age, non-childbearing adolescents ( $n = 294$ ) on pregnancy propensity using 15 time-varying risk variables derived from sociodemographic, psychopathology, substance use, family, peer and neighborhood domains assessed in the PGS wave prior to each pregnancy (T1). Postpartum depression and problem behaviors were assessed within the first 6 months following delivery (T2); data gathered from the non-childbearing adolescent controls spanned the same interval. Within the childbearing group, conduct problems and marijuana use reduced from T1 to T2, but depression severity and frequency of alcohol or tobacco use showed no change. When change was compared across the matched groups, conduct problems showed a greater reduction among childbearing adolescents. Relative to non-childbearing adolescents who reported more frequent substance use with time, childbearing adolescents reported no change in alcohol use and less frequent use of marijuana across the peripartum period. There were no group differences in patterns of change for depression severity and tobacco use. The results do not support the notion that adolescent childbearing represents a period of heightened risk for depression or problem behaviors. [**Adolescent Symptom Inventory-4**]

- 16-35. Houck, C.D., Barker, D.H., Hadley, W., Brown, L.K., Lansing, A., Almy, B., & Hancock, E. (2016). The 1-year impact of an emotion regulation intervention on early adolescent health risk behaviors. *Health Psychology*, 35(9), 1036-1045.

Objective: Sexual activity often begins in early adolescence, and adolescents with mental health symptoms are at greater risk for sexual activity and other health risks. This study aimed to evaluate a developmentally targeted intervention designed to enhance early adolescents' emotion regulation competencies as a strategy for reducing health risk behaviors, including sexual initiation. Method: Adolescents 12 to 14 years old ( $N = 420$ ; 53% male) with mental health symptoms participated in either an emotion regulation (ER) or health promotion (HP) intervention consisting of 12 after-school sessions. Participants completed questionnaires on laptop computers at baseline, 2-, 6-, and 12-month follow-ups. Results: Time to event analyses were used to compare intervention conditions on rate of initiation to vaginal sex. Results showed that participants in the ER condition were less likely to transition into vaginal sexual activity by 1-year follow-up than were those in the HP condition (adjusted hazard ratio = 0.58, 95% confidence interval [0.36, 0.94],  $p = .01$ ). However, those who were sexually active did not report differences in sexual risk behaviors (e.g., condomless sex). Participants in the ER condition were significantly less likely to report violence behaviors and showed improvement on a behavioral measure of emotion identification; however, they did not differ from HP participants on self-reports of emotional competence. Conclusions: Emotion regulation strategies can be used to delay sexual initiation among early adolescents with mental health symptoms and may have an important role in health education. (**Adolescent Symptom Inventory-4; Youth's (Self-Report) Inventory-4**)

- 16-36. Houck, C.D., Hadley, W., Barker, D., Brown, L.K., Hancock, E., & Almy, B. (2016). An emotion regulation intervention to reduce risk behaviors among at-risk early adolescents. *Prevention Science*, 17(1), 71-82.

This study aimed to evaluate an intervention designed to enhance early adolescents' emotion regulation skill use and to decrease risk behaviors. Adolescents 12 to 14 years old ( $N = 420$ ; 53 % male) with mental health symptoms were referred for participation in either an Emotion Regulation (ER) or Health Promotion (HP) intervention consisting of 12 after-school sessions. Participants completed baseline and follow-up questionnaires on laptop computers. Using a generalized analysis of covariance controlling for baseline scores, participants in the ER intervention were less likely to be sexually active and engage in other risk behaviors, such as fighting, at the conclusion of the program. Additionally, participants in the ER intervention reported greater use of emotion regulation strategies and more favorable attitudes toward abstinence. Interventions directly targeting emotion regulation may be useful in addressing health risk behaviors of adolescents with mental health symptoms. [**Youth's (Self-Report) Inventory-4, Adolescent Symptom Inventory-4**]

- 16-37. Jia, M., Jiang, Y.Y., & Mikami, A.Y. (2016). (2016). Positively biased self-perceptions in children with ADHD: unique predictor of future maladjustment. *Journal of Abnormal Child Psychology*, 44(3), 575-586.

This study assessed children's overestimations of self-competence (positively biased self-perceptions or positive bias [PB]) relative to parent/teacher ratings of children's competence in predicting children's adjustment in a new setting. Eighty-five children (13 boys and 11 girls with Attention-Deficit/Hyperactivity Disorder [ADHD]; 30 boys and 31 girls who were typically developing [TD]), ages 6.8 to 9.8 years ( $M = 8.13$ ;  $SD = 0.82$ ), attended a 2-week summer day camp grouped into same-age, same-sex classrooms with previously unacquainted peers and counselors. Prior to camp, PB was assessed by creating standardized discrepancy scores between children's self-ratings relative to parent or teacher ratings of the children's social and behavioral competence. The relative ability of these discrepancy scores to predict peer preference and oppositionality at camp in relation to parent or teacher ratings alone was evaluated. For children with ADHD, both discrepancy scores and informant ratings of competence were uniquely predictive of peer preference and oppositionality assessed during camp. For TD children, only informant ratings of competence were predictive of outcomes at camp. These results suggest that PB may be a unique predictor of maladjustment within a novel environment for children with ADHD, but not TD children. [*Child Symptom Inventory-4*]

- 16-38. Kerestes, R., Segreti, A.M., Pan, L.A., Phillips, M.L., Birmaher, B., Brent, D.A., & Ladouceur, C.D. (2016). Altered neural function to happy faces in adolescents with and at risk for depression. *Journal of Affective Disorders*, 192, 143-152.

Background: There is accumulating evidence of alterations in neural circuitry underlying the processing of social-affective information in adolescent Major Depressive Disorder (MDD). However the extent to which such alterations are present in youth at risk for mood disorders remains unclear. Method: Whole-brain blood oxygenation level-dependent task responses and functional connectivity using generalized psychophysiological interaction (gPPI) analyses to mild and intense happy face stimuli was examined in 29 adolescents with MDD (MDD;  $M$  age, 16.0,  $S.D.$  1.2 years), 38 healthy adolescents at risk of a mood disorder, by virtue of having a parent diagnosed with either Bipolar Disorder (BD) or MDD (Mood-risk;  $M$  age 13.4,  $S.D.$  2.5 years) and 43 healthy control adolescents, having parents with no psychiatric disorder (HC;  $M$  age 14.6,  $S.D.$  2.2 years). Results: Relative to HC adolescents, Mood-risk adolescents showed elevated right dorsolateral prefrontal cortex (DLPFC) activation to 100% intensity happy (vs. neutral) faces and concomitant lowered ventral putamen activity to 50% intensity happy (vs. neutral) faces. gPPI analyses revealed that MDD adolescents showed significantly lower right DLPFC functional connectivity with the ventrolateral PFC (VLPFC) compared to HC to all happy faces. Limitations: The current study is limited by the smaller number of healthy offspring at risk for MDD compared to BD. Conclusions: Because Mood-risk adolescents were healthy at the time of the scan, elevated DLPFC and lowered ventral striatal activity in Mood-risk adolescents may be associated with risk or resiliency. In contrast, altered DLPFC-VLPFC functional connectivity in MDD adolescents may be associated with depressed mood state. Such alterations may affect social-affective development and progression to a mood disorder in Mood-risk adolescents. Future longitudinal follow-up studies are needed to directly answer this research question. [*Child Symptom Inventory-4*]

- 16-39. Kerns, C.M., Rump, K., Worley, J., Kratz, H., McVey, A., Herrington, J., & Miller, J. (2016). The differential diagnosis of anxiety disorders in cognitively-able youth with autism. *Cognitive and Behavioral Practice*, 23(4), 530-547.

Anxiety disorders are common in children and adolescents with autism spectrum disorder (ASD), yet difficult to disentangle from features of ASD itself. Challenges to assessment include symptom overlap, the varied manifestation of some anxiety symptoms, and the limitations of self-report. Nonetheless, a growing body of research suggests that it is both possible and important to reliably differentiate anxiety and ASD pathology. Anxiety disorders are associated with a number of additive difficulties in youth with ASD. Emerging evidence also suggests that these difficulties-when identified-can be effectively treated in cognitively-able youth with cognitive-behavioral methods. The present article will provide a clinical framework for diagnosing anxiety disorders in cognitively-able youth on the autism spectrum, with a particular emphasis on differentiating anxiety and ASD symptoms. We will review recent research on the presentation, measurement, and predictors of anxiety in ASD, provide an overview of the pros and cons of available measures and illustrate approaches for differential diagnosis via vignettes of actual clinical assessments. [*Child and Adolescent Symptom Inventory-4R*]

- 16-40. Kyranides, M.N., Fanti, K.A., & Panayiotou, G. (2016). The disruptive adolescent as a grown-up: predicting adult startle responses to violent and erotic films from adolescent conduct problems and callous-unemotional traits. *Journal of Psychopathology and Behavioral Assessment*, 38 (2), 183-194.

The current study aimed to identify heterogeneous groups of adolescents differing on their levels of conduct problems (CP) and callous-unemotional (CU) traits, and compare them on startle reactivity to emotional videos (violent/erotic) during young adulthood. A Latent Profile Analysis, conducted among a longitudinal sample of 2306 adolescents, provided evidence for the existence of heterogeneous CP and CU subgroups (i.e., CP-only, CU-only, and CP+CU groups). Three years later, 82 young adults (Mage = 19.95), randomly selected from the identified groups, participated in an experiment assessing their startle eye-blink responses during violent, erotic and neutral video scenes. Self-report ratings of fear, valence and arousal to affective scenes were also collected. Findings suggested that adolescents high on CP and low on CU traits showed high startle potentiation when viewing violent scenes during young adulthood, while those high on both CP and CU traits showed diminished startle reactivity to violent stimuli. Individuals high on CU traits without CP showed similar startle reactivity to controls. Further, the findings indicate that startle potentiation to violent stimuli can be a reliable physiological marker to distinguish antisocial individuals with and without CU traits. The finding that the CU only group was not differentiated from the control group on startle reactivity when viewing violent stimuli might explain their lower likelihood of engaging in antisocial behavior. [**Youth's (Self-Report) Inventory-4; Adult Self-Report Inventory-4**]

- 16-41. Lavigne, J.V., Gouze, K.R., Hopkins, J., & Bryant, F.B. (2016). Multi-domain predictors of attention deficit/hyperactivity disorder symptoms in preschool children: cross-informant differences. *Child Psychiatry & Human Development*, 47 (6), 841-856.

Numerous studies indicated that agreement between parent and teacher ratings of symptoms of attention-deficit/hyperactivity disorder in children of all ages is poor, but few studies have examined the factors that may be associated with rater differences. The present study examined the contextual, parent, parenting, and child factors associated with rater differences in a community sample of 4-year-old children. Parents and teachers of 344 4-year-olds recruited from preschools and pediatric practices completed the preschool versions of the Child Symptom Inventory. Measures of socioeconomic status, family stress and conflict, caretaker depression, parental hostility, support-engagement, and scaffolding skills, and child negative affect (NA), sensory regulation (SR), effortful control (EC), inhibitory control, and attachment security were obtained either by parental report or observational measures. chi (2) difference tests indicated that child factors of EC and SR, and contextual factor of stress and conflict, contributed more to parent-ratings of ADHD-I and ADHD-HI than to teacher-ratings of those same types of symptoms. Two factors contributed more to teacher-than to parent-rated ADHD-I, NA and caretaker depression. Results indicate there are differences in factors associated with ADHD symptoms at home and school, and have implications for models of ADHD. [**Early Childhood Inventory-4; Child Symptom Inventory-4**]

- 16-42. Lavigne, J.V., Gouze, K.R., Hopkins, J., & Bryant, F.B. (2016). A multi-domain cascade model of early childhood risk factors associated with oppositional defiant disorder symptoms in a community sample of 6-year-olds. *Development and Psychopathology*, 28(4), 1547-1562.

The present study examined a cascade model of age 4 and 5 contextual, parent, parenting, and child factors on symptoms of oppositional defiant disorder (ODD) at age 6 in a diverse community sample of 796 children. Contextual factors include socioeconomic status, family stress, and conflict; parent factors included parental depression; parenting factors included parental hostility, support, and scaffolding skills; child factors included child effortful control (EC), negative affect (NA), and sensory regulation. Direct effects of age 5 conflict, hostility, scaffolding, EC, and NA were found. Significant indirect, cascading effects on age 6 ODD symptom levels were noted for age 4 socioeconomic status via age 5 conflict and scaffolding skills; age 4 parental depression via age 5 child NA; age 4 parental hostility and support via age 5 EC; age 4 support via age 5 EC; and age 4 attachment via age 5 EC. Parenting contributed to EC, and the age 5 EC effects on subsequent ODD symptom levels were distinct from age 5 parental contributions. Scaffolding and ODD symptoms may have a reciprocal relationship. These results highlight the importance of using a multi-domain model to examine factors associated with ODD symptoms early in the child's grammar school years. [**Early Childhood Inventory-4**]

- 16-43. Li, J.J., Reise, S.P., Chronis-Tuscano, A., Mikami, A.Y., & Lee, S.S. (2016). Item response theory analysis of ADHD symptoms in children with and without ADHD. *Assessment*, 23 (6), 655-671.

Item response theory (IRT) was separately applied to parent- and teacher-rated symptoms of attention-deficit/hyperactivity disorder (ADHD) from a pooled sample of 526 six- to twelve-year-old children with and without ADHD. The dimensional structure ADHD was first examined using confirmatory factor analyses, including the bifactor model. A general ADHD factor and two group factors, representing inattentive and hyperactive/impulsive dimensions, optimally fit the data. Using the graded response model, we estimated discrimination and location parameters and information functions for all 18 symptoms of ADHD. Parent- and teacher-rated symptoms demonstrated adequate discrimination and location values, although these estimates varied substantially. For parent ratings, the test information curve peaked between -2 and +2 SD, suggesting that ADHD symptoms exhibited excellent overall reliability at measuring children in the low to moderate range of the general ADHD factor, but not in the extreme ranges. Similar results emerged for teacher ratings, in which the peak range of measurement precision was from -1.40 to 1.90 SD. Several symptoms were comparatively more informative than others; for example, is often easily distracted (Distracted) was the most informative parent- and teacher-rated symptom across the latent trait continuum. Clinical implications for the assessment of ADHD as well as relevant considerations for future revisions to diagnostic criteria are discussed. [*Child Symptom Inventory-4*]

- 16-44. McGrath, L.M., Braaten, E.B., Doty, N.D., Willoughby, B.L., Wilson, H.K., O'Donnell, E.H., Colvin, M.K., Ditmars, H.L., Blais, J.L., Hill, E.N. et al. (2016). Extending the "cross-disorder" relevance of executive functions to dimensional neuropsychiatric traits in youth. *Journal of Child Psychology and Psychiatry*, 57(4), 462-471.

Background: Evidence that different neuropsychiatric conditions share genetic liability has increased interest in phenotypes with cross-disorder' relevance, as they may contribute to revised models of psychopathology. Cognition is a promising construct for study; yet, evidence that the same cognitive functions are impaired across different forms of psychopathology comes primarily from separate studies of individual categorical diagnoses versus controls. Given growing support for dimensional models that cut across traditional diagnostic boundaries, we aimed to determine, within a single cohort, whether performance on measures of executive functions (EFs) predicted dimensions of different psychopathological conditions known to share genetic liability. Methods: Data are from 393 participants, ages 8-17, consecutively enrolled in the Longitudinal Study of Genetic Influences on Cognition (LOGIC). This project is conducting deep phenotyping and genomic analyses in youth referred for neuropsychiatric evaluation. Using structural equation modeling, we examined whether EFs predicted variation in core dimensions of the autism spectrum disorder, bipolar illness, and schizophrenia (including social responsiveness, mania/emotion regulation, and positive symptoms of psychosis, respectively). Results: We modeled three cognitive factors (working memory, shifting, and executive processing speed) that loaded on a second-order EF factor. The EF factor predicted variation in our three target traits, but not in a negative control (somatization). Moreover, this EF factor was primarily associated with the overlapping (rather than unique) variance across the three outcome measures, suggesting that it related to a general increase in psychopathology symptoms across those dimensions. Conclusions: Findings extend support for the relevance of cognition to neuropsychiatric conditions that share underlying genetic risk. They suggest that higher-order cognition, including EFs, relates to the dimensional spectrum of each of these disorders and not just the clinical diagnoses. Moreover, results have implications for bottom-up models linking genes, cognition, and a general psychopathology liability. [*Child Symptom Inventory-4*]

- 16-45. Miller, A.B., Esposito-Smythers, C., & Leichtweis, R.N. (2016). A short-term, prospective test of the interpersonal-psychological theory of suicidal ideation in an adolescent clinical sample. *Suicide and Life-Threatening Behavior*, 46 (3), 337-351.

The present prospective study tested a portion of the interpersonal-psychological theory of suicide (IPTS) in an adolescent clinical sample. Participants were 143 adolescents consecutively admitted to a partial hospitalization program who completed assessments at intake and discharge from the program. Results partially supported the IPTS and suggest that (1) perceived burdensomeness may be an important socially based cognition for understanding concurrent risk for suicidal ideation (SI); (2) thwarted belongingness affects depression symptom severity over time, which indirectly predicts SI over a short follow-up time frame; and (3) the IPTS constructs may function differently in a high-risk clinical adolescent sample, compared to adults, although findings are preliminary. [*Youth's (Self Report) Inventory-4*]

- 16-46. Minshawi, N.F., Wink, L.K., Shaffer, R., Plawecki, M.H., Posey, D.J., Liu, H., Hurwitz, S., McDougale, C.J.,



Swiezy, N.B., & Erickson, C.A. (2016). A randomized, placebo-controlled trial of D-cycloserine for the enhancement of social skills training in autism spectrum disorders. *Molecular Autism*, 7, #2.

Background: Researchers have demonstrated that D-cycloserine (DCS) can enhance the effects of behavioral interventions in adults with anxiety and enhances prosocial behavior in animal models of autism spectrum disorders (ASD). This study extended upon this background by combining DCS with behavioral social skills therapy in youth with ASD to assess its impact on the core social deficits of ASD. We hypothesized that DCS used in combination with social skills training would enhance the acquisition of social skills in children with ASD. Methods: A 10-week, double-blind, placebo-controlled trial of DCS (50 mg) given 30 min prior to weekly group social skills training was conducted at two sites. Children with ASD were randomized to receive 10 weeks (10 doses) of DCS or placebo in a 1: 1 ratio. Results: No statistically significant difference attributable to drug treatment was observed in the change scores for the primary outcome measure, the Social Responsiveness Scale (SRS), total score ( $p = 0.45$ ), or on secondary outcome measures. Conclusions: The results of this trial demonstrated no drug-related short-term improvement on the primary outcome measure, or any of the secondary outcome measures. However, an overall significant improvement in SRS total raw score was observed from baseline to end of treatment for the entire group of children with ASD. This suggests a need to further study the efficacy of the social skills training protocol. Limitations to the current study and areas for future research are discussed. [**Child Symptom Inventory-4**]

16-47. Nordling, J.K., Boldt, L.J., O'Bleness, J., & Kochanska, G. (2016). Effortful control mediates relations between children's attachment security and their regard for rules of conduct. *Social Development*, 25 (2), 268-284.

Although attachment security has been associated with children's rule-compatible conduct, the mechanism through which attachment influences early regard for rules is not well established. We hypothesized that effortful control would mediate the link between security and indicators of children's emerging regard for rules (discomfort following rule violations, internalization of parents' and experimenter's rules, few externalizing behaviors). In a longitudinal study, the Attachment Q-Set was completed by parents, effortful control was observed, and Regard for Rules was observed and rated by parents. The proposed model fit the data well: Children's security to mothers predicted their effortful control, which in turn had a direct link to a greater Regard for Rules. Children's security with fathers did not predict effortful control. The mother-child relationship appears particularly important for positive developmental cascades of self-regulation and socialization. [**Child Symptom Inventory-4**]

16-48. Ogg, J., Volpe, R., & Rogers, M. (2016). Understanding the relationship between inattention and early literacy trajectories in kindergarten. *School Psychology Quarterly*, 31(4), 565-582.

The purpose of this study was to examine the relationship between inattention, academic enabling behaviors (i.e., motivation, engagement, and interpersonal skills), and early literacy outcomes. Kindergarten students ( $N = 181$ ; 55.2% male; 62% white) from two research sites (Southeastern U.S. and Eastern Canada) were assessed using the Letter Naming and Letter Sound Fluency AIMSweb Tests of Early Literacy (Shinn & Shinn, 2012) at three points across the school year. Their teachers provided information on the level of attention-deficit/hyperactivity disorder symptoms (ADHD Symptom Checklist-4) and academic enabling behaviors (Academic Competence Evaluation Scales; DiPerna & Elliott, 2000). Structural equation modeling (SEM) was used to determine predictors of initial level and growth in early literacy. Specifically, a series of models were tested to determine if a multidimensional model of academic enablers (AEs) mediated the relationship. Engagement predicted students' initial levels of early literacy, suggesting that this is an important mediator to consider between inattention and early literacy skills. Motivation related positively to engagement. Inattention also predicted both motivation and interpersonal skills in the negative direction. These findings suggest that AEs play an important role in the relationship between inattention and early literacy. AEs provide malleable targets for intervention and should be considered when developing intervention for youth at risk for academic failure. [**ADHD Symptom Checklist-4**]

16-49. Pellecchia, M., Connell, J.E., Kerns, C.M., Xie, M., Marcus, S.C., & Mandell, D.S. (2016). Child characteristics associated with outcome for children with autism in a school-based behavioral intervention. *Autism*, 20 (3), 321-329.

This study examined the extent to which clinical and demographic characteristics predicted outcome for children with autism spectrum disorder. Participants included 152 students with autism spectrum disorder in 53 kindergarten-through-second-grade autism support classrooms in a large urban public school district. Associations between child

characteristics (including age, language ability, autism severity, social skills, adaptive behavior, co-occurring psychological symptoms, and restrictive and repetitive behavior) and outcome, as measured by changes in cognitive ability following one academic year of an intervention standardized across the sample were evaluated using linear regression with random effects for classroom. While several scales and subscales had statistically significant bivariate associations with outcome, in adjusted analysis, only age and the presence of symptoms associated with social anxiety, such as social avoidance and social fearfulness, as measured through the **Child Symptom Inventory-4**, were associated with differences in outcome. The findings regarding the role of social anxiety are new and have important implications for treatment. Disentangling the construct of social anxiety to differentiate between social fearfulness and social motivation has important implications for shifting the focus of early treatment for children with autism spectrum disorder. [**Child Symptom Inventory-4**]

- 16-50. Piffner, L.J., Rooney, M., Haack, L., Villodas, M., Delucchi, K., & McBurnett, K. (2016). A randomized controlled trial of a school-implemented school-home intervention for attention-deficit/hyperactivity disorder symptoms and impairment. *Journal of the American Academy of Child and Adolescent Psychiatry*, 55 (9), 762-770.

Objective: This study evaluated the efficacy of a novel psychosocial intervention (Collaborative Life Skills [CLSJ] for primary-school students with attention-deficit/hyperactivity disorder (ADHD) symptoms. CLS is a 12-week program consisting of integrated school, parent, and student treatments delivered by school-based mental health providers. Using a cluster randomized design, CLS was compared with usual school/community services on psychopathology and functional outcomes. Method: Schools within a large urban public school district were randomly assigned to CLS (12 schools) or usual services (11 schools). Approximately 6 students participated at each school (N = 135, mean age 8.4 years, grade range 2-5, 71% boys). Using PROC GENMOD (SAS 9.4), the difference between the means of CLS and usual services for each outcome at posttreatment was tested. To account for clustering effects by school, the generalized estimating equation method was used. Results: Students from schools assigned to CLS compared with those assigned to usual services had significantly greater improvement on parent and teacher ratings of ADHD symptom severity and organizational functioning, teacher-rated academic performance, and parent ratings of oppositional defiant disorder symptoms and social/interpersonal skills. Conclusion: These results support the efficacy of CLS compared with typical school and community practices for decreasing ADHD and oppositional defiant disorder symptoms and improving key areas of functional impairment. They further suggest that existing school based mental health resources can be redeployed from non-empirically supported practices to those with documented efficacy. This model holds promise for improving access to efficient evidence-based treatment for inattentive and disruptive behavior beyond the clinic setting. [**Child Symptom Inventory-4**]

- 16-51. Poon, J.A., Turpyn, C.C., Hansen, A., Jacangelo, J., & Chaplin, T.M. (2016). Adolescent substance use & psychopathology: interactive effects of cortisol reactivity and emotion regulation. *Cognitive Therapy and Research*, 40 (3), 368-380.

How are emotional processes associated with the increased rates of substance use and psychological disorders commonly observed during adolescence? An index of emotion-related physiological arousal-cortisol reactivity-and subjective emotion regulation have both been independently linked to substance use and psychological difficulties among youth. The current study (N = 134 adolescents) sought to elucidate the interactive effects of cortisol reactivity following a stressful parent-child interaction task and self-reported emotion regulation ability on adolescents' substance use and externalizing and internalizing behavior problems. Results revealed that adolescents with low levels of cortisol reactivity and high emotion regulation difficulties were more likely to use substances, and also had the highest parent-reported symptoms of oppositional defiant disorder. With respect to internalizing symptoms, high emotion-related physiological reactivity coupled with high emotion regulation difficulties were associated with higher self-reported major depression symptoms among youth. Findings reveal that different profiles of HPA axis arousal and emotion regulation are associated with substance use and symptoms of psychopathology among adolescents. [**Child Symptom Inventory-4**]

- 16-52. Robinson, W.L., Droege, J.R., Hipwell, A.E., Stepp, S.D., & Keenan, K. (2016). Brief report: Suicidal ideation in adolescent girls: Impact of race. *Journal of Adolescence*, 53, 16-20.

In the present study, we examine the unique and interactive effects of race (African American or European American) and depression on suicidal ideation, controlling for poverty, within a representative sample of adolescent girls. A

community sample of 2450 girls (43.9% African American) participating in the longitudinal Pittsburgh Girls Study (PGS) was interviewed annually about depression symptoms and suicidal ideation, from ages 10-15 years. Caregivers reported on the girls' racial/ethnic background and the family's receipt of public assistance. Race and depression scores explained unique variance in suicidal ideation; receipt of public assistance did not. Endorsement and recurrence of suicidal ideation was more likely for African American than European American girls: there was a nearly two-fold increase in the likelihood of reporting frequent thoughts of death or suicide as a function of race. Of the 255 girls reporting recurrent suicidal ideation, 65.9% were African American. An interaction effect between race and depression symptoms was observed, such that African American girls were more likely to report suicidal ideation at lower levels of depression severity. The findings indicate that race is a critical factor for understanding, preventing, and treating suicidal ideation in girls. [**Child Symptom Inventory-4; Adolescent Symptom Inventory-4**]

16-53. Sauder, C.L., Derbidge, C.M., & Beauchaine, T.P. (2016). Neural responses to monetary incentives among self-injuring adolescent girls. *Development and Psychopathology*, 28(1), 277-291.

Rates of self-inflicted injury among adolescents have risen in recent years, yet much remains to be learned about the pathophysiology of such conduct. Self-injuring adolescents report high levels of both impulsivity and depression behaviorally. Aberrant neural responding to incentives, particularly in striatal and prefrontal regions, is observed among both impulsive and depressed adolescents, and may mark common vulnerability to symptoms of anhedonia, irritability, and low positive affectivity. To date, however, no studies have examined associations between central nervous system reward responding and self-injury. In the current study, self-injuring ( $n = 19$ ) and control ( $n = 19$ ) adolescent females, ages 13-19 years, participated in a monetary incentive delay task in which rewards were obtained on some trials and losses were incurred on others. Consistent with previous findings from impulsive and depressed samples, self-injuring adolescents exhibited less activation in both striatal and orbitofrontal cortex regions during anticipation of reward than did controls. Self-injuring adolescents also exhibited reduced bilateral amygdala activation during reward anticipation. Although few studies to date have examined amygdala activity during reward tasks, such findings are common among adults with mood disorders and borderline personality disorder. Implications for neural models of impulsivity, depression, heterotypic comorbidity, and development of both self-injury and borderline personality traits are discussed. [**Adolescent Symptom Inventory-4; Youth's (Self-Report) Inventory-4**]

16-64. Scahill, L., Bearss, K., Lecavalier, L., Smith, T., Swiezy, N., Aman, M.G., Sukhodolsky, D.G., McCracken, C., Minshawi, N., Turner, K., et al. (2016). Effect of parent training on adaptive behavior in children with autism spectrum disorder and disruptive behavior: results of a randomized trial. *Journal of the American Academy of Child and Adolescent Psychiatry*, 55(7), 602-609.

Objective: This study examined the impact of parent training on adaptive behavior in children with autism spectrum disorder (ASD) and disruptive behavior. Methods: This was a 24-week, 6-site, randomized trial of parent training versus parent education in 180 children with ASD (aged 3-7 years; 158 boys and 22 girls) and moderate or greater behavioral problems. Parent training included specific strategies to manage disruptive behavior over 11 to 13 sessions, 2 telephone boosters, and 2 home visits. Parent education provided useful information about autism but no behavior management strategies over 12 core sessions and 1 home visit. In a previous report, we showed that parent training was superior to parent education in reducing disruptive behavior in young children with ASD. Here, we test whether parent training is superior to parent education in improving daily living skills as measured by the parent-rated Vineland Adaptive Behavior Scales II. The long-term impact of parent training on adaptive functioning is also presented. Results: At week 24, the parent training group showed a 5.7-point improvement from baseline on the Daily Living domain compared to no change in parent education ( $p = .004$ ; effect size = 0.36). On the Socialization domain, there was a 5.9-point improvement in parent training versus a 3.1-point improvement in parent education ( $p = .11$ ; effect size = 0.29). Gains in the Communication domain were similar across treatment groups. The gain in Daily Living was greater in children with IQ of  $>70$ . However, the interaction of treatment-by-IQ was not significant. Gains in Daily Living at week 24 were maintained upon re-evaluation at 24 weeks posttreatment. Conclusion: These results support the model that reduction in disruptive behavior can lead to improvement in activities of daily living. By contrast, the expected trajectory for adaptive behavior in children with ASD is often flat and predictably declines in children with intellectual disability. In the parent training group, higher-functioning children achieved significant gains in daily living skills. Children with intellectual disability kept pace with time. [**Early Childhood Inventory-4**]

16-55. Scahill, L., Sukhodolsky, D.G., Anderberg, E., Dimitropoulos, A., Dziura, J., Aman, M.G., McCracken, J., Tierney, E., Hallett, V., Katz, K., et al. (2016). Sensitivity of the modified Children's Yale-Brown Obsessive

Compulsive Scale to detect change: Results from two multi-site trials. *Autism*, 20(2), 145-152.

Repetitive behavior is a core feature of autism spectrum disorder. We used 8-week data from two federally funded, multi-site, randomized trials with risperidone conducted by the Research Units on Pediatric Psychopharmacology Autism Network to evaluate the sensitivity of the Children's Yale-Brown Obsessive Compulsive Scale modified for autism spectrum disorder to detect change with treatment. Study 1 included 52 subjects assigned to placebo and 49 subjects to risperidone under double-blind conditions. In Study 2, 49 subjects received risperidone only and 75 subjects received risperidone plus parent training. The combined sample consisted of 187 boys and 38 girls (aged 4-17 years). At the medication-free baseline, the internal consistency on the Children's Yale-Brown Obsessive Compulsive Scale modified for autism spectrum disorder total score was excellent (Cronbach's alpha = 0.84) and the mean scores were similar across the four groups. Compared to placebo in Study 1, all three active treatment groups showed significant improvement (effect sizes: 0.74-0.88). There were no differences between active treatment groups. These results indicate that the Children's Yale-Brown Obsessive Compulsive Scale modified for autism spectrum disorder has acceptable test-retest as evidenced by the medium to high correlations in the placebo group and demonstrated sensitivity to change with treatment. [**Child and Adolescent Symptom Inventory-4**]

- 16-56. Sebastian, C.L., De Brito, S.A., McCrory, E.J., Hyde, Z.H., Lockwood, P.L., Cecil, C.A.M., & Viding, E. (2016). Grey matter volumes in children with conduct problems and varying levels of callous-unemotional traits. *Journal of Abnormal Child Psychology*, 44 (4), 639-649.

Genetic, behavioural and functional neuroimaging studies have revealed that different vulnerabilities characterise children with conduct problems and high levels of callous-unemotional traits (CP/HCU) compared with children with conduct problems and low callous-unemotional traits (CP/LCU). We used voxel-based morphometry to study grey matter volume (GMV) in 89 male participants (aged 10-16), 60 of whom exhibited CP. The CP group was subdivided into CP/HCU (n = 29) and CP/LCU (n = 31). Whole-brain and regional GMV were compared across groups (CP vs. typically developing (TD) controls (n = 29); and CP/HCU vs. CP/LCU vs. TD). Whole-brain analyses showed reduced GMV in left middle frontal gyrus in the CP/HCU group compared with TD controls. Region-of-interest analyses showed reduced volume in bilateral orbitofrontal cortex (OFC) in the CP group as a whole compared with TD controls. Reduced volume in left OFC was found to be driven by the CP/HCU group only, with significant reductions relative to both TD controls and the CP/LCU group, and no difference between these latter two groups. Within the CP group left OFC volume was significantly predicted by CU traits, but not conduct disorder symptoms. Reduced right anterior cingulate cortex volume was also found in CP/HCU compared with TD controls. Our results support previous findings indicating that GMV differences in brain regions central to decision-making and empathy are implicated in CP. However, they extend these data to suggest that some of these differences might specifically characterise the subgroup with CP/HCU, with GMV reduction in left OFC differentiating children with CP/HCU from those with CP/LCU. [**Child and Adolescent Symptom Inventory-4R**]

- 16-57. Sharpley, C.F., Bitsika, V., Andronicos, N.M., & Agnew, L.L. (2016). Further evidence of HPA-axis dysregulation and its correlation with depression in Autism Spectrum Disorders: Data from girls. *Physiology & Behavior*, 167, 110-117.

To further describe Hypothalamus-Pituitary-Adrenal (HPA) axis activity in children with Autism Spectrum Disorder (ASD), the Diurnal Fluctuation (DF) and Cortisol Awakening Response (CAR) were investigated in a sample of 39 high functioning girls with ASD. Although group mean data conformed to the DF and CAR models, over half of the participants showed inverse CAR and over 14% had inverted DF cortisol concentrations. Examination of three potential sets of predictor factors (physiological, ASD-related, and mood) revealed that only self-reported Major Depressive Disorder was significantly associated with CAR status, and that the girls' concern about dying or suicide was the most powerful contributor to the variance in CAR status. These findings add to the literature regarding the HPA axis dysfunction in children with ASD. [**Child and Adolescent Symptom Inventory-4**]

- 16-58. Sorge, G.B., Skilling, T.A., & Toplak, M.E. (2015). Intelligence, executive functions, and decision making as predictors of antisocial behavior in an adolescent sample of justice-involved youth and a community comparison group. *Journal of Behavioral Decision Making*, 28(5), 477-490.

A clinical sample of justice-involved male adolescents and a community comparison group were compared on a battery of cognitive ability tasks (intelligence and executive functions), decision making measures, and other individual

difference measures, including ratings of self-control, recognition of morally debatable behaviors, and antisocial beliefs. The clinical sample displayed lower performance on cognitive abilities and decision making than the community comparison group. In particular, the clinical group displayed less otherside thinking and more hostile attribution biases in unintentional situations compared with the community comparison group. Cognitive abilities and the decision-making performance predicted group membership. Then, group membership, ratings of self-control, attitudes about morally debatable behaviors, and antisocial beliefs predicted ratings of antisocial behavior in the full sample. These findings suggest that measures of cognitive ability and decision making make separate contributions to explaining antisocial behaviors. In addition, the predictors of group membership and antisocial behavior did not overlap, suggesting that antisocial behavior engagement in clinical samples may be separable from the continuum of antisocial behavior across the full sample. Cognitive science models of decision making can provide a framework for understanding antisocial behavior in clinical and community samples of adolescents. [**Youth's (Self-Report) Inventory-4**]

16-59. Topal, E., Catal, F., Soylu, N., Ozcan, O.O., Celiksoy, M.H., Babayigit, A., Erge, D., Karakoc, H.T.E., & Sancak, R. (2016). Psychiatric disorders and symptoms severity in pre-school children with cow's milk allergy. *Allergologia et Immunopathologia*, 44(5), 445-449.

Background: Psychiatric disorders are seen frequently in atopic diseases. The present study aims to evaluate the frequency of psychiatric disorders and the severity of psychiatric symptoms in pre-school children with cow's milk allergy. Methods: The parents of the pre-school children with cow's milk allergy were interviewed in person and asked to fill out the Early Childhood Inventory-4 form. Results: The cow's milk allergy group included 40 children (27 male, 13 female) with mean age, 44.5 +/- 14.7 months, and the control group included 41 children (25 male, 16 female) with mean age, 47.6 +/- 15.2 months. It was established that 65% of the group with cow's milk allergy received at least one psychiatric diagnosis, while 36.6% of the control group received at least one psychiatric diagnosis, with a statistically significant difference ( $p = 0.02$ ). Within the psychiatric disorders, attention deficit hyperactivity disorders (odds ratio: 4.9, 95% CI: 1.472-16.856,  $p = 0.006$ ), oppositional defiant disorder (odds ratio: 5.6, 95% CI: 1.139-28.128,  $p = 0.026$ ), and attachment disorder (odds ratio: 4.8, 95% CI: 1.747-13.506,  $p = 0.004$ ) were found significantly higher compared with the healthy control group. When the groups were compared in terms of psychiatric symptom severity scores, calculated by using the Early Childhood Inventory-4 form, attention deficit hyperactivity disorders severity ( $p = 0.006$ ) and oppositional defiant disorder severity ( $p = 0.037$ ) were found to be higher in the cow's milk allergy group. Conclusion: Psychiatric disorders are frequent and severe in pre-school children with cow's milk allergy. [**Early Childhood Inventory-4**, Turkish translation]

16-60. Voltas, N., Arija, V., Aparicio, E., & Canals, J. (2016). Longitudinal study of psychopathological, anthropometric and sociodemographic factors related to the level of Mediterranean diet adherence in a community sample of Spanish adolescents. *Public Health Nutrition*, 19(10), 1812-1822.

Objective: The Mediterranean diet (MD) pattern has important health benefits; however, it seems that Spanish school-aged children have been abandoning this healthy pattern recently. We aimed to identify psychopathological, anthropometric and sociodemographic factors that may influence the risk of low MD adherence. Design Longitudinal study in three phases. MD adherence was assessed using the Krece Plus food questionnaire and psychopathological symptoms using the Screen for Childhood Anxiety Related Emotional Disorders, Children's Depression Inventory, **Youth's Inventory-4** and Eating Disorder Inventory-2. Anthropometric data were collected in the first and third phases. Settings All five representative areas in Reus, Spain. Subjects Adolescents (n 241). Results Regardless of past and current BMI, socio-economic status was a protective factor for low MD adherence (OR=0.805,  $P=0.003$ ) and a risk factor for high BMI (OR=0.718,  $P=0.002$ ; OR=0.707,  $P=0.001$ ). Regardless of socio-economic status, depression was involved with risk of low adherence (OR=1.069,  $P=0.021$ ). Girls with lower MD adherence presented significantly higher scores for eating disorders measured using the Eating Disorder Inventory-2 (low adherence, mean 189 (sd 135); high adherence, mean 89 (sd 90),  $P=0.020$ ) and the Youth Inventory-4 (low adherence, mean 52 (sd 43); medium adherence, mean 36 (sd 32),  $P=0.044$ ). They also presented higher depression symptoms (low adherence, mean 177 (sd 96); medium adherence, mean 123 (sd 72),  $P=0.001$ ) than girls with high adherence. Conclusions The results highlight the influence of psychosocial factors on levels of MD adherence. These factors need to be taken into account when developing prevention and health promotion initiatives. [**Youth's (Self-Report) Inventory-4**, Spanish translation]

16-61. Wall, T.D., Frick, P.J., Fanti, K.A., Kimonis, E.R., & Lordos, A. (2016). Factors differentiating callous-unemotional children with and without conduct problems. *Journal of Child Psychology and Psychiatry*, 57 (8),

976-983.

**Background:** Callous-unemotional (CU) traits are a risk factor for a severe, aggressive, and persistent pattern of conduct problems (CP). This study investigated characteristics that might differentiate children with elevated CU traits with and without CP in an effort to identify factors that may reduce the risk for CP in children with limited prosocial emotions. **Methods:** Utilizing a sample of 1,366 children from Cyprus, five groups were identified for further study based on latent profile analysis: low-risk (67.2%), high-CP/low-CU (7.9%), high-CU (9.4%), moderate-CP/CU (8.4%), and high-CP/CU (7.2%). The identified groups were compared on behavioral and social measures. **Results:** There were significant main effects of group for: impulsivity and executive functioning; parenting; and connectedness to school. The high-CU group had significantly lower hyperactivity-impulsivity and executive functioning deficits, significantly higher self-regulation, and their mothers reported more maternal involvement and positive parenting than those in the high-CP/CU group. Also, the high-CU group showed more school connectedness than those in the high-CP/CU group. **Conclusions:** These findings highlight several factors in the child and in his or her social environment that are associated with CU traits in the absence of serious CP and that may suggest targets for intervention for youth who may lack prosocial emotions. [*Child Symptom Inventory-4*]

16-62. Wenger, T.L., Miller, J.S., DePolo, L.M., de Marchena, A.B., Clements, C.C., Emanuel, B.S., Zackai, E.H., McDonald-McGinn, D.M., & Schultz, R.T. (2016). 22q11.2 duplication syndrome: elevated rate of autism spectrum disorder and need for medical screening. *Molecular Autism*, 7, #27.

**Background:** Widespread use of microarray technology has led to increasing identification of 22q11.2 duplication syndrome (22q11.2DupS), the reciprocal syndrome of the well-characterized 22q11.2 deletion syndrome (22q11.2DS). Individuals with 22q11.2DS have elevated rates of community diagnoses of autism spectrum disorder (ASD), schizophrenia, and a range of medical problems and birth defects that necessitate extensive medical screening. Case reports of 22q11.2DupS include patients with ASD, fewer medical problems, and no schizophrenia; however, no prospective cohort study has been reported. The goals of the study were to (1) characterize the neuropsychiatric functioning of a cohort of individuals with 22q11.2DupS in comparison to large samples of typically developing controls (TDCs), ASD and 22q11.2DS; (2) estimate the prevalence of ASD in 22q11.2DupS; (3) determine whether the indications that prompted the genetic testing in 22q11.2DupS differ from 22q11.2DS and (4) determine whether comprehensive medical screening should be recommended for those diagnosed with 22q11.2DupS. **Methods:** Medical characterization was done by parental questionnaire and medical chart review of individuals with 22q11.2DupS (n = 37) and 22q11.2DS (n = 101). Neuropsychiatric characterization of children with 22q11.2DupS, 22q11.2DS, TDCs, and ASD was done by parent-report questionnaires; in addition, the ASD and 22q11.2DupS groups received the Autism Diagnostic Interview-Revised and Autism Diagnostic Observation Schedule. **Results:** Individuals with 22q11.2DupS, 22q11.2DS, and ASD had significantly impaired social interaction and adaptive behavior skills compared to TDCs. Overall, 38 % of children aged 2-18 with 22q11.2DupS had community diagnoses of ASD, but fewer (14-25 %) met on the basis of best clinical judgment that included ADI-R and ADOS data. Indications for genetic testing were significantly different for 22q11.2DupS and 22q11.2DS, with the deletions more commonly tested because of birth defects or medical problems, and the duplications because of developmental delay. However, when the screening protocol for 22q11.2DS was applied to the 22q11.2DupS sample, several medical problems were identified that would pose significant risk if left undetected. **Conclusions:** 22q11.2DupS has a high rate of ASD at 14-25 %, among the highest of any genetic disorder. Prospective medical screening should be done for all patients with 22q11.2DupS, including those diagnosed due to developmental delays and ASD alone. [*Child and Adolescent Symptom Inventory-4R*]

## YEAR: 2015

15-1. Aparicio, E., Canals, J., Perez, S., & Arijia, V. (2015). Dietary intake and nutritional risk in Mediterranean adolescents in relation to the severity of the eating disorder. *Public Health Nutrition*, 18, 1461-1473.

**Objective:** To assess the relationship between the degree of severity of eating disorders (ED) and energy and nutrient intakes and nutritional risk in a mixed-sex adolescent population without clinical symptoms. **Design:** Cross-sectional study. **Setting:** Data were collected in schools. **Subjects:** Adolescents (n 495) aged 14.2 (SD 1.0) years. The Eating Attitudes Test was used to detect adolescents at risk of ED (rED) and a structured interview based on the criteria of the Diagnostic and Statistical Manual of Mental Disorders, 4th edition, was used to

diagnose eating disorder not otherwise specified (EDNOS). Dietary intake was quantified using the 24 h recall method over three days and the probability of inadequate intake was determined. **Results:** Females presented lower intakes of energy, macronutrients and micronutrients (Ca, Fe, Mg, K, P, Na, thiamin, vitamins E, C, B-6, B-12, pantothenic acid, folic acid) because the severity of their ED was greater. These lower dietary intakes led to nutritional risk (for Ca, Fe, Mg, P, vitamins A, D, B-6) in more than 80 % and 60 % of females with EDNOS and rED, respectively. The multiple linear regression models showed that the rED and EDNOS groups presented a lower energy intake of 1597.4 kJ/d (381.8 kcal/d) and 3153.0 kJ/d (753.6 kcal/d), respectively. In contrast, little difference was observed in the nutritional intakes of males. **Conclusions:** The female adolescents showed lower energy and nutrient intakes as the ED became more severe, which led to energy, vitamin and mineral deficiencies in a high percentage of females with ED. These nutritional risks could hinder adequate physical and psychological development and lead to chronic ED. [*Youth's Inventory-4, Spanish*]

- 15-2. Arnold, L.E., Gadow, K.D., Farmer, C.A., Findling, R.L., Bukstein, O., Molina, B.S.G., et al. (2015). Comorbid anxiety and social avoidance in treatment of severe childhood aggression: response to adding risperidone to stimulant and parent training; mediation of disruptive symptom response. *Journal of Child and Adolescent Psychopharmacology*, 25, 203-212.

**Objective:** In the four-site Treatment of Severe Childhood Aggression (TOSCA) study, addition of risperidone to stimulant and parent training moderately improved parent-rated disruptive behavior disorder (DBD) symptoms. This secondary study explores outcomes other than DBD and attention-deficit/hyperactivity disorder (ADHD) as measured by the *Child and Adolescent Symptom Inventory-4R* (CASI-4R). **Methods:** A total of 168 children ages 6-12 with severe aggression (physical harm), DBD, and ADHD were randomized to parent training plus stimulant plus placebo (basic treatment) or parent training plus stimulant plus risperidone (augmented treatment) for 9 weeks. All received only parent training plus stimulant for the first 3 weeks, then those with room for improvement received a second drug (placebo or risperidone) for 6 weeks. CASI-4R category item means at baseline and week 9 were entered into linear mixed-effects models for repeated measures to evaluate group differences in changes. Mediation of the primary DBD outcome was explored. **Results:** Parent ratings were nonsignificant with small/negligible effects, but teacher ratings (n=46 with complete data) showed significant augmented treatment advantage for symptoms of anxiety (p=0.013, d=0.71), schizophrenia spectrum (p=0.017, d=0.45), and impairment in these domains (p=0.02, d=0.26), all remaining significant after false discovery rate correction for multiple tests. Improvement in teacher-rated anxiety significantly (p=0.001) mediated the effect of risperidone augmentation on the primary outcome, the Disruptive-total of the parent-rated Nisonger Child Behavior Rating Form. **Conclusions:** Addition of risperidone to parent training plus stimulant improves not only parent-rated DBD as previously reported, but also teacher-rated anxiety-social avoidance. Improvement in anxiety mediates improvement in DBD, suggesting anxiety-driven fight-or-flight disruptive behavior with aggression, with implications for potential treatment strategies. Clinicians should attend to possible anxiety in children presenting with aggression and DBD. [*Child and Adolescent Symptom Inventory-4*]

- 15-3. Bearss, K., Johnson, C., Smith, T., Lecavalier, L., Swiezy, N., Aman, M., et al. (2015). Effect of parent training vs parent education on behavioral problems in children with autism spectrum disorder a randomized clinical trial. *Journal of the American Medical Association*, 313, 1524-1533.

**IMPORTANCE:** Disruptive behavior is common in children with autism spectrum disorder. Behavioral interventions are used to treat disruptive behavior but have not been evaluated in large-scale randomized trials. **OBJECTIVE:** To evaluate the efficacy of parent training for children with autism spectrum disorder and disruptive behavior. **DESIGN, SETTING, AND PARTICIPANTS:** This 24-week randomized trial compared parent training (n = 89) to parent education (n = 91) at 6 centers (Emory University, Indiana University, Ohio State University, University of Pittsburgh, University of Rochester, Yale University). We screened 267 children; 180 children (aged 3-7 years) with autism spectrum disorder and disruptive behaviors were randomly assigned (86% white, 88% male) between September 2010 and February 2014. **INTERVENTIONS:** Parent training (11 core, 2 optional sessions; 2 telephone boosters; 2 home visits) provided specific strategies to manage disruptive behavior. Parent education (12 core sessions, 1 home visit) provided information about autism but no behavior management strategies. **MAIN OUTCOMES AND MEASURES:** Parents rated disruptive behavior and noncompliance on co-primary outcomes: the Aberrant Behavior Checklist-Irritability subscale (range, 0-45) and the Home Situations Questionnaire-Autism Spectrum Disorder (range, 0-9). On both measures, higher scores indicate greater severity and a 25% reduction indicates clinical improvement. A clinician blind to treatment assignment rated the

Improvement scale of the Clinical Global Impression (range, 1-7), a secondary outcome, with a positive response less than 3. RESULTS: At week 24, the Aberrant Behavior Checklist-Irritability subscale declined 47.7% in parent training (from 23.7 to 12.4) compared with 31.8% for parent education (23.9 to 16.3) (treatment effect, -3.9; 95% CI, -6.2 to -1.7;  $P < .001$ , standardized effect size = 0.62). The Home Situations Questionnaire-Autism Spectrum Disorder declined 55% (from 4.0 to 1.8) compared with 34.2% in parent education (3.8 to 2.5) (treatment effect, -0.7; 95% CI, -1.1 to -0.3;  $P < .001$ , standardized effect size = 0.45). Neither measure met the prespecified minimal clinically important difference. The proportions with a positive response on the Clinical Global Impression-Improvement scale were 68.5% for parent training vs 39.6% for parent education ( $P < .001$ ). CONCLUSIONS AND RELEVANCE: For children with autism spectrum disorder, a 24-week parent training program was superior to parent education for reducing disruptive behavior on parent-reported outcomes, although the clinical significance of the improvement is unclear. The rate of positive response judged by a blinded clinician was greater for parent training vs parent education. [*Child Symptom Inventory-4*]

- 15-4. Bischoff, A.N., Reiersen, A.M., Buttlair, A., Al-Lozi, A., Doty, T., Marshall, B.A., Hershey, T., & Washington Univ. Wolfram Syndrome R. (2015). Selective cognitive and psychiatric manifestations in Wolfram Syndrome. *Orphanet Journal of Rare Diseases*, 10, 66.

**Background:** Wolfram Syndrome (WFS) is known to involve diabetes mellitus, diabetes insipidus, optic nerve atrophy, vision loss, hearing impairment, motor abnormalities, and neurodegeneration, but has been less clearly linked to cognitive, sleep, and psychiatric abnormalities. We sought to determine whether these abnormalities are present in children, adolescents, and young adults with WFS compared to age- and gender-matched individuals with and without type 1 diabetes using standardized measures. **Methods:** Individuals with genetically-confirmed WFS ( $n = 19$ , ages 7-27) were compared to age- and gender-equivalent groups of individuals with type 1 diabetes (T1DM;  $n = 25$ ), and non-diabetic healthy controls (HC;  $n = 25$ ). Cognitive performance across multiple domains (verbal intelligence, spatial reasoning, memory, attention, smell identification) was assessed using standardized tests. Standardized self- and parent-report questionnaires on psychiatric symptoms and sleep disturbances were acquired from all groups and an unstructured psychiatric interview was performed within only the WFS group. **Results:** The three groups were similar demographically (age, gender, ethnicity, parental IQ). WFS and T1DM had similar duration of diabetes but T1DM had higher Hb(A1C) levels than WFS and as expected both groups had higher levels than HC. The WFS group was impaired on smell identification and reported sleep quality, but was not impaired in any other cognitive or self-reported psychiatric domain. In fact, the WFS group performed better than the other two groups on selected memory and attention tasks. However, based upon a clinical evaluation of only WFS patients, we found that psychiatric and behavioral problems were present and consisted primarily of anxiety and hypersomnolence. **Conclusions:** This study found that cognitive performance and psychological health were relatively preserved WFS patients, while smell and sleep abnormalities manifested in many of the WFS patients. These findings contradict past case and retrospective reports indicating significant cognitive and psychiatric impairment in WFS. While many of these patients were diagnosed with anxiety and hypersomnolence, self-reported measures of psychiatric symptoms indicated that the symptoms were not of grave concern to the patients. It may be that cognitive and psychiatric issues become more prominent later in life and/or in later stages of the disease, but this requires standardized assessment and larger samples to determine. In the relatively early stages of WFS, smell and sleep-related symptoms may be useful biomarkers of disease and should be monitored longitudinally to determine if they are good markers of progression as well. [*Child Symptom Inventory-4, Youth's Incentopry-4, Adult Self Report Inventory-4*]

- 15-5. Bitsika, V., Sharpley, C.F., Andronicos, N.M., & Agnew, L.L. (2015). Hypothalamus-pituitary-adrenal axis daily fluctuation, anxiety and age interact to predict cortisol concentrations in boys with an autism spectrum disorder. *Physiology & Behavior*, 138, 200-207.

There is considerable evidence of a confound between symptoms of generalised anxiety disorder (GAD) and autism spectrum disorder (ASD) in children who have an ASD. Although there have been several attempts to describe how these two disorders overlap and interact to influence the assessment and diagnosis of children with an ASD, principally by reference to cortisol assayed from these children's saliva, the overall evidence is inconsistent. Because previous models of these relationships have focused upon cortisol and GAD to the exclusion of age, diurnal fluctuation in the HPA axis and the source of GAD data, these variables were examined in a sample of 150 young males with an ASD. Results indicated that there was a significant interaction between these variables, with the association between GAD and cortisol demonstrated for children-but not for adolescents, with



an interaction between the source of GAD information (self- vs parent-ratings) and whether the child's cortisol concentrations followed the expected diurnal reduction during the day. These data suggest that the validity of cortisol as a biomarker of GAD in children and adolescents with an ASD may be established for only selected subgroups of this population. [**Child and Adolescent Symptom Inventory-4R**]

- 15-6. Bitsika, V., Sharpley, C.F., Andronicos, N.M., & Agnew, L.L. (2015). Agreement between self- vs parent-ratings of general anxiety disorder symptoms and salivary cortisol in boys with an ASD. *Journal of Developmental and Physical Disabilities*, 27(4), 467-477.

To determine the relative validity of parent-assessed and self-assessed symptoms of Generalized Anxiety Disorder (GAD) in boys with an Autism Spectrum Disorder (ASD). 140 boys with an Autism Spectrum Disorder (ASD) were assessed for GAD by their parents and by themselves, and gave a sample of cortisol during the afternoon of these assessments. There were significant differences between self-assessments and parents' assessments for the total GAD score and on four of the eight individual GAD symptoms. Using cortisol concentrations as a validation index, the two key GAD items were most validly assessed via boys' self-ratings. Key GAD symptoms in boys with an ASD may be best assessed from their self-reports rather than by their parents' reports. Implications for clinical practice are discussed. [**Child and Adolescent Symptom Inventory-4R**]

- 15-7. Borelli, J.L., Ruiz, S.K., Crowley, M.J., Mayes, L.C., De los Reyes, A., & Lewin, A.B. (2015). Children's obsessive compulsive symptoms and fear-potentiated startle responses. *Journal of Obsessive-Compulsive and Related Disorders*, 6, 101-107.

Although clinical observations suggest that youth with obsessive compulsive disorder (OCD) are unable to down-regulate physiological fear responses in innocuous situations, to date no studies have directly addressed this question. In this report we lay the groundwork for future investigation of the emotion regulation processes of youth with obsessive compulsive (OC) symptoms. Using a non-clinical community sample of school-aged children, we evaluated the association between parent-reported child OC symptoms and children's startle responses to experimental conditions with differing levels of threat. Children with higher OC symptoms evidenced signs of context insensitivity in their startle response and greater subjective distress. Specifically, greater OC symptoms were associated with higher startle magnitude during baseline and safe conditions, but lower startle magnitude during threat. Our findings have important implications for the conceptualization and assessment of emotion regulation difficulties among children displaying OC symptoms. (C) 2015 Elsevier Inc. All rights reserved. [**Child Symptom Inventory-4**]

- 15-8. Brock, R.L. & Kochanska, G. (2015). Decline in the quality of family relationships predicts escalation in children's internalizing symptoms from middle to late childhood. *Journal of Abnormal Child Psychology*, 43(7), 1295-1308.

An integration of family systems perspectives with developmental psychopathology provides a framework for examining the complex interplay between family processes and developmental trajectories of child psychopathology over time. In a community sample of 98 families, we investigated the evolution of family relationships, across multiple subsystems of the family (i.e., interparental, mother-child, father-child), and the impact of these changing family dynamics on developmental trajectories of child internalizing symptoms over 6 years, from preschool age to pre-adolescence. Parent-child relationship quality was observed during lengthy sessions, consisting of multiple naturalistic, carefully scripted contexts. Each parent completed reports about interparental relationship satisfaction and child internalizing symptoms. To the extent that mothers experienced a steeper decline in interparental relationship satisfaction over time, children developed internalizing symptoms at a faster rate. Further, symptoms escalated at a faster rate to the extent that negative mother-child relationship quality increased (more negative affect expressed by both mother and child, greater maternal power assertion) and positive mother-child relationship quality decreased (less positive affect expressed by both mother and child, less warmth and positive reciprocity). Time-lagged growth curve analyses established temporal precedence such that decline in family relationships preceded escalation in child internalizing symptoms. Results suggest that family dysfunction, across multiple subsystems, represents a driving force in the progression of child internalizing symptoms. [**Child Symptom Inventory-4**]

- 15-9. Brock, R.L., Kochanska, G., O'Hara, M.W., & Grekin, R.S. (2015). Life satisfaction moderates the effectiveness

of a play-based parenting intervention in low-income mothers and toddlers. *Journal of Abnormal Child Psychology*, 43(7), 1283-1294.

This multi-method multi-trait study examined moderators and mediators of change in the context of a parenting intervention. Low-income, diverse mothers of toddlers (average age 30 months; N = 186, 90 girls) participated in a play-based intervention (Child-Oriented Play versus Play-as-Usual) aimed at increasing children's committed compliance and reducing opposition toward their mothers, observed in prohibition contexts, and at reducing mother-rated children's behavior problems 6 months after the intervention. Mothers' subjective sense of life satisfaction and fulfillment during the intervention and objective ratings of psychosocial functioning by clinicians, obtained in a clinical interview were posed as moderators, and mothers' observed power-assertive discipline immediately following the intervention was modeled as a mediator of its impact. We tested moderated mediation using structural equation modeling, with all baseline scores (prior to randomization) controlled. Mothers' subjective sense of life satisfaction moderated the impact of the intervention, but clinicians' ratings did not. For mothers highly satisfied with their lives, participating in Child-Oriented Play group, compared to Play-as-Usual group, led to a reduction in power-assertive discipline which, in turn, led to children's increased compliance and decreased opposition and externalizing problems. There were no effects for mothers who reported low life satisfaction. The study elucidates the causal sequence set in motion by the intervention, demonstrates the moderating role of mothers' subjective life satisfaction, highlights limitations of clinicians' ratings, and informs future prevention and intervention efforts to promote adaptive parenting. [**Early Childhood Inventory-4**]

- 15-10. Cermak, S.A., Duker, L.I.S., Williams, M.E., Dawson, M.E., Lane, C.J., & Polido, J.C. (2015). Sensory adapted dental environments to enhance oral care for children with autism spectrum disorders: a randomized controlled pilot study. *Journal of Autism and Developmental Disorders*, 45(9), 2876-2888.

This pilot and feasibility study examined the impact of a sensory adapted dental environment (SADE) to reduce distress, sensory discomfort, and perception of pain during oral prophylaxis for children with autism spectrum disorder (ASD). Participants were 44 children ages 6-12 (n = 22 typical, n = 22 ASD). In an experimental crossover design, each participant underwent two professional dental cleanings, one in a regular dental environment (RDE) and one in a SADE, administered in a randomized and counterbalanced order 3-4 months apart. Outcomes included measures of physiological anxiety, behavioral distress, pain intensity, and sensory discomfort. Both groups exhibited decreased physiological anxiety and reported lower pain and sensory discomfort in the SADE condition compared to RDE, indicating a beneficial effect of the SADE. [**CASI-Anx**]

- 15-11. Chan, C.C., Bach, P.A., & Bedwell, J.S. (2015). An integrative approach using third-generation cognitive-behavioral therapies for avoidant personality disorder. *Clinical Case Studies*, 14(6), 466-481.

Evidence-based practice emphasizes the integration of empirically supported treatments with clinical expertise and unique client characteristics. The present study describes an integrative approach using Acceptance and Commitment Therapy (ACT) and skills training adapted from Dialectical Behavior Therapy (DBT) to treat a client with avoidant personality disorder (AvPD), comorbid adjustment disorder, and self-injurious behavior. The process of matching the therapies to the client and specific techniques to symptoms and problem behaviors is described. Ongoing clinical measures indicated reductions in depression, hopelessness, and anxiety. Behavioral measures indicated remission of cutting behavior and increases in social and physical activities. Results from a 1-month follow-up suggested maintenance of gains and continued reduction in symptoms. The Minnesota Multiphasic Personality Inventory-2 (MMPI-2) profile at follow-up as compared with pre-treatment indicated significant decreases in the client's experience and perception of her symptoms. Endorsements on the Acceptance and Action Questionnaire-II (AAQ-II) at mid-treatment and follow-up suggested that the client achieved greater psychological flexibility. This case serves as evidence that individuals with AvPD and significant symptoms of anxiety and depression can be receptive to, and can benefit from, the integration of third-generation cognitive-behavioral therapies. [**Adult Self Report Inventory-4**]

- 15-12. Demopoulos, C., Brandes-Aitken, A.N., Desai, S.S., Hill, S.S., Antovich, A.D., Harris, J., & Marco, E.J. (2015). Shared and divergent auditory and tactile processing in children with autism and children with sensory processing dysfunction relative to typically developing peers. *Journal of the International Neuropsychological Society*, 21(6), 444-454.

The aim of this study was to compare sensory processing in typically developing children (TDC), children with Autism Spectrum Disorder (ASD), and those with sensory processing dysfunction (SPD) in the absence of an ASD. Performance-based measures of auditory and tactile processing were compared between male children ages 8-12 years assigned to an ASD (N = 20), SPD (N = 15), or TDC group (N = 19). Both the SPD and ASD groups were impaired relative to the TDC group on a performance-based measure of tactile processing (right-handed graphesthesia). In contrast, only the ASD group showed significant impairment on an auditory processing index assessing dichotic listening, temporal patterning, and auditory discrimination. Furthermore, this impaired auditory processing was associated with parent-rated communication skills for both the ASD group and the combined study sample. No significant group differences were detected on measures of left-handed graphesthesia, tactile sensitivity, or form discrimination; however, more participants in the SPD group demonstrated a higher tactile detection threshold (60%) compared to the TDC (26.7%) and ASD groups (35%). This study provides support for use of performance-based measures in the assessment of children with ASD and SPD and highlights the need to better understand how sensory processing affects the higher order cognitive abilities associated with ASD, such as verbal and non-verbal communication, regardless of diagnostic classification. [*Child Symptom Inventory-4*]

- 15-13. Farmer, C.A., Brown, N.V., Gadow, K.D., Arnold, L.E., Kolko, D.G., Findling, R.L., et al. (2015). Comorbid symptomatology moderates response to risperidone, stimulant, and parent training in children with severe aggression, disruptive behavior disorder, and attention-deficit/hyperactivity disorder. *Journal of Child and Adolescent Psychopharmacology*, 25, 213-224.

**Objective:** In this study, we evaluated parent and child characteristics as predictors and moderators of response in the four-site Treatment of Severe Childhood Aggression (TOSCA) study. **Methods:** A total of 168 children with severe aggression, disruptive behavior disorder, and attention-deficit/hyperactivity disorder (ADHD) were enrolled in a 9-week trial of basic treatment (n=84, stimulant+parent training+placebo) versus augmented treatment (n=84, stimulant+parent training+risperidone). In the initial report, augmented treatment surpassed basic treatment in reducing the primary outcome of disruptive behavior (D-Total) scores. In the current study, we evaluated parent (income, education, family functioning, employment) and child variables (intelligence quotient [IQ], aggression type, comorbid symptomatology) as predictors or moderators, using linear mixed models and the MacArthur guidelines. **Results:** Higher scores on ADHD symptom severity and callous/unemotional traits predicted better outcome on D-Total regardless of treatment assignment. Two moderators of D-Total were found: Higher anger/irritability symptoms and lower mania scores were associated with faster response, although not better overall effect at endpoint, in the augmented but not the basic group. Several variables moderated response on secondary outcomes (ADHD severity and prosocial behavior), and were characterized by faster response, although not better outcome, in the augmented but not in the basic group. Maternal education moderated outcome on the measure of positive social behavior; children of mothers with less education benefited more from augmented treatment relative to basic than those with more education. **Conclusion:** Although these findings require validation, they tentatively suggest that augmented treatment works equally well across the entire sample. Nevertheless, certain child characteristics may be useful indicators for the speed of response to augmented treatment. [*Child and Adolescent Symptom Inventory-4R*]

- 15-14. Goldschmidt, A.B., Hipwell, A.E., Stepp, S.D., McTigue, K.M., & Keenan, K. (2015). Weight gain, executive functioning, and eating behaviors among girls. *Pediatrics*, 136(4), E856-E863.

**OBJECTIVE:** Executive functioning and excess weight have been associated in cross-sectional and prospective studies, but mechanisms explaining this relationship are unclear. The current study aimed to further explore the longitudinal relationship between executive functioning and changes in body weight and to determine whether binge eating behaviors mediate this relationship. **METHODS:** Community-based girls (N = 2450) were assessed by using the behavioral measure of planning, Mazes subtest, and a parent-report measure of impulsivity at age 10; a self-report measure of binge eating at ages 10, 12, and 14; and investigator-measured BMI annually between ages 10 and 16. Regression and bootstrapping analyses explored the relations among age 10 impulsivity and planning, age 12 and age 14 binge eating frequency, and age 10 to 16 BMI changes. **RESULTS:** Age 10 impulsivity and planning each independently predicted age 10 to 16 BMI changes, after accounting for demographics, verbal comprehension, and BMI at age 10 ( $P$ s < .001). Binge eating tendencies at age 12 mediated the relation between age 10 impulsivity and age 10 to 16 BMI changes, after controlling for demographics, verbal comprehension, binge eating frequency, and BMI at age 10 (indirect effect estimate = 0.0007; 95% confidence

interval = 0.0001-0.0020). **CONCLUSIONS:** Results support the hypothesis that poorer executive functioning predicts weight gain from middle childhood through adolescence in girls, and that this effect may be partially explained by binge-eating behaviors in early adolescence. [*Child Symptom Inventory-4*]

- 15-15. Hummer, T.A., Wang, Y., Kronenberger, W.G., Dunn, D.W., & Mathews, V.P. (2015). The relationship of brain structure to age and executive functioning in adolescent disruptive behavior disorder. *Psychiatry Research-Neuroimaging*, 231, 210-217.

Characterizing brain maturation in adolescents with disruptive behavior disorders (DBDs) may provide insight into the progression of their behavioral deficits. Therefore, this study examined how age and executive functioning were related to structural neural characteristics in DBD. Thirty-three individuals (aged 13-17) with a DBD, along with a matched control sample, completed neuropsychological testing and underwent magnetic resonance imaging (MRI) to measure gray matter volume and microstructural white matter properties. Voxel-based morphometry quantified gray matter volume, and diffusion tensor imaging measured fractional anisotropy (FA) in white matter tracts. In the anterior cingulate, gray matter volume decreased with age in healthy controls but showed no such change in the DBD sample. In the corpus callosum and superior longitudinal fasciculus (SLF), FA increased with age in the control sample significantly more than in the DBD sample. Executive functioning, particularly working memory, was associated with SLF FA bilaterally. However, the relationship of SLF FA to working memory performance was weaker in the DBD sample. These data suggest that youth with DBD have altered brain development compared with typically developing youth. The abnormal maturation of the anterior cingulate and frontoparietal tracts during adolescence may contribute to the persistence of behavioral deficits in teens with a DBD. [*Adolescent Symptom Inventory-4*]

- 15-16. Jaffee, S.R., McFarquhar, T., Stevens, S., Ouellet-Morin, I., Melhuish, E., & Belsky, J. (2015). Interactive effects of early and recent exposure to stressful contexts on cortisol reactivity in middle childhood. *Journal of Child Psychology and Psychiatry*, 56, 138-146.

**Background:** Given mixed findings as to whether stressful experiences and relationships are associated with increases or decreases in children's cortisol reactivity, we tested whether a child's developmental history of risk exposure explained variation in cortisol reactivity to an experimentally induced task. We also tested whether the relationship between cortisol reactivity and children's internalizing and externalizing problems varied as a function of their developmental history of stressful experiences and relationships. **Method:** Participants included 400 children (M=9.99years, SD=0.74years) from the Children's Experiences and Development Study. Early risk exposure was measured by children's experiences of harsh, nonresponsive parenting at 3years. Recent risk exposure was measured by children's exposure to traumatic events in the past year. Children's cortisol reactivity was measured in response to a social provocation task and parents and teachers described children's internalizing and externalizing problems. **Results:** The effect of recent exposure to traumatic events was partially dependent upon a child's early experiences of harsh, nonresponsive parenting: the more traumatic events children had recently experienced, the greater their cortisol reactivity if they had experienced lower (but not higher) levels of harsh, nonresponsive parenting at age 3. The lowest levels of cortisol reactivity were observed among children who had experienced the most traumatic events in the past year and higher (vs. lower) levels of harsh, nonresponsive parenting in early childhood. Among youth who experienced harsh, nonresponsive parent-child relationships in early childhood and later traumatic events, lower levels of cortisol reactivity were associated with higher levels of internalizing and externalizing problems. **Conclusions:** Hypothalamic-pituitary-adrenal (HPA) axis reactivity to psychological stressors and the relationship between HPA axis reactivity and children's internalizing and externalizing problems vary as a function of a child's developmental history of exposure to stressful relationships and experiences. [*Child and Adolescent Symptom Inventory-4R*]

- 15-17. Kaat, A.J. & Lecavalier, L. (2015). Reliability and validity of parent- and child-rated anxiety measures in autism spectrum disorder. *Journal of Autism and Developmental Disorders*, 45(10), 3219-3231.

Autism spectrum disorder (ASD) and anxiety frequently co-occur. Research on the phenomenology and treatment of anxiety in ASD is expanding, but is hampered by the lack of instruments validated for this population. This study evaluated the self- and parent-reported Revised Child Anxiety and Depression Scale and the Multidimensional Anxiety Scale in Children-2 among 46 youth with ASD. Internal consistency and test-retest reliability were acceptable, but inter-rater reliability was poor. Parent-child agreement was better for youth with higher IQs, less

severe ASD symptoms, or more social cognitive skills. Convergent and divergent validity were acceptable. Demographic characteristics were considered as predictors of anxiety: they were unrelated to parent-report, but younger age and more severe ASD were related to increased self-reported anxiety. [*Child Symptom Inventory-4*]

- 15-18. Kaat, A.J., Farmer, C.A., Gadow, K.D., Findling, R.L., Bukstein, O.G., Arnold, L.E., Bangalore, S.S., McNamara, N.K. & Aman, M.G. (2015). Factor validity of a proactive and reactive aggression rating scale. *Journal of Child and Family Studies*, 24(9), 2734-2744.

Aggressive behaviors can be classified into proactive and reactive functions, though there is disagreement about whether these are distinct constructs. Data suggest that proactive and reactive aggression have different etiologies, correlates, and response to treatment. Several rating scales are available to characterize aggressive behavior as proactive or reactive; one commonly used scale was originally developed for teacher ratings, referred to here as the Antisocial Behavior Scale (ABS). However, no data are available on the psychometric properties of the ABS for parent ratings. This study examined the factor structure and convergent/divergent validity of the parent-rated ABS among 168 children aged 6-12 years with attention-deficit hyperactivity disorder, a disruptive behavior disorder, and severe aggression enrolled in a randomized clinical trial. Multidimensional item response theory was used to confirm the original factor structure. The proactive and reactive factors were distinct but moderately correlated; the algorithm items exhibited acceptable fit on the original factors. The non-algorithm items caused theoretical problems and model misfit. Convergent and divergent validity of the scale was explored between the ABS and other parent-report measures. Proactive and reactive aggression showed differential correlates consistent with expectations for externalizing symptoms. The subscales were correlated weakly or not at all with most non-externalizing symptoms, with some exceptions. Thus, the original factor structure was supported and we found preliminary evidence for the validity of the scale, though the results suggest that the constructs measured by the ABS may not be totally distinct from general behavior problems in this clinical sample. [*Child and Adolescent Symptom Inventory-4R*]

- 15-19. Kacanek, D., Angelidou, K., Williams, P.L., Chernoff, M., Gadow, K.D., & Nachman, S. for the International Maternal Pediatric Adolescent AIDS Clinical Trials Group (IMPAACT) P1055 Study Team. (2015). Psychiatric symptoms and antiretroviral non-adherence in US youth with perinatal HIV: A longitudinal study. *AIDS*, 29, 1227-1237.

Objectives: The relationship of specific psychiatric conditions to adherence has not been examined in longitudinal studies of youth with perinatal HIV infection (PHIV). We examined associations between psychiatric conditions and antiretroviral nonadherence over 2 years. Design: Longitudinal study in 294 PHIV youth, 6–17 years old, in the United States and Puerto Rico. Methods: We annually assessed three nonadherence outcomes: missed above 5% of doses in the past 3 days, missed a dose within the past month, and unsuppressed viral load (>400copies/ml). We fit multivariable logistic models for nonadherence using Generalized Estimating Equations, and evaluated associations of psychiatric conditions (attention deficit hyperactivity disorder, disruptive behavior, depression, anxiety) at entry with incident nonadherence using multivariable logistic regression. Results: Nonadherence prevalence at study entry was 14% (3-day recall), 32% (past month nonadherence), and 38% (unsuppressed viral load), remaining similar over time. At entry, 38% met symptom cut-off criteria for at least one psychiatric condition. Greater odds of 3-day recall nonadherence were observed at week 96 for those with depression [adjusted odds ratio (aOR) 4.14, 95% confidence interval (CI) 1.11–15.42] or disruptive behavior (aOR 3.36, 95% CI 1.02–11.10), but not at entry. Those with vs. without attention deficit hyperactivity disorder had elevated odds of unsuppressed viral load at weeks 48 (aOR 2.46, 95% CI 1.27–4.78) and 96 (aOR 2.35, 95% CI 1.01–5.45), but not at entry. Among 232 youth adherent at entry, 16% reported incident 3-day recall nonadherence. Disruptive behavior conditions at entry were associated with incident 3-day recall nonadherence (aOR 3.01, 95% CI 1.24–7.31). Conclusion: In PHIV youth, comprehensive adherence interventions that address psychiatric conditions throughout the transition to adult care are needed. [*Child and Adolescent Symptom Inventory-4R; Youth (Self Report) Inventory-4R, Child Self Report Inventory-4, Adult Self Report Inventory-4*]

- 15-20. Kerr, C., Breheny, K., Lloyd, A., Brazier, J., Bailey, D.B., Berry-Kravis, E., et al. (2015). Developing a utility index for the Aberrant Behavior Checklist (ABC-C) for fragile X syndrome. *Quality of Life Research*, 24, 305-314.

This study aimed to develop a utility index (the ABC-UI) from the Aberrant Behavior Checklist-Community (ABC-

C), for use in quantifying the benefit of emerging treatments for fragile X syndrome (FXS). The ABC-C is a proxy-completed assessment of behaviour and is a widely used measure in FXS. A subset of ABC-C items across seven dimensions was identified to include in health state descriptions. This item reduction process was based on item performance, factor analysis and Rasch analysis performed on an observational study dataset, and consultation with five clinical experts and a methodological expert. Dimensions were combined into health states using an orthogonal design and valued using time trade-off (TTO), with lead-time TTO methods used where TTO indicated a state valued as worse than dead. Preference weights were estimated using mean, individual level, ordinary least squares and random-effects maximum likelihood estimation [RE (MLE)] regression models. A representative sample of the UK general public (n = 349; mean age 35.8 years, 58.2 % female) each valued 12 health states. Mean observed values ranged from 0.92 to 0.16 for best to worst health states. The RE (MLE) model performed best based on number of significant coefficients and mean absolute error of 0.018. Mean utilities predicted by the model covered a similar range to that observed. The ABC-UI estimates a wide range of utilities from patient-level FXS ABC-C data, allowing estimation of FXS health-related quality of life impact for economic evaluation from an established FXS clinical trial instrument. [*Child and Adolescent Symptom Inventory-4R, Adult Inventory-4*]

- 15-21. Lahey, B.B., Rathouz, P.J., Keenan, K., Stepp, S.D., Loeber, R., & Hipwell, A.E. (2015). Criterion validity of the general factor of psychopathology in a prospective study of girls. *Journal of Child Psychology and Psychiatry*, 56, 415-422.

**Background:** The best-fitting model of the structure of common psychopathology often includes a general factor on which all dimensions of psychopathology load. Such a general factor would be important if it reflects etiologies and mechanisms shared by all dimensions of psychopathology. Nonetheless, a viable alternative explanation is that the general factor is partly or wholly a result of common method variance or other systematic measurement biases. **Methods:** To test this alternative explanation, we extracted general, externalizing, and internalizing factor scores using mother-reported symptoms across 5-11 years of age in confirmatory factor analyses of data from a representative longitudinal study of 2,450 girls. Independent associations between the three psychopathology factor scores and teacher-reported criterion variables were estimated in multiple regression, controlling intelligence, and demographic covariates. **Results:** The model including the general factor fit significantly better than a correlated two-factor (internalizing/externalizing) model. The general factor was robustly and independently associated with all measures of teacher-reported school functioning concurrently during childhood and prospectively during adolescence. **Conclusions:** These findings weaken the hypothesis that the general factor of psychopathology in childhood is solely a measurement artifact and support further research on the substantive meaning of the general factor. [*Child Symptom Inventory-4*]

- 15-22. Lara, D.R., Bisol, L.W., Ottoni, G.L., de Carvalho, H.W., Banerjee, D., Golshan, S., Akiskal, K., & Akiskal, H.S. (2015). Validation of the "rule of three", the "red sign" and temperament as behavioral markers of bipolar spectrum disorders in a large sample. *Journal of Affective Disorders*, 183, 195-204.

**Background:** Akiskal proposed the "rule of three" for behavioral indicators with high specificity for bipolarity in patients with major depression episodes. We evaluated these distinctive behaviors in controls and subjects with major depression or bipolar disorder. **Methods:** data was collected in the BRAINSTEP project with questions on general behaviors, style and talents. Univariate analysis was first conducted in 36,742 subjects and confirmatory multivariate analysis in further 34,505 subjects (22% with a mood disorder). Odds ratios were calculated adjusting for age. **Results:** Univariate analysis showed that 29 behavioral markers differentiated bipolar subjects from those with unipolar depression. The most robust differences in those with bipolarity (ORs > 4) were >= 3 religion changes, >= 3 marriages, cheating the partner regularly, having >= 60 lifetime sexual partners, pathological love, heavy cursing, speaking >= 3 foreign languages, having >= 2 apparent tattoos, circadian dysregulation and high debts. Most behaviors were expressed in a minority of patients (usually around 5-30%) and usually the "rule of three" was the best numerical marker to distinguish those with bipolarity. However, multivariate analysis confirmed 11 of these markers for differentiating bipolar disorder from unipolar depression (reversed circadian rhythm and high debts for both genders, >= 3 provoked car accidents and talent for poetry in men, and frequent book reading, >= 3 religion changes, >= 60 sexual partners, pathological love >= 2 times, heavy cursing and extravagant dressing style in women). **Limitations:** Self-report data collection only. **Conclusions:** These behavioral markers should alert the clinician to perform a thorough investigation of bipolarity in patients presenting with a depressive episode. [*Adult Self Report Inventory-4, Portuguese*]

- 15-23. Leopold, D.R., Bryan, A.D., Pennington, B.F., & Willcutt, E.G. (2015). Evaluating the construct validity of adult ADHD and SCT among college students: a multitrait-multimethod analysis of convergent and discriminant validity. *Journal of Attention Disorders*, 19, 200-210.

**Objective:** To advance our understanding of adult ADHD and sluggish cognitive tempo (SCT), the present study investigates their construct validity by exploring the nature of trait- and method-related variance in self- and parent-ratings of ADHD and SCT. **Method:** Using a multitrait-multimethod (MTMM) design, response variance in college undergraduates' (n = 3,925) and a subset of their parents' (n = 2,242) ratings was decomposed into method, trait, and error-specific variance. **Results:** Global evidence for convergent and discriminant validity was supported, but parameter-level comparisons suggest that method effects, situational specificity, and ADHD's core feature inattention are prominent. **Conclusion:** This investigation offers two important conclusions: (a) SCT appears to be a related but separate factor from ADHD; and (b) self- and parent-ratings of emerging adult ADHD exhibit low to moderate correlations and support the situational specificity hypothesis, suggesting that multiple raters should be consulted when assessing adult ADHD. Implications of these findings and recommendations for the continued study of SCT are discussed. [*Child Symptom Inventory-4*]

- 15-24. Lin, Y.J., Lo, K.W., Yang, L.K., & Gau, S.S.S.F. (2015). Validation of DSM-5 age-of-onset criterion of attention deficit/hyperactivity disorder (ADHD) in adults: Comparison of life quality, functional impairment, and family function. *Research in Developmental Disabilities*, 47, 48-60.

The newly published Diagnostic and Statistical Manual of Mental Disorders, 5th Edition (DSM-5) elevates the threshold of the ADHD age-of-onset criterion from 7 to 12 years. This study evaluated the quality of life and functional impairment of adults with ADHD who had symptoms onset by or after 7 years and examined the mediation effect of family function and anxiety/depression symptoms between ADHD diagnosis and quality of life and functional impairment. We assessed 189 adults with ADHD and 153 non-ADHD controls by psychiatric interview and self-administered reports on the Adult ADHD Quality of Life Scale, Weiss Functional Impairment Rating Scale, Family APGAR, and *Adult Self Report Inventory-4*. The ADHD group was divided into early-onset ADHD (onset <7 years, n = 147) and late-onset ADHD (onset between 7 and 12 years, n = 42). The mediation analysis was conducted to verify the mediating factors from ADHD to functional impairment and quality of life. The late-onset ADHD had more severe functional impairment at work and poorer family support than early-onset ADHD while they had comparable impairment at other domains. Less perceived family support and current anxiety/depressive symptoms partially mediated the link between ADHD diagnosis and quality of life/functional impairment both in early- and late-onset ADHD. Our data support decreased quality of life and increased functional impairment in adult ADHD, regardless of age of onset, and these adverse outcomes may be mediated by family support and anxiety/depression at adulthood. Our findings also imply that the new DSM-5 ADHD criteria do not over-include individuals without impairment. [*ASRI-4, Chinese translation*]

- 15-25. Love, L., Minnis, H., & O'Connor, S. (2015). Factors associated with indiscriminate friendliness in high-risk children. *Infant Mental Health Journal*, 36(4), 427-445.

Indiscriminate friendliness (IF) refers to a lack of reticence with strangers and is well-documented in neglected children. This risky behavior is distinct from attachment insecurity, and persists when parenting/caregiving improves. A previous review has suggested that caregiving quality is not associated with IF. This review aimed to explore factors associated with IF and whether quality of caregiving is important. Ten articles were reviewed using the S.H. Downs and N. Black (1998) Checklist for randomized and nonrandomized studies. Overall quality was high. Results showed that IF is present in fostered populations and postinstitutionalized children. Attachment security was not associated with IF. Length of time in institution and inhibitory control were associated with IF. Inhibitory control moderated the association between IF and number of caregivers. Genetic factors predispose children to IF and may impact on persistence. Quality of caregiving was associated with IF. Emotional availability (i.e., the degree to which carer and child are able to respond to each other's emotional signals) predicted IF. Limitations across studies included heterogeneity in IF measurement and unreliable measures of preadoptive care. Parenting may be a useful target for intervention. Future research should focus on developing a standardized measure of IF as well as evaluating a parental intervention. [*Early Childhood Inventory-4*]

- 15-26. Michelini, G Eley, TC Gregory, AM McAdams, TA (2015). Aetiological overlap between anxiety and attention deficit hyperactivity symptom dimensions in adolescence. *Journal of Child Psychology and Psychiatry*, 56,

423-431.

**Background:** Anxiety and attention-deficit/hyperactivity (ADH) problems are common in adolescence, often co-occur, and are characterised by high heterogeneity in their phenotypic expressions. Although it is known that anxiety and ADH problems correlate, the relationships between subtypes of anxiety and ADH problems have been scarcely investigated. **Methods:** Using a large population sample of adolescent twins and siblings we explored the phenotypic and aetiological association between anxiety subtypes (panic/agoraphobia, separation anxiety, social anxiety, physical injury fears, obsessive-compulsive symptoms and generalised anxiety) and the two ADH dimensions (attention problems and hyperactivity/impulsivity). Both phenotypes were assessed using self-report questionnaires. **Results:** The association between ADH problems and anxiety could be entirely attributed to attention problems, not hyperactivity/impulsivity. Most of the correlations between anxiety subtypes and attention problems showed an approximately equal role of genetic and nonshared environmental factors. **Conclusions:** The high heterogeneity within anxiety and ADH problems should be taken into account in order to better understand comorbidity between them. [*Adolescent Symptom Inventory-4*]

- 15-27. Mikami, A.Y., Chong, G.K., Saporito, J.M., & Na, J.J. (2015). Implications of parental affiliate stigma in families of children with ADHD. *Journal of Clinical Child and Adolescent Psychology*, 44(4), 595-603.

This study examined parents' perceptions/awareness and internalization of public courtesy stigma (affiliate stigma) about their children's inattentive and hyperactive/impulsive symptoms, and associations between parental affiliate stigma, parental negativity expressed toward the child, and child social functioning. Participants were families of 63 children (ages 6-10; 42 boys) with attention-deficit/hyperactivity disorder, assessed in a cross-sectional design. After statistical control of children's severity of inattentive and hyperactive/impulsive symptoms (as reported by parents and teachers), parents' self-reports of greater affiliate stigma were associated with more observed negative parenting. The associations between high parental affiliate stigma and children's poorer adult informant-rated social skills and greater observed aggression were partially mediated by increased parental negativity. As well, the positive association between children's adult informant-rated aggressive behavior and parental negativity was partially mediated by parents' increased affiliate stigma. Parental affiliate stigma about their children's inattentive and hyperactive/impulsive symptoms may have negative ramifications for parent-child interactions and children's social functioning. Clinical implications for parent training interventions are discussed. [*Child Symptom Inventory-4*]

- 15-28. Miller, A.B., Esposito-Smythers, C., & Leichtweis, R.N. (2015). Role of social support in adolescent suicidal ideation and suicide attempts. *Journal of Adolescent Health*, 56, 286-292.

**Purpose:** The present study examined the relative contributions of perceptions of social support from parents, close friends, and school on current suicidal ideation (SI) and suicide attempt (SA) history in a clinical sample of adolescents. **Methods:** Participants were 143 adolescents (64% female; 81% white; range, 12-18 years;  $M = 15.38$ ; standard deviation = 1.43) admitted to a partial hospitalization program. Data were collected with well-validated assessments and a structured clinical interview. Main and interactive effects of perceptions of social support on SI were tested with linear regression. Main and interactive effects of social support on the odds of SA were tested with logistic regression. **Results:** Results from the linear regression analysis revealed that perceptions of lower school support independently predicted greater severity of SI, accounting for parent and close friend support. Further, the relationship between lower perceived school support and SI was the strongest among those who perceived lower versus higher parental support. Results from the logistic regression analysis revealed that perceptions of lower parental support independently predicted SA history, accounting for school and close friend support. Further, those who perceived lower support from school and close friends reported the greatest odds of an SA history. **Conclusions:** Results address a significant gap in the social support and suicide literature by demonstrating that perceptions of parent and school support are relatively more important than peer support in understanding suicidal thoughts and history of suicidal behavior. Results suggest that improving social support across these domains may be important in suicide prevention efforts. [*Youth's Inventory-4*]

- 15-29. Siegel, M., Smith, K.A., Mazefsky, C., Gabriels, R.L., Erickson, C., Kaplan, D., Morrow, E.M., Wink, L., Santangelo, S.L., & ADDIRC. (2015). The autism inpatient collection: methods and preliminary sample description. *Molecular Autism*, 6, 61.



Background: Individuals severely affected by autism spectrum disorder (ASD), including those with intellectual disability, expressive language impairment, and/or self-injurious behavior (SIB), are underrepresented in the ASD literature and extant collections of phenotypic and biological data. An understanding of ASD's etiology and subtypes can only be as complete as the studied samples are representative. Methods: The Autism Inpatient Collection (AIC) is a multi-site study enrolling children and adolescents with ASD aged 4-20 years admitted to six specialized inpatient psychiatry units. Enrollment began March, 2014, and continues at a rate of over 400 children annually. Measures characterizing adaptive and cognitive functioning, communication, externalizing behaviors, emotion regulation, psychiatric co-morbidity, self-injurious behavior, parent stress, and parent self-efficacy are collected. ASD diagnosis is confirmed by the Autism Diagnostic Observation Schedule - 2 (ADOS-2) and extensive inpatient observation. Biological samples from probands and their biological parents are banked and processed for DNA extraction and creation of lymphoblastoid cell lines. Results: Sixty-one percent of eligible subjects were enrolled. The first 147 subjects were an average of 12.6 years old (SD 3.42, range 4-20); 26.5 % female; 74.8 % Caucasian, and 81.6 % non-Hispanic/non-Latino. Mean non-verbal intelligence quotient IQ = 70.9 (SD 29.16, range 30-137) and mean adaptive behavior composite score = 55.6 (SD 12.9, range 27-96). A majority of subjects (52.4 %) were non-or minimally verbal. The average Aberrant Behavior Checklist - Irritability Subscale score was 28.6, well above the typical threshold for clinically concerning externalizing behaviors, and 26.5 % of the sample engaged in SIB. Females had more frequent and severe SIB than males. Conclusions: Preliminary data indicate that the AIC has a rich representation of the portion of the autism spectrum that is understudied and underrepresented in extant data collections. More than half of the sample is non-or minimally verbal, over 40 % have intellectual disability, and over one quarter exhibit SIB. The AIC is a substantial new resource for study of the full autism spectrum, which will augment existing data on higher-functioning cohorts and facilitate the identification of genetic subtypes and novel treatment targets. The AIC investigators welcome collaborations with other investigators, and access to the AIC phenotypic data and biosamples may be requested through the Simons Foundation ([www.sfari.org](http://www.sfari.org)). [**Child and Adolescent Symptom Inventory-4**]

- 15-30. Ni, H.C., & Gau, S.S.F. (2015). Co-occurrence of attention-deficit hyperactivity disorder symptoms with other psychopathology in young adults: parenting style as a moderator. *Comprehensive Psychiatry*, 57, 85-96.

The extent to which parenting styles can influence secondary psychiatric symptoms among young adults with ADHD symptoms is unknown. This issue was investigated in a sample of 2284 incoming college students (male, 50.6%), who completed standardized questionnaires about adult ADHD symptoms, other DSM-IV symptoms, and their parents' parenting styles before their ages of 16. Among them, 2.8% and 22.8% were classified as having ADHD symptoms and sub-threshold ADHD symptoms, respectively. Logistic regression was used to compare the comorbid rates of psychiatric symptoms among the ADHD, sub-threshold ADHD and non-ADHD groups while multiple linear regressions were used to examine the moderating role of gender and parenting styles over the associations between ADHD and other psychiatric symptoms. Both ADHD groups were significantly more likely than other incoming students to have other DSM-IV symptoms. Parental care was negatively associated and parental overprotection/control positively associated with these psychiatric symptoms. Furthermore, significant interactions were found of parenting style with both threshold and sub-threshold ADHD in predicting wide-ranging comorbid symptoms. Specifically, the associations of ADHD with some externalizing symptoms were inversely related to level of paternal care, while associations of ADHD and sub-threshold ADHD with wide-ranging comorbid symptoms were positively related to level of maternal and paternal overprotection/control. These results suggest that parenting styles may modify the effects of ADHD on the risk of a wide range of temporally secondary DSM-IV symptoms among incoming college students, although other causal dynamics might be at work that need to be investigated in longitudinal studies. [**Adult Self Report Inventory-4, Chinese**]

- 15-31. Pardini, D., White, H.R., Xiong, S.Y., Bechtold, J., Chung, T., Loeber, R., & Hipwell, A. (2015). Unfazed or dazed and confused: Does early adolescent marijuana use cause sustained impairments in attention and academic functioning? *Journal of Abnormal Child Psychology*, 43(7), 1203-1217.

There is some suggestion that heavy marijuana use during early adolescence (prior to age 17) may cause significant impairments in attention and academic functioning that remain despite sustained periods of abstinence. However, no longitudinal studies have examined whether both male and female adolescents who engage in low (less than once a month) to moderate (at least once a monthly) marijuana use experience increased problems with attention and academic performance, and whether these problems remain following sustained abstinence. The

current study used within-individual change models to control for all potential pre-existing and time-stable confounds when examining this potential causal association in two gender-specific longitudinal samples assessed annually from ages 11 to 16 (Pittsburgh Youth Study N = 479; Pittsburgh Girls Study N = 2296). Analyses also controlled for the potential influence of several pertinent time-varying factors (e.g., other substance use, peer delinquency). Prior to controlling for time-varying confounds, analyses indicated that adolescents tended to experience an increase in parent-reported attention and academic problems, relative to their pre-onset levels, during years when they used marijuana. After controlling for several time-varying confounds, only the association between marijuana use and attention problems in the sample of girls remained statistically significant. There was no evidence indicating that adolescents who used marijuana experienced lingering attention and academic problems, relative to their pre-onset levels, after abstaining from use for at least a year. These results suggest that adolescents who engage in low to moderate marijuana use experience an increase in observable attention and academic problems, but these problems appear to be minimal and are eliminated following sustained abstinence. **[Adolescent Symptom Inventory-4]**

- 15-32. Rundberg-Rivera, E.V., Townsend, L.D., Schneider, J., Farmer, C.A., Molina, B.B.S.G., & Findling, R.L. et al. (2015). Participant satisfaction in a study of stimulant, parent training, and risperidone in children with severe physical aggression. *Journal of Child and Adolescent Psychopharmacology*, 25, 225-233.

**Objective:** The purpose of this study was to examine the satisfaction of families who participated in the Treatment of Severe Childhood Aggression (TOSCA) study. **Methods:** TOSCA was a randomized clinical trial of psychostimulant plus parent training plus placebo (basic treatment) versus psychostimulant plus parent training plus risperidone (augmented treatment) for children with severe physical aggression, disruptive behavior disorder, and attention-deficit/hyperactivity disorder. Parents completed a standardized Parent Satisfaction Questionnaire (PSQ). **Results:** Of the 168 families randomized, 150 (89.3%) provided consumer satisfaction data. When they were asked if they would join the study again if they had the option to repeat, 136 (91%) said "yes," 11 (7%) said "maybe," and one (<1%) said "no." When asked if they would recommend the study to other parents with children having similar problems, 147 (98%) said "yes" and 3 (2%) said "maybe." Between 71% (rating one aspect of the Parent Training) and 96% (regarding the diagnostic interview) endorsed study procedures using the most positive response option. Asked if there were certain aspects of the study that they especially liked, 64 (43%) spontaneously reported parent training. Treatment assignment (basic vs. augmented) and responder status were not associated with reported satisfaction. However, responder status was strongly associated with parent confidence in managing present ( $p < 0.001$ ) and future ( $p < 0.005$ ) problem behaviors. **Conclusions:** These findings indicate high levels of satisfaction with TOSCA study involvement and, taken together with previous pediatric psychopharmacology social validity studies, suggest high levels of support for the research experience. These findings may inform research bioethics and may have implications for deliberations of institutional review boards. **[Child and Adolescent Symptom Inventory-4R]**

- 15-33. Sarver, D.E., Rapport, M.D., Kofler, M.J., Raiker, J.S., & Friedman, L.M. (2015). Hyperactivity in attention-deficit/hyperactivity disorder (ADHD): Impairing deficit or compensatory behavior? *Journal of Abnormal Child Psychology*, 43(7), 1219-1232.

Excess gross motor activity (hyperactivity) is considered a core diagnostic feature of childhood ADHD that impedes learning. This view has been challenged, however, by recent models that conceptualize excess motor activity as a compensatory mechanism that facilitates neurocognitive functioning in children with ADHD. The current study investigated competing model predictions regarding activity level's relation with working memory (WM) performance and attention in boys aged 8-12 years ( $M = 9.64$ ,  $SD = 1.26$ ) with ADHD ( $n = 29$ ) and typically developing children (TD;  $n = 23$ ). Children's phonological WM and attentive behavior were objectively assessed during four counterbalanced WM tasks administered across four separate sessions. These data were then sequenced hierarchically based on behavioral observations of each child's gross motor activity during each task. Analysis of the relations among intra-individual changes in observed activity level, attention, and performance revealed that higher rates of activity level predicted significantly better, but not normalized WM performance for children with ADHD. Conversely, higher rates of activity level predicted somewhat lower WM performance for TD children. Variations in movement did not predict changes in attention for either group. At the individual level, children with ADHD and TD children were more likely to be classified as reliably Improved and Deteriorated, respectively, when comparing their WM performance at their highest versus lowest observed activity level. These findings appear most consistent with models ascribing a functional role to hyperactivity in ADHD, with implications

for selecting behavioral treatment targets to avoid overcorrecting gross motor activity during academic tasks that rely on phonological WM. [**Child Symptom Inventory-4**]

- 15-34. Scott, L.N., Pilkonis, P.A., Hipwell, A.E., Keenan, K., & Stepp, S.D. (2015). Non-suicidal self-injury and suicidal ideation as predictors of suicide attempts in adolescent girls: A multi-wave prospective study. *Comprehensive Psychiatry*, 58, 1-10.

Although both suicide ideation (SI) and non-suicidal self-injury (NSSI) are known risk factors for suicidal behavior, few longitudinal studies have examined whether having a history of one or both of these factors prospectively predicts increased risk for suicide attempts. According to the theory of acquired capability for suicide, engagement in NSSI may reduce inhibitions around self-inflicted violence, imparting greater risk for suicide attempts among those with SI than would be observed in those with SI who do not have a history of NSSI. We used prospective data from the Pittsburgh Girls Study, a large community sample, to compare groups of girls reporting no SI or NSSI, SI only, or both NSSI and SI between early to late adolescence on any lifetime or recent suicide attempts in late adolescence and early adulthood. As compared to girls with no SI or NSSI history and those with only an SI history, girls with a history of both NSSI and SI were significantly more likely to subsequently report both lifetime and recent suicide attempts. Results are consistent with the acquired capability theory for suicide and suggest that adolescent girls who have engaged in NSSI and also report SI represent a particularly high-risk group in need of prevention and intervention efforts. [**Child Symptom Inventory-4, Adolescent Symptom Inventory-4, Adult Self Report Inventory-4**]

- 15-35. Sharpley, C.F., Bitsika, V., Agnew, L.L., & Andronicos, N.M. (2015). Eight-month test-retest agreement in morning salivary cortisol, self- and parent-rated anxiety in boys with an autism spectrum disorder. *Physiology & Behavior*, 151, 207-212.

The agreement over time in morning salivary cortisol concentrations and also self- and parent-rated anxiety was investigated in a sample of 16 boys with an ASD. Cortisol and anxiety data were collected eight months apart. Results indicated that there were significant correlations between each pair of measures from the two occasions, suggesting that cortisol concentrations and anxiety did not vary much at all over that time, challenging the assumption that cortisol needs to be measured over multiple days to obtain reliable data from children with an ASD. Implications for research into the ways these children respond to chronic stressors are discussed. [**Child and Adolescent Symptom Inventory-4R, Youth Self Report Inventory-4**]

- 15-36. Siegel, M., Smith, K.A., Mazefsky, C., Gabriels, R.L., Erickson, C., Kaplan, D., Morrow, E.M., Wink, L., Santangelo, S.L., & ADDIRC. (2015). The autism inpatient collection: methods and preliminary sample description. *Molecular Autism*, 6, 61.

Background: Individuals severely affected by autism spectrum disorder (ASD), including those with intellectual disability, expressive language impairment, and/or self-injurious behavior (SIB), are underrepresented in the ASD literature and extant collections of phenotypic and biological data. An understanding of ASD's etiology and subtypes can only be as complete as the studied samples are representative. Methods: The Autism Inpatient Collection (AIC) is a multi-site study enrolling children and adolescents with ASD aged 4-20 years admitted to six specialized inpatient psychiatry units. Enrollment began March, 2014, and continues at a rate of over 400 children annually. Measures characterizing adaptive and cognitive functioning, communication, externalizing behaviors, emotion regulation, psychiatric co-morbidity, self-injurious behavior, parent stress, and parent self-efficacy are collected. ASD diagnosis is confirmed by the Autism Diagnostic Observation Schedule - 2 (ADOS-2) and extensive inpatient observation. Biological samples from probands and their biological parents are banked and processed for DNA extraction and creation of lymphoblastoid cell lines. Results: Sixty-one percent of eligible subjects were enrolled. The first 147 subjects were an average of 12.6 years old (SD 3.42, range 4-20); 26.5 % female; 74.8 % Caucasian, and 81.6 % non-Hispanic/non-Latino. Mean non-verbal intelligence quotient IQ = 70.9 (SD 29.16, range 30-137) and mean adaptive behavior composite score = 55.6 (SD 12.9, range 27-96). A majority of subjects (52.4 %) were non-or minimally verbal. The average Aberrant Behavior Checklist - Irritability Subscale score was 28.6, well above the typical threshold for clinically concerning externalizing behaviors, and 26.5 % of the sample engaged in SIB. Females had more frequent and severe SIB than males. Conclusions: Preliminary data indicate that the AIC has a rich representation of the portion of the autism spectrum that is understudied and underrepresented in extant data collections. More than half of the sample is non-or minimally verbal, over 40 %

have intellectual disability, and over one quarter exhibit SIB. The AIC is a substantial new resource for study of the full autism spectrum, which will augment existing data on higher-functioning cohorts and facilitate the identification of genetic subtypes and novel treatment targets. The AIC investigators welcome collaborations with other investigators, and access to the AIC phenotypic data and biosamples may be requested through the Simons Foundation ([www.sfari.org](http://www.sfari.org)). [**Child and Adolescent Symptom Inventory-4R**]

- 15-37. Sitzler, D.L., & Stockwell, A.B. (2015). The art of wellness: A 14-week art therapy program for at-risk youth. *Arts in Psychotherapy*, 45, 69-81.

Previous research has indicated a strong need to develop therapies that prevent the development of psychological problems in youth as opposed to treatment after the fact. In the current study, twenty-three female and nineteen male elementary school students with ages ranging from 9 to 12, participated in a single group within-subjects curriculum-based intervention promoting coping skills and resilience. Students engaged in art therapy combined with CBT and DBT modalities. Results indicated significant increases for the total sample in resilience, social and emotional functioning. Results also indicated male students' overall stronger improvement relative to female students. Socio-cultural implications and directions for future research are addressed. [**Child Symptom Inventory-4**]

- 15-38. Sola, S.B., Ballabriga, M.C.J., & Lloret, M.D.R. (2015). Further validity evidence of the Behavioral Inhibition Observation System (BIOS). *PSICOTHEMA*, 27(4), 416-423.

Background: The Behavioral Inhibition Observation System (BIOS) is a brief clinician-report scale for detecting behavioral inhibition (BI) from direct observation. This study aims to compare the validity coefficients obtained in the natural context of use of the BIOS (i.e., a clinical situation) with those obtained using the BIOS after standardized observation. Method: The participants were 74 randomly selected preschool children who were exposed to systematic observation. Results: The results indicate excellent internal consistency ( $\alpha = .91$ ) and moderate to good inter-rater reliability for all items (ICC from .55 to .88). The correlations with observational measures of BI ranged from .40 to .70, and were mostly equivalent to those of the previous study. The correlations with parents', teachers', and clinicians' measures of BI and related constructs ranged from .30 to .60, and were also equivalent to those obtained in the natural context of use of the BIOS (i.e., clinical situation). Conclusions: The validity coefficients obtained with the BIOS in a non-structured natural observation are mostly equivalent to those obtained in an experimental situation, thus supporting that the BIOS is a cost-efficient instrument for measuring BI from observation in a clinical situation. [**Early Childhood Inventory-4, Spanish translation**]

- 15-39. Taylor, H.G., Margevicius, S., Schluchter, M., Andreias, L., & Hack, M. (2015). Persisting behavior problems in extremely low birth weight adolescents. *Journal of Developmental and Behavioral Pediatrics*, 36, 178-187.

**Objective:** To describe behavior problems in extremely low birth weight (ELBW, < 1000 g) adolescents born 1992 through 1995 based on parent ratings and adolescent self-ratings at age 14 years and to examine changes in parent ratings from ages 8-14. **Method:** Parent ratings of behavior problems and adolescent self-ratings were obtained for 169 ELBW adolescents (mean birth weight 815 g, gestational age 26 wk) and 115 normal birth weight (NBW) controls at 14 years. Parent ratings of behavior at age 8 years were also available. Behavior outcomes were assessed using symptom severity scores and rates of scores above DSM-IV symptom cutoffs for clinical disorder. **Results:** The ELBW group had higher symptom severity scores on parent ratings at age 14 years than NBW controls for inattentive attention-deficit hyperactivity disorder (ADHD), anxiety, and social problems (all  $p$ 's < .01). Rates of parent ratings meeting DSM-IV symptom criteria for inattentive ADHD were also higher for the ELBW group (12% vs 1%,  $p$  < .01). In contrast, the ELBW group had lower symptom severity scores on self-ratings than controls for several scales. Group differences in parent ratings decreased over time for ADHD, especially among females, but were stable for anxiety and social problems. **Conclusions:** Extremely low birth weight adolescents continue to have behavior problems similar to those evident at a younger age, but these problems are not evident in behavioral self-ratings. The findings suggest that parent ratings provide contrasting perspectives on behavior problems in ELBW youth and support the need to identify and treat these problems early in childhood. [**Child Symptom Inventory-4, Adolescent Symptom Inventory-4, Youth's Inventory-4**]

- 15-40. Theunissen, S.C.P.M., Rieffe, C., Soede, W., Briare, J.J., Ketelaar, L., Kouwenberg, M., & Frijns, J.H.M. (2015). Symptoms of psychopathology in hearing-impaired children. *Ear and Hearing*, 36 (4), e190-e198.

**Objectives:** Children with hearing loss are at risk of developing psychopathology, which has detrimental consequences for academic and psychosocial functioning later in life. Yet, the causes of the extensive variability in outcomes are not fully understood. Therefore, the authors wanted to objectify symptoms of psychopathology in children with cochlear implants or hearing aids, and in normally hearing peers, and to identify various risk and protective factors. **Design:** The large sample (mean age = 11.8 years) included three subgroups with comparable age, gender, socioeconomic status, and nonverbal intelligence: 57 with cochlear implants, 75 with conventional hearing aids, and 129 children who were normally hearing. Psychopathology was assessed by means of self- and parent-report measures. **Results:** Children with cochlear implants showed similar levels of symptoms of psychopathology when compared with their normally hearing peers, but children with hearing aids had significantly higher levels of psychopathological symptoms, while their hearing losses were approximately 43 dB lower than those of children with implants. Type of device was related with internalizing symptoms but not with externalizing symptoms. Furthermore, lower age and sufficient language and communication skills predicted less psychopathological symptoms. **Conclusions:** Children who are deaf or profoundly hearing impaired and have cochlear implants have lower levels of psychopathological symptoms than children with moderate or severe hearing loss who have hearing aids. Most likely, it is not the type of hearing device but rather the intensity of the rehabilitation program that can account for this difference. This outcome has major consequences for the next generation of children with hearing loss because children with profound hearing impairment still have the potential to have levels of psychopathology that are comparable to children who are normally hearing. [*Child Symptom Inventory-4, Dutch*]

- 15-41. Turpyn, C.C., Chaplin, T.M., Cook, E.C., & Martelli, A.M. (2015). A person-centered approach to adolescent emotion regulation: Associations with psychopathology and parenting. *Journal of Experimental Child Psychology*, 136, 1-16.

Adolescence is a unique period of heightened emotional arousal and still-developing regulatory abilities. Adolescent emotion regulation patterns may be critically involved in adolescents' psychosocial development, but patterns of emotion regulation in youths are not well understood. The current study used latent profile analysis (LPA) to elucidate patterns of emotion expression, experience, and emotion-related physiological arousal in adolescents. A sample of 198 adolescents and their primary caregivers participated in an emotionally arousing parent-adolescent conflict interaction. Adolescents' observed emotion expressions, emotion experiences, and heart rate (HR) and caregiver parenting behaviors were assessed during and/or after the interaction. Parents reported on adolescents' internalizing and externalizing symptoms, and youths reported on depressive symptoms. The LPA revealed four emotion regulation profiles: a moderate HR and high expression profile, a suppression profile (with low negative emotion expression and high emotion experience), a low reactive profile, and a high reactive profile. The moderate HR and high expression profile was associated with lower conduct disorder symptoms, the suppression profile was related to lower anxiety symptoms, and the high reactive profile was associated with higher adolescent depressive symptoms. The high reactive profile and moderate HR and high expression profile were associated with more negative/critical parenting behaviors. Findings suggest that profiles of adolescent emotion regulation can be empirically identified and may be significant risk factors for psychopathology. [*Early Childhood Inventory-4*]

- 15-42. van der Molen, E., Blokland, A.A.J., Hipwell, A.E., Vermeiren, R.R.J.M., Doreleijers, T.A.H., & Loeber, R. (2015). Girls' childhood trajectories of disruptive behavior predict adjustment problems in early adolescence. *Journal of Child Psychology and Psychiatry*, 56, 766-773.

**Background:** It is widely recognized that early onset of disruptive behavior is linked to a variety of detrimental outcomes in males, later in life. In contrast, little is known about the association between girls' childhood trajectories of disruptive behavior and adjustment problems in early adolescence. **Methods:** This study used nine waves of data from the ongoing Pittsburgh Girls Study. A semiparametric group-based model was used to identify trajectories of disruptive behavior in 1,513 girls from age 6 to 12 years. Adjustment problems were characterized by depression, self-harm, Post Traumatic Stress Disorder (PTSD), substance use, interpersonal aggression, sexual behavior, affiliation with delinquent peers, and academic achievement at ages 13 and 14. **Results:** Three trajectories of childhood disruptive behavior were identified: low, medium, and high. Girls in the high group were at increased risk for depression, self-harm, PTSD, illegal substance use, interpersonal aggression, early and risky sexual behavior, and lower academic achievement. The likelihood of multiple adjustment problems increased with

trajectories reflecting higher levels of disruptive behavior. **Conclusion:** Girls following the high childhood trajectory of disruptive behavior require early intervention programs to prevent multiple, adverse outcomes in adolescence and further escalation in adulthood. [*Child Symptom Inventory-4, Adolescent Symptom Inventory-4*]

- 15-43. Ventola, P., Yang, D.Y.J., Friedman, H.E., Oosting, D., Wolf, J., Sukhodolsky, D.G., & Pelphrey, K.A. (2015). Heterogeneity of neural mechanisms of response to pivotal response treatment. *Brain Imaging and Behavior*, 9, 74-88.

We investigated the mechanisms by which Pivotal Response Treatment (PRT) improves social communication in a case series of 10 preschool-aged children with Autism Spectrum Disorder (ASD). Functional magnetic resonance imaging (fMRI) identified brain responses during a biological motion perception task conducted prior to and following 16 weeks of PRT treatment. Overall, the neural systems supporting social perception in these 10 children were malleable through implementation of PRT; following treatment, neural responses were more similar to those of typically developing children (TD). However, at baseline, half of the children exhibited hypoactivation, relative to a group of TD children, in the right posterior superior temporal sulcus (pSTS), and half exhibited hyperactivation in this region. Strikingly, the groups exhibited differential neural responses to treatment: The five children who exhibited hypoactivation at baseline evidenced increased activation in components of the reward system including the ventral striatum and putamen. The five children who exhibited hyperactivation at baseline evidenced decreased activation in subcortical regions critical for regulating the flow of stimulation and conveying signals of salience to the cortex-the thalamus, amygdala, and hippocampus. Our results support further investigation into the differential effects of particular treatment strategies relative to specific neural targets. Identification of treatment strategies that address the patterns of neural vulnerability unique to each patient is consistent with the priority of creating individually tailored interventions customized to the behavioral and neural characteristics of a given person. [*Child Symptom Inventory-4*]

- 15-44. Wakschlag, L.S., Estabrook, R., Petittclerc, A., Henry, D., Burns, J.L., Perlman, S.B., Voss, J.L., Pine, D.S., Leibenluft, E., & Briggs-Gowan, M.L. (2015). Clinical implications of a dimensional approach: the normal: abnormal spectrum of early irritability. *Journal of the American Academy of Child and Adolescent Psychiatry*, 54(8), 626-634.

**Objective:** The importance of dimensional approaches is widely recognized, but an empirical base for clinical application is lacking. This is particularly true for irritability, a dimensional phenotype that cuts across many areas of psychopathology and manifests early in life. We examine longitudinal, dimensional patterns of irritability and their clinical import in early childhood. **Method:** Irritability was assessed longitudinally over an average of 16 months in a clinically enriched, diverse community sample of preschoolers (N = 497; mean = 4.2 years; SD = 0.8). Using the Temper Loss scale of the Multidimensional Assessment Profile of Disruptive Behavior (MAP-DB) as a developmentally sensitive indicator of early childhood irritability, we examined its convergent/divergent, clinical, and incremental predictive validity, and modeled its linear and nonlinear associations with clinical risk. **Results:** The Temper Loss scale demonstrated convergent and divergent validity to child and maternal factors. In multivariate analyses, Temper Loss predicted mood (separation anxiety disorder [SAD], generalized anxiety disorder [GAD], and depression/dysthymia), disruptive (oppositional defiant disorder [ODD], attention-deficit/hyperactivity disorder [ADHD], and conduct disorder [CD]) symptoms. Preschoolers with even mildly elevated Temper Loss scale scores showed substantially increased risk of symptoms and disorders. For ODD, GAD, SAD, and depression, increases in Temper Loss scale scores at the higher end of the dimension had a greater impact on symptoms relative to increases at the lower end. Temper Loss scale scores also showed incremental validity over DSM-IV disorders in predicting subsequent impairment. Finally, accounting for the substantial heterogeneity in longitudinal patterns of Temper Loss significantly improved prediction of mood and disruptive symptoms. **Conclusion:** Dimensional, longitudinal characterization of irritability informs clinical prediction. A vital next step will be empirically generating parameters for the incorporation of dimensional information into clinical decision-making with reasonable certainty. [*Early Childhood Inventory-4*]

- 15-45. White, S.W., Schry, A.R., Miyazaki, Y., Ollendick, T.H., & Scahill, L. (2015). Effects of verbal ability and severity of autism on anxiety in adolescents with ASD: one-year follow-up after cognitive behavioral therapy. *Journal of Clinical Child and Adolescent Psychology*, 44(5), 839-845.

There is evidence supporting the efficacy of cognitive-behavioral therapy for treatment of anxiety in youth with

Autism Spectrum Disorders (ASD), but long-term course of anxiety after treatment and individual predictors of treatment response are unknown. To meet the demands for personalized mental health care, information on the fit between patient and treatment as well as treatment durability is needed. We evaluated change in anxiety symptoms during intervention and 1 year after completion of the treatment and evaluated predictors of response using an advanced analytical design, with follow-up data from a randomized controlled trial of 22 adolescents (12-17 years) with ASD and 1 or more anxiety disorders. Reduction in anxiety was partially maintained during the year following treatment; greater ASD severity predicted better treatment response. Our finding that brief treatment is associated with sustained gains is promising, given the pervasive and chronic nature of ASD. Implications for the treatment of anxiety in higher functioning adolescents with ASD are considered. (**CASI-Anx**)

- 15-46. Yerys, B.E., Antezana, L., Weinblatt, R., Jankowski, K.F., Strang, J., Vaidya, C.J., Schultz, R.T., Gaillard, W.D., & Kenworthy, L. (2015). Neural correlates of set-shifting in children with autism. *Autism Research*, 8(4), 386-397.

Autism spectrum disorder (ASD) is often associated with high levels of inflexible thinking and rigid behavior. The neural correlates of these behaviors have been investigated in adults and older adolescents, but not children. Prior studies utilized set-shifting tasks that engaged multiple levels of shifting and depended on learning abstract rules and establishing a strong prepotent bias. These additional demands complicate simple interpretations of the results. We used functional magnetic resonance imaging (fMRI) to investigate the neural correlates of set-shifting in 20 children (ages 7-14) with ASD and 19 typically developing, matched, control children. Participants completed a set-shifting task that minimized nonshifting task demands through the use of concrete instructions that provide spatial mapping of stimuli-responses. The shift/stay sets were given an equal number of trials to limit the prepotent bias. Both groups showed an equivalent switch cost, responding less accurately and slower to Switch stimuli than Stay stimuli, although the ASD group was less accurate overall. Both groups showed activation in prefrontal, striatal, parietal, and cerebellum regions known to govern effective set-shifts. Compared to controls, children with ASD demonstrated decreased activation of the right middle temporal gyrus across all trials, but increased activation in the mid-dorsal cingulate cortex/superior frontal gyrus, left middle frontal, and right inferior frontal gyri during the Switch vs. Stay contrast. The successful behavioral switching performance of children with ASD comes at the cost of requiring greater engagement of frontal regions, suggesting less efficiency at this lowest level of shifting. [**Child and Adolescent Symptom Inventory-4**]

## YEAR: 2014

- 14-1. Anagnostou, E., Soorya, L., Brian, J., Dupuis, A., Mankad, D., Smile, S., & Jacob, S. (2014). Intranasal oxytocin in the treatment of autism spectrum disorders: A review of literature and early safety and efficacy data in youth. *Brain Research*, 1580, 188-198.

Background: There is a paucity of treatments targeting core symptom domains in Autism Spectrum Disorder (ASD). Several animal models and research in typically developing volunteers suggests that manipulation of the oxytocin system may have therapeutic potential for the treatment of social deficits. We review the literature for oxytocin and ASD and report on early dosing, safety and efficacy data of multi-dose oxytocin on aspects of social cognition/function, as well as repetitive behaviors and co-occurring anxiety within ASD. Methods: Fifteen children and adolescents with verbal IQs  $\geq 70$  were diagnosed with ASD using the ADOS and the ADI-R. They participated in a modified maximum tolerated dose study of intranasal oxytocin (Syntocinon). Data were modeled using repeated measures regression analysis controlling for week, dose, age, and sex. Results: Among 4 doses tested, the highest dose evaluated, 0.4 IU/kg/dose, was found to be well tolerated. No serious or severe adverse events were reported and adverse events reported/observed were mild to moderate. Over 12 weeks of treatment, several measures of social cognition/function, repetitive behaviors and anxiety showed sensitivity to change with some measures suggesting maintenance of effect 3 months past discontinuation of intranasal oxytocin. Conclusions: This pilot study suggests that daily administration of intranasal oxytocin at 0.4 IU/kg/dose in children and adolescents with ASD is safe and has therapeutic potential. Larger studies are warranted. [**Child and Adolescent Symptom Inventory-4R; Anxiety Subscales**]

- 14-2. Aparicio-Llopis, E., Canals, J., & Arija, V. (2014). Dietary intake according to the course of symptoms of eating disorders in a school-based follow-up study of adolescents. *European Eating Disorders Review*, 22(6), 412-

422.

Children with conduct problems and co-occurring callous-unemotional (CU) traits show more severe, stable, and aggressive antisocial behaviors than those without CU traits. Exposure to negative life events has been identified as an important contributing factor to the expression of CU traits across time, although the directionality of this effect has remained unknown due to a lack of longitudinal study. The present longitudinal study examined potential bidirectional effects of CU traits leading to experiencing more negative life events and negative life events leading to increases in CU traits across 3 years among a sample of community-based school-aged ( $M = 10.9$ ,  $SD = 1.71$  years) boys and girls ( $N = 98$ ). Repeated rating measures of CU traits, negative life events and conduct problems completed by children and parents during annual assessments were moderately to highly stable across time. Cross-lagged models supported a reciprocal relationship of moderate magnitude between child-reported CU traits and "controllable" negative life events. Parent-reported CU traits predicted "uncontrollable" life events at the earlier time point and controllable life events at the later time point, but no reciprocal effect was evident. These findings have important implications for understanding developmental processes that contribute to the stability of CU traits in youth. [**Child Symptom Inventory-4, Spanish**]

- 14-3. Arnold, L. E., Ganocy, S. J., Mount, K., Youngstrom, E. A., Frazier, T., Fristad, M., ... & Marsh, L. (2014). Three-year latent class trajectories of Attention-Deficit/Hyperactivity Disorder (ADHD) symptoms in a clinical sample not selected for ADHD. *Journal of the American Academy of Child & Adolescent Psychiatry*, 53(7), 745-760.

Objective: This study aims to examine trajectories of attention-deficit/hyperactivity disorder (ADHD) symptoms in the Longitudinal Assessment of Manic Symptoms (LAMS) sample. Method: The LAMS study assessed 684 children aged 6 to 12 years with the Kiddie-Schedule for Affective Disorders and Schizophrenia (K-SADS) and rating scales semi-annually for 3 years. Although they were selected for elevated manic symptoms, 526 children had baseline ADHD diagnoses. With growth mixture modeling (GMM), we separately analyzed inattentive and hyperactive/impulsive symptoms, covarying baseline age. Multiple standard methods determined optimal fit. The chi(2) and Kruskal Wallis analysis of variance compared resulting latent classes/trajectories on clinical characteristics and medication. Results: Three latent class trajectories best described inattentive symptoms, and 4 classes best described hyperactive/impulsive symptoms. Inattentive trajectories maintained their relative position over time. Hyperactive/impulsive symptoms had 2 consistent trajectories (least and most severe). A third trajectory (4.5%) started mild, then escalated; and a fourth (14%) started severe but improved dramatically. The improving trajectory was associated with the highest rate of ADHD and lowest rate of bipolar diagnoses. Three-fourths of the mildest inattention class were also in the mildest hyperactive/impulsive class; 72% of the severest inattention class were in the severest hyperactive/impulsive class, but the severest inattention class also included 62% of the improving hyperactive-impulsive class. Conclusion: An ADHD rather than bipolar diagnosis prognosticates a better course of hyperactive/impulsive, but not inattentive, symptoms. High overlap of relative severity between inattention and hyperactivity/impulsivity confirms the link between these symptom clusters. Hyperactive/impulsive symptoms wane more over time. Group means are insufficient to understand individual ADHD prognosis. A small subgroup deteriorates over time in hyperactivity/impulsivity and needs better treatments than currently provided. [**Child and Adolescent Symptom Inventory-4R**]

- 14-4. Bitsika, V., & Sharpley, C. F. (2014). Which psychological resilience attributes are associated with lower aspects of anxiety in boys with an autism spectrum disorder? Implications for guidance and counselling interventions. *British Journal of Guidance & Counselling*, 42(5), 544-556.

The effect of psychological resilience as a buffer against anxiety was investigated in a sample of 39 boys with high-functioning autism spectrum disorder (ASD) via individual online questionnaire responses to standardised inventories for assessing anxiety and psychological resilience. Ability to handle problems, make good decisions, think before acting and help others were the most powerful buffers against Generalised Anxiety Disorder, while thinking before acting significantly buffered social phobia. Believing that they were able to handle problems was significantly associated with less emotional anxiety about school, work or social activities, being irritable, unable to relax and fatigue. As well as describing the pathways between the components of psychological resilience and anxiety, these findings also suggest several specific directions for training programmes aimed at equipping boys with an ASD with skills to cope more effectively with anxiety. [**Child and Adolescent Symptom Inventory-4R**]

- 14-5. Bitsika, V., Sharpley, C. F., Sweeney, J. A., & McFarlane, J. R. (2014). HPA and SAM axis responses as



correlates of self vs parental ratings of anxiety in boys with an autistic disorder. *Physiology & Behavior*, 127.

Anxiety and Autistic Disorder (AD) are both neurological conditions and both disorders share some features that make it difficult to precisely allocate specific symptoms to each disorder. HPA and SAM axis activities have been conclusively associated with anxiety, and may provide a method of validating anxiety rating scale assessments given by parents and their children with AD about those children. Data from HPA axis (salivary cortisol) and SAM axis (salivary alpha amylase) responses were collected from a sample of 32 high-functioning boys (M age = 11 yr) with an Autistic Disorder (AD) and were compared with the boys' and their mothers' ratings of the boys' anxiety. There was a significant difference between the self-ratings given by the boys and ratings given about them by their mothers. Further, only the boys' self-ratings of their anxiety significantly predicted the HPA axis responses and neither were significantly related to SAM axis responses. Some boys showed cortisol responses which were similar to that previously reported in children who had suffered chronic and severe anxiety arising from stressful social interactions. As well as suggesting that some boys with an AD can provide valid self-assessments of their anxiety, these data also point to the presence of very high levels of chronic HPA-axis arousal and consequent chronic anxiety in these boys. [*Child and Adolescent Symptom Inventory-4R*]

- 14-6. Burke, J. D., Boylan, K., Rowe, R., Duku, E., Stepp, S. D., Hipwell, A. E., & Waldman, I. D. (2014). Identifying the irritability dimension of ODD: Application of a modified bifactor model across five large community samples of children. *Journal of Abnormal Psychology*, 123(4), 841-851.

The importance of irritability, as measured among the symptoms of oppositional defiant disorder (ODD), has dramatically come to the fore in recent years. New diagnostic categories rely on the distinct clinical utility of irritability, and models of psychopathology suggest it plays a key role in explaining developmental pathways within and between disorders into adulthood. However, only a few studies have tested multidimensional models of ODD, and the results have been conflicting. Further, consensus has not been reached regarding which symptoms best identify irritability. The present analyses use 5 large community data sets with 5 different measures of parent-reported ODD, comprising 16,280 youth in total, to help resolve these questions. Across the samples, ages ranged from 5 to 18, and included both boys and girls. Confirmatory factor analyses demonstrated that a modified bifactor model showed the best fit in each data set. The structure of the model included 2 correlated specific factors (irritability and oppositional behavior) in addition to a general ODD factor. In 4 models, the best fit was obtained using the items "being touchy," "angry," and "often losing temper" as indicators of irritability. Given the structure of the models and the generally high correlation between the specific dimensions, the results suggest that irritability may not be sufficiently distinct from oppositional behavior to support an entirely independent diagnosis. Rather, irritability may be better understood as a dimension of psychopathology that can be distinguished within ODD, and which may be related to particular forms of psychopathology apart from ODD. [*Child Symptom Inventory-4*]

- 14-7. Casement, M. D., Guyer, A. E., Hipwell, A. E., McAloon, R. L., Hoffmann, A. M., Keenan, K. E., & Forbes, E. E. (2014). Girls' challenging social experiences in early adolescence predict neural response to rewards and depressive symptoms. *Developmental Cognitive Neuroscience*, 8, 18-27.

Developmental models of psychopathology posit that exposure to social stressors may confer risk for depression in adolescent girls by disrupting neural reward circuitry. The current study tested this hypothesis by examining the relationship between early adolescent social stressors and later neural reward processing and depressive symptoms. Participants were 120 girls from an ongoing longitudinal study of precursors to depression across adolescent development. Low parental warmth, peer victimization, and depressive symptoms were assessed when the girls were 11 and 12 years old, and participants completed a monetary reward guessing fMRI task and assessment of depressive symptoms at age 16. Results indicate that low parental warmth was associated with increased response to potential rewards in the medial prefrontal cortex (mPFC), striatum, and amygdala, whereas peer victimization was associated with decreased response to potential rewards in the mPFC. Furthermore, concurrent depressive symptoms were associated with increased reward anticipation response in mPFC and striatal regions that were also associated with early adolescent psychosocial stressors, with mPFC and striatal response mediating the association between social stressors and depressive symptoms. These findings are consistent with developmental models that emphasize the adverse impact of early psychosocial stressors on neural reward processing and risk for depression in adolescence. [*Adolescent Symptom Inventory-4*]

- 14-8. Cecil, C. A., Viding, E., Barker, E. D., Guiney, J., & McCrory, E. J. (2014). Double disadvantage: The influence of

childhood maltreatment and community violence exposure on adolescent mental health. *Journal of Child Psychology and Psychiatry*, 55(7), 839-848.

Background: Childhood maltreatment is a key risk factor for maladjustment and psychopathology. Although maltreated youth are more likely to experience community violence, both forms of adversity are generally examined separately. Consequently, little is known about the unique and interactive effects that characterize maltreatment and community violence exposure (CVE) on mental health. Methods: Latent Profile Analysis (LPA) was applied to data from a community sample of high-risk adolescents and young adults ( $n=204$ ,  $M=18.85$ ) to categorize groups of participants with similar patterns of childhood (i.e. past) maltreatment exposure. Associations between childhood maltreatment, CVE and mental health outcomes were then explored using multivariate regression and moderation analyses. Results: Latent Profile Analysis identified three groups of individuals with low, moderate and severe levels of childhood maltreatment. Maltreatment was associated with more internalizing, externalizing, and trauma-related symptoms. By contrast, CVE showed independent associations with only externalizing and trauma-related symptoms. Typically, childhood maltreatment and CVE exerted additive effects; however, these forms of adversity interacted to predict levels of anger. Conclusions: Exposure to maltreatment and community violence is associated with increased levels of clinical symptoms. However, while maltreatment is associated with increased symptoms across a broad range of mental health domains, the impact of community violence is more constrained, suggesting that these environmental risk factors differentially impact mental health functioning. [**Childhood Symptom Inventory-4**]

- 14-9. Chervin, R. D., Chung, S., O'Brien, L. M., Hoban, T. F., Garetz, S. L., Ruzicka, D. L., ... & Dillon, J. E. (2014). Periodic leg movements during sleep in children scheduled for adenotonsillectomy: Frequency, persistence, and impact. *Sleep Medicine*, 15(11), 1362-1369.

The importance of irritability, as measured among the symptoms of oppositional defiant disorder (ODD), has dramatically come to the fore in recent years. New diagnostic categories rely on the distinct clinical utility of irritability, and models of psychopathology suggest it plays a key role in explaining developmental pathways within and between disorders into adulthood. However, only a few studies have tested multidimensional models of ODD, and the results have been conflicting. Further, consensus has not been reached regarding which symptoms best identify irritability. The present analyses use 5 large community data sets with 5 different measures of parent-reported ODD, comprising 16,280 youth in total, to help resolve these questions. Across the samples, ages ranged from 5 to 18, and included both boys and girls. Confirmatory factor analyses demonstrated that a modified bifactor model showed the best fit in each data set. The structure of the model included 2 correlated specific factors (irritability and oppositional behavior) in addition to a general ODD factor. In 4 models, the best fit was obtained using the items "being touchy," "angry," and "often losing temper" as indicators of irritability. Given the structure of the models and the generally high correlation between the specific dimensions, the results suggest that irritability may not be sufficiently distinct from oppositional behavior to support an entirely independent diagnosis. Rather, irritability may be better understood as a dimension of psychopathology that can be distinguished within ODD, and which may be related to particular forms of psychopathology apart from ODD. [**Child Symptom Inventory-4; Early Childhood Inventory-4**]

- 14-10. Chervin, R. D., Garetz, S. L., Ruzicka, D. L., Hodges, E. K., Giordani, B. J., Dillon, J. E., ... & Burns, J. W. (2014). Do respiratory cycle-related EEG changes or arousals from sleep predict neurobehavioral deficits and response to adenotonsillectomy in children? *Journal of Clinical Sleep Medicine*, 10(8), 903-911.

Objectives: Pediatric obstructive sleep apnea (OSA) is associated with hyperactive behavior, cognitive deficits, psychiatric morbidity, and sleepiness, but objective polysomnographic measures of OSA presence or severity among children scheduled for adenotonsillectomy have not explained why. To assess whether sleep fragmentation might explain neurobehavioral outcomes, we prospectively assessed the predictive value of standard arousals and also respiratory cycle-related EEG changes (RCREC), thought to reflect inspiratory microarousals. Methods: Washtenaw County Adenotonsillectomy Cohort II participants included children (ages 3-12 years) scheduled for adenotonsillectomy, for any clinical indication. At enrollment and again 7.2  $\pm$  0.9 (SD) months later, children had polysomnography, a multiple sleep latency test, parent-completed behavioral rating scales, cognitive testing, and psychiatric evaluation. The RCREC were computed as previously described for delta, theta, alpha, sigma, and beta EEG frequency bands. Results: Participants included 133 children, 109 with OSA (apnea-hypopnea index [AHI]  $\geq$  1.5, mean 8.3  $\pm$  10.6) and 24 without OSA (AHI 0.9  $\pm$  0.3). At baseline, the arousal index and RCREC

showed no consistent, significant associations with neurobehavioral morbidities, among all subjects or the 109 with OSA. At follow-up, the arousal index, RCREC, and neurobehavioral measures all tended to improve, but neither baseline measure of sleep fragmentation effectively predicted outcomes (all  $p > 0.05$ , with only scattered exceptions, among all subjects or those with OSA). Conclusion: Sleep fragmentation, as reflected by standard arousals or by RCREC, appears unlikely to explain neurobehavioral morbidity among children who undergo adenotonsillectomy. [**Childhood Symptom Inventory-4**]

- 14-11. Emeh, C. C., & Mikami, A. Y. (2014). The influence of parent behaviors on positive illusory bias in children with ADHD. *Journal of attention disorders*, 18(5), 456-465.

Objective: To explore the relationship between parental feedback and the accuracy of children's self-perceptions. Children with ADHD have been demonstrated to overestimate their own competence, a phenomenon known as positive illusory bias (PIB). Method: Participants were families of 56 children (41 male) ages 7 to 10, half of whom had clinical diagnoses of ADHD. PIB was assessed by comparing children's self-ratings of their competence relative to teachers' ratings. Laboratory interactions were observed where parental feedback to children was coded. Results: Parental warmth was associated with lower PIB about social competence in children with ADHD, but greater PIB in comparison children. Parent criticism was positively correlated with greater PIB about social competence in children with ADHD, but the relationship was nonsignificant for comparison children. Parent praise was associated with lower PIB about behavioral conduct in comparison children. Conclusion: Results support the self-protective hypothesis of PIB, and implications for interventions are discussed. [**Childhood Symptom Inventory-4**]

- 14-12. Gadow, K. D., Arnold, L. E., Molina, B. S., Findling, R. L., Bukstein, O. G., Brown, N. V., ... & Aman, M. G. (2014). Risperidone added to parent training and stimulant medication: effects on attention-deficit/hyperactivity disorder, oppositional defiant disorder, conduct disorder, and peer aggression. *Journal of the American Academy of Child & Adolescent Psychiatry*, 53(9), 948-959.

Objective: In this study, we aimed to expand on our prior research into the relative efficacy of combining parent training, stimulant medication, and placebo (Basic therapy) versus parent training, stimulant, and risperidone (Augmented therapy) by examining treatment effects for attention-deficit/hyperactivity disorder (ADHD), oppositional defiant disorder (ODD), and conduct disorder (CD) symptoms and peer aggression, symptom-induced impairment, and informant discrepancy. Method: Children (6-12 years of age;  $N = 168$ ) with severe physical aggression, ADHD, and co-occurring ODD/CD received an open trial of parent training and stimulant medication for 3 weeks. Participants failing to show optimal clinical response were randomly assigned to Basic or Augmented therapy for an additional 6 weeks. Results: Compared with Basic therapy, children receiving Augmented therapy experienced greater reduction in parent-rated ODD severity ( $p = .002$ , Cohen's  $d = 0.27$ ) and peer aggression ( $p = .02$ , Cohen's  $d = 0.32$ ) but not ADHD or CD symptoms. Fewer children receiving Augmented (16%) than Basic (40%) therapy were rated by their parents as impaired by ODD symptoms at week 9/endpoint ( $p = .008$ ). Teacher ratings indicated greater reduction in ADHD severity ( $p = .02$ , Cohen's  $d = 0.61$ ) with Augmented therapy, but not for ODD or CD symptoms or peer aggression. Although both interventions were associated with marked symptom reduction, a relatively large percentage of children were rated as impaired for at least 1 targeted disorder at week 9/endpoint by parents (Basic 47%; Augmented 27%) and teachers (Basic 48%; Augmented 38%). Conclusion: Augmented therapy was superior to Basic therapy in reducing severity of ADHD and ODD symptoms, peer aggression, and symptom-induced impairment, but clinical improvement was generally context specific, and effect sizes ranged from small to moderate. Clinical trial registration information Treatment of Severe Childhood Aggression (The TOSCA Study); <http://clinicaltrials.gov/>; NCT00796302. [**Child and Adolescent Symptom Inventory 4R**]

- 14-13. Gadow, K.D., Pinsonneault, J.K., Perlman, G., & Sadee, W. (2014). Association of dopamine gene variants, emotion dysregulation and ADHD in autism spectrum disorder. *Research in Developmental Disabilities*, 35, 1658-1665.

The aim of the present study was to evaluate the association of dopaminergic gene variants with emotion dysregulation (EMD) and attention-deficit/hyperactivity disorder (ADHD) symptoms in children with autism spectrum disorder (ASD). Three dopamine transporter gene (SLC6A3/DAT1) polymorphisms (intron8 5/6 VNTR, 3'-UTR 9/10 VNTR, rs27072 in the 3'-UTR) and one dopamine D2 receptor gene (DRD2) variant (rs2283265)

were selected for genotyping based on a priori evidence of regulatory activity or, in the case of DAT1 9/10 VNTR, commonly reported associations with ADHD. A sample of 110 children with ASD Was assessed with a rigorously validated DSM-IV-referenced rating scale. Global EMD severity (parents' ratings) was associated with DAT1 intron8 ( $\eta^2 p(2)=.063$ ) and rs2283265 ( $\eta^2 p(2)=.044$ ). Findings for DAT1 intron8 were also significant for two EMD subscales, generalized anxiety ( $\eta^2 p(2)=.065$ ) and depression ( $\eta^2 p(2)=.059$ ), and for DRD2 rs2283265, depression ( $\eta^2 p(2)=.053$ ). DRD2 rs2283265 was associated with teachers' global ratings of ADHD ( $\eta^2 p(2)=.052$ ). DAT1 intron8 was associated with parent-rated hyperactivity ( $\eta^2 p(2)=.045$ ) and both DAT1 9/10 VNTR ( $\eta^2 p(2)=.105$ ) and DRD2 rs2283265 ( $\eta^2 p(2)=.069$ ) were associated with teacher-rated inattention. These findings suggest that dopaminergic gene polymorphisms may modulate EMD and ADHD symptoms in children with ASD but require replication with larger independent samples. [**Child Symptom Inventory-4**]

- 14-14. Gadow, K. D., Smith, R. M., & Pinsonneault, J. K. (2014). Serotonin 2A Receptor Gene (HTR2A) Regulatory variants: possible association with severity of depression symptoms in children with autism spectrum disorder. *Cognitive and Behavioral Neurology*, 27(2), 107-116.

Objective and Background: Our aim was to characterize the association of 2 functional single nucleotide polymorphisms (rs6311 and rs6314) in the serotonin 2A receptor gene (HTR2A) with severity of depression symptoms in children with autism spectrum disorder. These polymorphisms have been shown to be associated with depression symptom severity and response to selective serotonin reuptake inhibitor drugs in adults with diagnosed depressive disorder. Methods: Parents of 104 children with autism spectrum disorder rated their children's depressive symptoms using a validated scale based on criteria from the Diagnostic and Statistical Manual of Mental Disorders, 4th edition. We compared severity of depression symptoms across the rs6311 and rs6314 genotypes, measured from the children's genomic DNA. Results: Children homozygous for the G allele of rs6311 had significantly more severe depression symptoms than those with G/A or A/A genotypes ( $P=0.025$ ). The effect size (partial  $\eta^2$ -squared) was small ( $\eta^2 p(2)=0.047$ ) but was somewhat larger when we controlled for severity of generalized anxiety disorder symptoms ( $P=0.006$ ,  $\eta^2 p(2)=0.072$ ). When we restricted our analyses to white participants, our results were essentially the same as for the entire sample ( $P=0.004$ ,  $\eta^2 p(2)=0.086$ ). There was no significant association between rs6314 (C/C versus T carriers) and severity of depression. Conclusions: Our findings suggest that the HTR2A functional rs6311 polymorphism, which other studies have associated with differential HTR2A mRNA expression, may modulate the severity of depression symptoms in children with autism spectrum disorder. These tentative, hypothesis-generating findings need replication with larger, independent samples. [**Childhood Symptom Inventory-4**]

- 14-15. Green, A.E., Kenworthy, L., Mosner, M.G., Gallagher, N.M., Fearon, E.W., & Balhana, C.D. et al. (2014). Abstract analogical reasoning in high-functioning children with autism spectrum disorders. *Autism Research*, 7, 677-686.

Children with autism spectrum disorders (ASD) exhibit a deficit in spontaneously recognizing abstract similarities that are crucial for generalizing learning to new situations. This may contribute to deficits in the development of appropriate schemas for navigating novel situations, including social interactions. Analogical reasoning is the central cognitive mechanism that enables typically developing children to understand abstract similarities between different situations. Intriguingly, studies of high-functioning children with ASD point to a relative cognitive strength in basic, nonabstract forms of analogical reasoning. If this analogical reasoning ability extends to abstract analogical reasoning (i.e., between superficially dissimilar situations), it may provide a bridge between a cognitive capability and core ASD deficits in areas such as generalization and categorization. This study tested whether preserved analogical reasoning abilities in ASD can be extended to abstract analogical reasoning, using photographs of real-world items and situations. Abstractness of the analogies was determined via a quantitative measure of semantic distance derived from latent semantic analysis. Children with ASD performed as well as typically developing children at identifying abstract analogical similarities when explicitly instructed to apply analogical reasoning. Individual differences in abstract analogical reasoning ability predicted individual differences in a measure of social function in the ASD group. Preliminary analyses indicated that children with ASD, but not typically developing children, showed an effect of age on abstract analogical reasoning. These results provide new evidence that children with ASD are capable of identifying abstract similarities through analogical reasoning, pointing to abstract analogical reasoning as a potential lever for improving generalization skills and social function in ASD. [**Child and Adolescent Symptom Inventory-4R**]

- 14-16. Haghighi, M., Khaterizadeh, M., Chalbani, G., Toobaei, S., & Ghanizadeh, A. (2014). Comparing the drawings of children with attention deficit hyperactivity disorder with normal children. *Iranian Journal of Psychiatry*, 9, 222-227.

**OBJECTIVE:** Attention deficit hyperactivity disorder (ADHD) is the most common behavioral problem during childhood and in school-aged children. Various projection drawings have been designed for assessing children's personality and psychological disorders including the tests of draw a person (DAP) and draw a family (DAF). We aimed to compare the differences between typically developing children and children with ADHD using these tests. **METHODS:** In this case-control study, all the 9-10 year-old boy students studying at the third and fourth grades were enrolled from schools in the 2nd educational district of Shiraz, south of Iran. Eighty students were then selected and enrolled into the ADHD group and the control group. The Diagnostic and Statistical Manual of Mental Disorders, 4th edition- text Revised (DSM-IV-TR), and the Child Symptoms Inventory-4 were used to diagnose the children with ADHD. We evaluated and analyzed impulsiveness, non-impulsiveness, emotional problems and incompatibility indices in the DAP and DAF tests in each group. **RESULTS:** A significant difference was found in the indices of incompatibility and emotional problems, impulsiveness, non-impulsiveness and DAF between typically developing children and those with ADHD. The mean ( $\pm$ SD) total scores of the above mentioned indices in the ADHD group were 19.79( $\pm$ 2.94), 12.31( $\pm$ 1.84), 5.26( $\pm$ 2.29) and 5.89( $\pm$ 2.13), respectively ( $P < 0.001$ ). The corresponding figures for these indices in the normal group were 12.11( $\pm$ 4.74), 5.63( $\pm$ 2), 10.36( $\pm$ 2.33) and 2.88( $\pm$ 2.13), respectively ( $P < 0.001$ ). **CONCLUSION:** Significant differences were obtained between the control group and children with ADHD using these two drawing tests. The rate of impulsivity and emotional problems indices in drawings of children with ADHD was markedly more common than those of the typically developing children. This suggests the need for further assessment to screen ADHD.

[*Child Symptoms Inventory-4, Farsi*]

- 14-17. Hammond, R. K., & Hoffman, J. M. (2014). Adolescents with high-functioning autism: An investigation of comorbid anxiety and depression. *Journal of Mental Health Research in Intellectual Disabilities*, 7(3), 246-263.

Adolescents with high-functioning autism (HFA) possess core social and pragmatic deficits, which interfere with normal relationship development. At a time when friendships are increasingly important, many adolescents with HFA realize they are different from their peers. Initial research has indicated that adolescence is the time when symptoms of anxiety and depression are most likely to develop. The purpose of this study was to increase knowledge about anxiety and depression in HFA through focusing on the adolescent development period and obtaining assessment information from multiple sources. Results indicate that adolescents reported elevated levels of social anxiety, separation panic, and anhedonia compared with normative samples. Parents and teachers reported that adolescents experienced significant overall anxiety and depressive symptomatology compared with the normative samples. Manifestations of HFA were associated with higher levels of anxiety as reported by parents. Results bring into question the validity of self-report scales for adolescents with HFA in the ability to accurately self-report and in the measures' capacity to differentiate between internalizing symptoms and core HFA behaviors. [*Adolescent Symptom Inventory-4; Youth's Inventory-4*]

- 14-18. Hipwell, A. E., Stepp, S. D., Xiong, S., Keenan, K., Blokland, A., & Loeber, R. (2014). Parental punishment and peer victimization as developmental precursors to physical dating violence involvement among girls. *Journal of Research on Adolescence*, 24(1), 65-79.

The current study examined harsh punishment and peer victimization as developmental precursors to girls' involvement in physical dating violence (PDV) and the putative mediating effect of rejection sensitivity. The sample comprised 475 African-American and European-American participants of the longitudinal Pittsburgh Girls Study who were dating at age 17. About 10% of girls reported significant perpetration or victimization of physical aggression in the relationship. Results showed that initial level and escalation in harsh punishment (between 10 and 13 years) and escalation in peer victimization (10-15 years) predicted PDV involvement, but this relationship was not mediated by rejection sensitivity. The results highlight the need to consider the impact of early experience of different forms of aggression on girls' risk of PDV involvement. [*Child Symptom Inventory-4*]

- 14-19. Hong, J., Novick, D., Treuer, T., Montgomery, W., Haynes, V. S., Wu, S., & Haro, J. M. (2014). Patient characteristics associated with treatment initiation among paediatric patients with Attention-Deficit/Hyperactivity Disorder symptoms in a naturalistic setting in Central Europe and East Asia. *BMC Psychiatry*, 14(1), 304.

**Background:** Cultural views of Attention Deficit/Hyperactivity Disorder (ADHD), differing healthcare systems and funding mechanisms, and the availability of mental health services can greatly influence the perceptions, diagnosis, and treatment of ADHD. There is, however, lack of information about treatment practice and the treatment decision-making process for ADHD, particularly in non-Western countries. Our study compared characteristics of paediatric patients newly diagnosed with ADHD symptoms who did and who did not initiate treatment, and also examined whether any differences varied by region in Central Europe and East Asia.

**Methods:** Data were taken from a 1 year prospective, observational study that included 1,068 paediatric patients newly diagnosed with ADHD symptoms. Clinical severity was measured using the Clinical Global Impression-ADHD-Severity (CGI-ADHD-S) scale and the Child Symptom Inventory-4 (CSI-4) checklist. Logistic regression was used to explore patient characteristics associated with treatment initiation (pharmacotherapy and/or psychotherapy) at baseline for each region. **Results:** A total of 74.3% of patients initiated treatment at baseline (78.3% in Central Europe and 69.9% in East Asia). Of these, 48.8% started with both pharmacotherapy and psychotherapy in Central Europe, and only 17.1% did so in East Asia. The level of clinical severity was highest in the combination treatment group in Central Europe, but was highest in the psychotherapy only group in East Asia. In East Asia, treatment initiation was associated with being older, being male, and having a higher CGI-ADHD-S score. In Central Europe, treatment initiation was associated with parental psychological distress, having a higher CSI-4 score, and not being involved in bullying. **Conclusions:** Although factors associated with treatment initiation differed to some extent between Central Europe and East Asia, clinical severity appeared to be one of the most important determinants of treatment initiation in both regions. However, the choice between pharmacotherapy and psychotherapy, either alone or in combination, varied substantially across the regions. [*Child Symptom Inventory-4, Czech, Hungarian, Romanian, Slovakian, Korean, Chinese, Mandarin, Turkish*]

- 14-20. Hummer, T. A., Kronenberger, W. G., Wang, Y., Anderson, C. C., & Mathews, V. P. (2014). Association of television violence exposure with executive functioning and white matter volume in young adult males. *Brain and cognition*, 88, 26-34.

Prior research has indicated that self-reported violent media exposure is associated with poorer performance on some neuropsychological tests in adolescents. This study aimed to examine the relationship of executive functioning to violent television viewing in healthy young adult males and examine how brain structure is associated with media exposure measures. Sixty-five healthy adult males (ages 18-29) with minimal video game experience estimated their television viewing habits over the past year and, during the subsequent week, recorded television viewing time and characteristics in a daily media diary. Participants then completed a battery of neuropsychological laboratory tests quantifying executive functions and underwent a magnetic resonance imaging (MRI) scan. Aggregate measures of executive functioning were not associated with measures of overall television viewing (any content type) during the past week or year. However, the amount of television viewing of violent content only, as indicated by both past-year and daily diary measures, was associated with poorer scores on an aggregate score of inhibition, interference control and attention, with no relationship to a composite working memory score. In addition, violent television exposure, as measured with daily media diaries, was associated with reduced frontoparietal white matter volume. Future longitudinal work is necessary to resolve whether individuals with poor executive function and slower white matter growth are more drawn to violent programming, or if extensive media violence exposure modifies cognitive control mechanisms mediated primarily via prefrontal cortex. Impaired inhibitory mechanisms may be related to reported increases in aggression with higher media violence exposure. [*Adult Self-Report Inventory-4*]

- 14-21. Keenan, K., Culbert, K. M., Grimm, K. J., Hipwell, A. E., & Stepp, S. D. (2014). Timing and tempo: Exploring the complex association between pubertal development and depression in African American and European American girls. *Journal of Abnormal Psychology*, 123(4), 725-736.

The relative contribution of pubertal timing and tempo to the development of depression has not been tested in a large, representative sample, nor has the interface among pubertal maturation, depression, and race been tested. Participants were a community-based sample of 2,450 girls from the Pittsburgh Girls Study who were interviewed annually from ages 9 to 17 years. Pubertal timing and tempo were characterized as a unitary construct and also separately for pubic hair and breast development using child and maternal report. Depression symptoms were assessed annually. African American girls had higher depression symptoms and progressed through puberty earlier, but at a slower tempo than European American girls. Girls with earlier timing had higher levels of

depression symptoms at age 10 years. Slower tempo was associated with higher depression symptoms at age 10, and faster tempo was associated with increases in depression from ages 10 to 13. As well, race moderated the associations among timing, tempo, and depression symptoms, and the association between race and depression was partially mediated by pubertal timing and tempo. Pubertal timing and tempo and race contribute to the developmental course of depression from early to late adolescence. The pattern of association varies as a function of the developmental window within which depression is assessed. Thus, repeated measures of depression symptoms and puberty across the span of pubertal development are necessary for exploring the relative importance of dimensions of pubertal development to depression etiology. [*Child Symptom Inventory-4; Adolescent Symptom Inventory-4*]

- 14-22. Kim, S., Kochanska, G., Boldt, L. J., Nordling, J. K., & O'Brien, J. J. (2014). Developmental trajectory from early responses to transgressions to future antisocial behavior: Evidence for the role of the parent-child relationship from two longitudinal studies. *Development and Psychopathology*, 26(01), 93-109.

Parent-child relationships are critical in development, but much remains to be learned about the mechanisms of their impact. We examined the early parent-child relationship as a moderator of the developmental trajectory from children's affective and behavioral responses to transgressions to future antisocial, externalizing behavior problems in the Family Study (102 community mothers, fathers, and infants, followed through age 8) and the Play Study (186 low-income, diverse mothers and toddlers, followed for 10 months). The relationship quality was indexed by attachment security in the Family Study and maternal responsiveness in the Play Study. Responses to transgressions (tense discomfort and reparation) were observed in laboratory mishaps wherein children believed they had damaged a valued object. Antisocial outcomes were rated by parents. In both studies, early relationships moderated the future developmental trajectory: diminished tense discomfort predicted more antisocial outcomes, but only in insecure or unresponsive relationships. That risk was defused in secure or responsive relationships. Moderated mediation analyses in the Family Study indicated that the links between diminished tense discomfort and future antisocial behavior in insecure parent-child dyads were mediated by stronger discipline pressure from parents. By indirectly influencing future developmental sequelae, early relationships may increase or decrease the probability that the parent-child dyad will embark on a path toward antisocial outcomes. [*Early Childhood Inventory-4; Child Symptom Inventory-4*]

- 14-23. Kimonis, E. R., Centifanti, L. C., Allen, J. L., & Frick, P. J. (2014). Reciprocal influences between negative life events and callous-unemotional traits. *Journal of Abnormal Child Psychology*, 42(8), 1287-1298.

Children with conduct problems and co-occurring callous-unemotional (CU) traits show more severe, stable, and aggressive antisocial behaviors than those without CU traits. Exposure to negative life events has been identified as an important contributing factor to the expression of CU traits across time, although the directionality of this effect has remained unknown due to a lack of longitudinal study. The present longitudinal study examined potential bidirectional effects of CU traits leading to experiencing more negative life events and negative life events leading to increases in CU traits across 3 years among a sample of community-based school-aged ( $M = 10.9$ ,  $SD = 1.71$  years) boys and girls ( $N = 98$ ). Repeated rating measures of CU traits, negative life events and conduct problems completed by children and parents during annual assessments were moderately to highly stable across time. Cross-lagged models supported a reciprocal relationship of moderate magnitude between child-reported CU traits and "controllable" negative life events. Parent-reported CU traits predicted "uncontrollable" life events at the earlier time point and controllable life events at the later time point, but no reciprocal effect was evident. These findings have important implications for understanding developmental processes that contribute to the stability of CU traits in youth. [*Adolescent Symptom Inventory-4*]

- 14-24. Kreiser, N. L., & White, S. W. (2014). Assessment of social anxiety in children and adolescents with autism spectrum disorder. *Clinical Psychology: Science and Practice*, 21(1), 18-31.

Despite the high prevalence of social anxiety in individuals with autism spectrum disorder (ASD), there is little agreement on how to best assess such problems in this population. To inform evidence-based assessment, we conducted a comprehensive review of research that has assessed social anxiety in children and adolescents with ASD without co-occurring intellectual disability. Although some evidence in support of the reliability of existing measures exists, there are concerns about inflated estimates of the co-occurrence of social anxiety because of symptom overlap with ASD diagnostic criteria, and the diagnostic sensitivity of existing measures is questionable.

Recommendations for clinical assessment of social anxiety in this population and future directions for research on this topic, including the development of new measures, are provided. [**Child Symptom Inventory-4; Adolescent Symptom Inventory-4**]

- 14-25. Lau, W. Y. P., Gau, S. S. F., Chiu, Y. N., & Wu, Y. Y. (2014). Autistic traits in couple dyads as a predictor of anxiety spectrum symptoms. *Journal of Autism and Developmental Disorders*, 44(11), 2949-2963.

The link between parental autistic tendency and anxiety symptoms was studied in 491 Taiwanese couples raising biological children with autism spectrum disorders (ASDs). Parental autistic tendency as measured by Autism Spectrum Quotient (AQ) was associated with anxiety symptoms across all domains. Large effect sizes were found in social phobia and post traumatic stress disorders for both parents, and in general anxiety disorder and agoraphobia for mothers. These associations were irrespective of child's autistic tendency, spouse's AQ scores and the couples' compatibility in their autistic tendency. Perceived family support and parental education moderated the link but not child's autistic severity. Research and clinical implications regarding psychiatric vulnerability of parents of children with ASD were drawn and discussed. [**Adult Self-Report Inventory-4, Chinese**]

- 14-26. Lecavalier, L., Wood, J. J., Halladay, A. K., Jones, N. E., Aman, M. G., Cook, E. H., ... & Scahill, L. (2014). Measuring anxiety as a treatment endpoint in youth with autism spectrum disorder. *Journal of Autism and Developmental Disorders*, 44(5), 1128-1143.

Despite the high rate of anxiety in individuals with autism spectrum disorder (ASD), measuring anxiety in ASD is fraught with uncertainty. This is due, in part, to incomplete consensus on the manifestations of anxiety in this population. Autism Speaks assembled a panel of experts to conduct a systematic review of available measures for anxiety in youth with ASD. To complete the review, the panel held monthly conference calls and two face-to-face meetings over a fourteen-month period. Thirty eight published studies were reviewed and ten assessment measures were examined: four were deemed appropriate for use in clinical trials, although with conditions; three were judged to be potentially appropriate, while three were considered not useful for clinical trials assessing anxiety. Despite recent advances, additional relevant, reliable and valid outcome measures are needed to evaluate treatments for anxiety in ASD. [**Child and Adolescent Symptom Inventory-4R; CASI Anxiety Scale**]

- 14-27. López-Villalobos, J. A., Llano, A. D., María, J., Rodríguez-Molinero, L., Garrido-Redondo, M., Sacristán-Martín, A. M., ... & Sánchez-Azón, M. I. (2014). Prevalence of oppositional defiant disorder in Spain. *Revista de Psiquiatría y Salud Mental (English Edition)*.

Introduction: Oppositional defiant disorder (ODD) is characterized by a pattern of negative, defiant, disobedient and hostile behavior toward authority figures. ODD is one of the most frequent reasons for clinical consultation on mental health during childhood and adolescence. ODD has a high morbidity and dysfunction, and has important implications for the future if not treated early. Objective: To determine the prevalence of ODD in schoolchildren aged 6-16 years in Castile and Leon (Spain). Material and methods: Population study with a stratified multistage sample, and a proportional cluster design. Sample analyzed: 1,049. Cases were defined according to DSM-IV criteria. Results: An overall prevalence rate of 5.6% was found (95% CI: 4.2%-7%). Male gender prevalence = 6.8%; female = 4.3%. Prevalence in secondary education = 6.2%; primary education = 5.3%. No significant differences by gender, age, grade, type of school, or demographic area were found. ODD prevalence without considering functional impairment, such as is performed in some research, would increase the prevalence to 7.4%. ODD cases have significantly worse academic outcomes (overall academic performance, reading, maths and writing), and worse classroom behavior (relationship with peers, respect for rules, organizational skills, academic tasks, and disruption of the class). Conclusions: Castile and Leon has a prevalence rate of ODD slightly higher to that observed in international publications. Depending on the distribution by age, morbidity and clinical dysfunctional impact, an early diagnosis and a preventive intervention are required for health planning. [**Child Symptom Inventory-4, Spanish**]

- 14-28. Mattison, R. E., Rundberg-Rivera, V., & Michel, C. (2014). Psychotropic medication characteristics for special education students with emotional and/or behavioral disorders. *Journal of Child and Adolescent Psychopharmacology*, 24(6), 347-353. doi:10.1089/cap.2013.0073



Objective: Characteristics of psychotropic medication use have rarely been investigated for special education students with emotional and/or behavioral disorders. Methods: The prevalence of psychotropic medication use was obtained at the beginning of a school year for a cohort of 77 students attending a self-contained middle school for special education students with emotional and/or behavioral problems, in the suburban New York City area. Demographics, intelligence quotient (IQ) and achievement testing, and objective measures of both psychopathology and school functioning were gathered. Results: Overall, psychotropic medication was used in 77.9% of the participants; 52.0% received more than one medication. The most commonly prescribed medicines were atypical antipsychotics (49.4%) followed by attention-deficit/hyperactivity disorder (ADHD) medications (48.0%). Usage patterns for specific diagnostic presentations were examined, and appeared consistent with current clinical practice. Persistent elevated psychopathology appeared frequently in students on medication. Conclusions: Psychotropic medication use in this unique but important sample of special education students appeared generally consistent with recent psychotropic prevalence research. The need for collaboration between special education teachers and prescribing physicians, in order to achieve optimal medication adjustment for these students, was highlighted. [**Adolescent Symptom Inventory-4**]

- 14-29. Mazefsky, C. A., Borue, X., Day, T. N., & Minshew, N. J. (2014). Emotion regulation patterns in adolescents with high-functioning autism spectrum disorder: comparison to typically developing adolescents and association with psychiatric symptoms. *Autism Research*, 7(3), 344-354.

Autism spectrum disorder (ASD) is often associated with poor emotional control and psychopathology, such as anxiety and depression; however, little is known about the underlying mechanisms. Emotion regulation (ER) is a potential contributing factor, but there has been limited research on ER and its role in comorbid psychopathology in ASD. In this study, we compared self-reported ER with self- and parent reports of psychopathology in 25 high-functioning adolescents with ASD and 23 age- and Intelligence Quotient (IQ)-matched typically developing controls. Contrary to expectations, both groups reported similar levels of adaptive, voluntary forms of ER (problem solving, acceptance, etc.). However, the ASD group reported significantly greater use of involuntary forms of ER that are typically maladaptive, including remaining focused on the stressor (e.g. rumination and emotional arousal) and shutting down (e.g. emotional numbing and being unable to think or act). Associations between ER and psychopathology were generally more robust using self-report rather than parent report. For both groups, greater endorsement of involuntary ER strategies was associated with higher ratings of psychopathology, whereas voluntary ER strategies focused on changing or adapting to the situation were significantly associated with lower levels of psychopathology. The magnitude and direction of association between ER types and psychopathology were similar for measures of depression and anxiety. These findings can help guide the development of psychosocial treatments targeting dysfunctional ER in adolescents with ASD. Interventions focused on ER as a transdiagnostic process may be a more robust method to improve emotional control and decrease emotional distress in ASD than disorder-specific interventions. [**Adolescent Symptom Inventory-4**]

- 14-30. McBurnett, K., Villodas, M., Burns, G. L., Hinshaw, S. P., Beaulieu, A., & Pfiffner, L. J. (2014). Structure and validity of sluggish cognitive tempo using an expanded item pool in children with attention-deficit/hyperactivity disorder. *Journal of Abnormal Child Psychology*, 42(1), 37-48.

We evaluated the latent structure and validity of an expanded pool of Sluggish Cognitive Tempo (SCT) items. An experimental rating scale with 44 candidate SCT items was administered to parents and teachers of 165 children in grades 2-5 (ages 7-11) recruited for a randomized clinical trial of a psychosocial intervention for Attention-Deficit/Hyperactivity Disorder, Predominantly Inattentive Type. Exploratory factor analyses (EFA) were used to extract items with high loadings (>0.59) on primary factors of SCT and low cross-loadings (0.30 or lower) on other SCT factors and on the Inattention factor of ADHD. Items were required to meet these criteria for both informants. This procedure reduced the pool to 15 items. Generally, items representing slowness and low initiative failed these criteria. SCT factors (termed Daydreaming, Working Memory Problems, and Sleepy/Tired) showed good convergent and discriminant validity in EFA and in a confirmatory model with ADHD factors. Simultaneous regressions of impairment and comorbidity on SCT and ADHD factors found that Daydreams was associated with global impairment, and Sleepy/Tired was associated with organizational problems and depression ratings, across both informants. For teachers, Daydreams also predicted ODD (inversely); Sleepy/Tired also predicted poor academic behavior, low social skills, and problem social behavior; and Working Memory Problems predicted organizational problems and anxiety. When depression, rather than ADHD, was included among the predictors, the only SCT-related associations rendered insignificant were the teacher-reported associations of Daydreams

with ODD; Working Memory Problems with anxiety, and Sleepy/Tired with poor social skills. SCT appears to be meaningfully associated with impairment, even when controlling for depression. Common behaviors resembling Working Memory problems may represent a previously undescribed factor of SCT. [**Child Symptom Inventory-4**]

- 14-31. Morizot, J. (2014). Construct validity of adolescents' self-reported big five personality traits: Importance of conceptual breadth and initial validation of a short measure. *Assessment*, 21(5), 580-606.

While there are a number of short personality trait measures that have been validated for use with adults, few are specifically validated for use with adolescents. To trust such measures, it must be demonstrated that they have adequate construct validity. According to the view of construct validity as a unifying form of validity requiring the integration of different complementary sources of information, this article reports the evaluation of content, factor, convergent, and criterion validities as well as reliability of adolescents' self-reported personality traits. Moreover, this study sought to address an inherent potential limitation of short personality trait measures, namely their limited conceptual breadth. In this study, starting with items from a known measure, after the language-level was adjusted for use with adolescents, items tapping fundamental primary traits were added to determine the impact of added conceptual breadth on the psychometric properties of the scales. The resulting new measure was named the Big Five Personality Trait Short Questionnaire (BFPTSQ). A group of expert judges considered the items to have adequate content validity. Using data from a community sample of early adolescents, the results confirmed the factor validity of the Big Five structure in adolescence as well as its measurement invariance across genders. More important, the added items did improve the convergent and criterion validities of the scales, but did not negatively affect their reliability. This study supports the construct validity of adolescents' self-reported personality traits and points to the importance of conceptual breadth in short personality measures. [**Youth's Inventory-4**]

- 14-32. Olino, T. M., Dougherty, L. R., Bufferd, S. J., Carlson, G. A., & Klein, D. N. (2014). Testing models of psychopathology in preschool-aged children using a structured interview-based assessment. *Journal of Abnormal Child Psychology*, 42(7), 1201-1211.

A number of studies have found that broadband internalizing and externalizing factors provide a parsimonious framework for understanding the structure of psychopathology across childhood, adolescence, and adulthood. However, few of these studies have examined psychopathology in young children, and several recent studies have found support for alternative models, including a bi-factor model with common and specific factors. The present study used parents' (typically mothers') reports on a diagnostic interview in a community sample of 3-year old children (n = 541; 53.9 % male) to compare the internalizing-externalizing latent factor model with a bi-factor model. The bi-factor model provided a better fit to the data. To test the concurrent validity of this solution, we examined associations between this model and paternal reports and laboratory observations of child temperament. The internalizing factor was associated with low levels of surgency and high levels of fear; the externalizing factor was associated with high levels of surgency and disinhibition and low levels of effortful control; and the common factor was associated with high levels of surgency and negative affect and low levels of effortful control. These results suggest that psychopathology in preschool-aged children may be explained by a single, common factor influencing nearly all disorders and unique internalizing and externalizing factors. These findings indicate that shared variance across internalizing and externalizing domains is substantial and are consistent with recent suggestions that emotion regulation difficulties may be a common vulnerability for a wide array of psychopathology. [**Child Symptom Inventory-4; Early Childhood Inventory-4**]

- 14-33. Olino, T. M., Stepp, S. D., Keenan, K., Loeber, R., & Hipwell, A. (2014). Trajectories of depression and anxiety symptoms in adolescent girls: A comparison of parallel trajectory approaches. *Journal of Personality Assessment*, 96(3), 316-326.

Longitudinal mixture models have become popular in the literature. However, modest attention has been paid to whether these models provide a better fit to the data than growth models. Here, we compared longitudinal mixture models to growth models in the context of changes in depression and anxiety symptoms in a community sample of girls from age 10 to 17. Model comparisons found that the preferred solution was a 5-class parallel process growth mixture model that differed in the course of depression and anxiety symptoms reflecting both ordering of symptoms and qualitative group differences. Comparisons between classes revealed substantive differences on a number of outcomes using this solution. Findings are discussed in the context of clinical assessment and implementation of growth mixture models. [**Adolescent Symptom Inventory-4**]

- 14-34. Piffner, L. J., Hinshaw, S. P., Owens, E., Zalecki, C., Kaiser, N. M., Villodas, M., & McBurnett, K. (2014). A two-site randomized clinical trial of integrated psychosocial treatment for ADHD-inattentive type. *Journal of Consulting and Clinical Psychology*, 82(6), 1115-1127.

Objective: This study evaluated the efficacy of the Child Life and Attention Skills (CLAS) program, a behavioral psychosocial treatment integrated across home and school, for youth with attention-deficit/hyperactivity disorder-inattentive type (ADHD-I). Method: In a 2-site randomized controlled trial, 199 children (ages 7-11 years) were randomized to CLAS (N = 74), parent-focused treatment (PFT, N = 74), or treatment as usual (TAU, N = 51). We compared groups on parent and teacher ratings of inattention symptoms, organizational skills, social skills, and global improvement at posttreatment and also at follow-up during the subsequent school year. Results: CLAS resulted in greater improvements in teacher-reported inattention, organizational skills, social skills, and global functioning relative to both PFT and TAU at posttreatment. Parents of children in CLAS reported greater improvement in organizational skills than PFT and greater improvements on all outcomes relative to TAU at posttreatment. Differences between CLAS and TAU were maintained at follow-up for most parent-reported measures but were not significant for teacher-reported outcomes. Conclusions: These findings extend support for CLAS across 2 study sites, revealing that integrating parent, teacher, and child treatment components, specifically adapted for ADHD-I, is superior to parent training alone and to usual care. Direct involvement of teachers and children in CLAS appears to amplify effects at school and home and underscores the importance of coordinating parent, teacher, and child treatment components for cross-setting effects on symptoms and impairment associated with ADHD-I. [**Child Symptom Inventory-4; ADHD Symptom Checklist-4**]

- 14-35. Scahill, L., Dimitropoulos, A., McDougle, C. J., Aman, M. G., Feurer, I. D., McCracken, J. T., ... & Vitiello, B. (2014). Children's Yale-Brown Obsessive Compulsive Scale in autism spectrum disorder: component structure and correlates of symptom checklist. *Journal of the American Academy of Child & Adolescent Psychiatry*, 53(1), 97-107.

Objective: Repetitive behaviors in autism spectrum disorders (ASD) range from motor stereotypy to immersion in restricted interests. The modified Children's Yale Brown Obsessive Compulsive Scale for children with autism spectrum disorder (CYBOCS-ASD) includes a Symptom Checklist (behavior present or absent) and 5 severity scales (Time Spent, Interference, Distress, Resistance and Control). Method: We assembled CYBOCS-ASD data from 3 Research Units on Pediatric Psychopharmacology Autism Network trials to explore the component structure of repetitive behaviors in children with ASD. Raters trained to reliability conducted the CYBOCS-ASD in 272 medication-free subjects. Fifteen Symptom Checklist items were endorsed for less than 5% of the sample and were dropped. Principal component analysis was used to explore the clustering of 23 checklist items. Component scores computed for each subject were correlated with other measures. We also examined the distribution of severity scales. Results: The subjects (229 boys and 43 girls; mean age = 7.8 +/- 2.6 years) met criteria for an ASD; half were intellectually disabled. The PCA resulted in a 5-component solution to classify repetitive behaviors (34.4% of the variance): hoarding and ritualistic behavior; sensory and arranging behavior; sameness and self-injurious behavior; stereotypy; restricted interests. Sensory and arranging and stereotypy components were associated with lower adaptive functioning (Pearson  $r = 0.2-0.3$ ;  $p < .003$ ). The resistance scale showed little variation, with more than 60% of the sample with the highest score. Conclusions: Rarely endorsed items can be dropped from the Checklist. The resistance item does not appear to be relevant for children with ASD. [**Child and Adolescent Symptom Inventory-4**]

- 14-36. Schreiber, J. M., Lanham, D. C., Trescher, W. H., Sparks, S. E., Wassif, C. A., Caffo, B. S., ... & Ewen, J. B. (2014). Variations in EEG discharges predict ADHD severity within individual Smith-Lemli-Opitz patients. *Neurology*, 83(2), 151-159.

Objective: We sought to examine the prevalence of EEG abnormalities in Smith-Lemli-Opitz syndrome (SLOS) as well as the relationship between interictal epileptiform discharges (IEDs) and within-subject variations in attentional symptom severity. Methods: In the context of a clinical trial for SLOS, we performed cross-sectional and repeated-measure observational studies of the relationship between EEG findings and cognitive/behavioral factors on 23 children (aged 4-17 years). EEGs were reviewed for clinical abnormalities, including IEDs, by readers blinded to participants' behavioral symptoms. Between-group differences in baseline characteristics of participants with and without IEDs were analyzed. Within-subject analyses examined the association between the presence of IEDs and

changes in attention-deficit/hyperactivity disorder (ADHD) symptoms. Results: Of 85 EEGs, 43 (51%) were abnormal, predominantly because of IEDs. Only one subject had documented clinical seizures. IEDs clustered in 13 subjects (57%), whereas 9 subjects (39%) had EEGs consistently free of IEDs. While there were no significant group differences in sex, age, intellectual disability, language level, or baseline ADHD symptoms, autistic symptoms tended to be more prevalent in the "IED" group (according to Autism Diagnostic Observation Schedule-2 criteria). Within individuals, the presence of IEDs on a particular EEG predicted, on average, a 27% increase in ADHD symptom severity. Conclusions: Epileptiform discharges are common in SLOS, despite a relatively low prevalence of epilepsy. Fluctuations in the presence of epileptiform discharges within individual children with a developmental disability syndrome may be associated with fluctuations in ADHD symptomatology, even in the absence of clinical seizures. [**Child Symptom Inventory-4, Adolescent Symptom Inventory-4**]

- 14-37. Stepp, S. D., Whalen, D. J., Scott, L. N., Zalewski, M., Loeber, R., & Hipwell, A. E. (2014). Reciprocal effects of parenting and borderline personality disorder symptoms in adolescent girls. *Development and Psychopathology*, 26(02), 361-378.

Theories of borderline personality disorder (BPD) postulate that high-risk transactions between caregiver and child are important for the development and maintenance of the disorder. Little empirical evidence exists regarding the reciprocal effects of parenting on the development of BPD symptoms in adolescence. The impact of child and caregiver characteristics on this reciprocal relationship is also unknown. Thus, the current study examines bidirectional effects of parenting, specifically harsh punishment practices and caregiver low warmth, and BPD symptoms in girls aged 14-17 years based on annual, longitudinal data from the Pittsburgh Girls Study (N = 2,451) in the context of child and caregiver characteristics. We examined these associations through the use of autoregressive latent trajectory models to differentiate time-specific variations in BPD symptoms and parenting from the stable processes that steadily influence repeated measures within an individual. The developmental trajectories of BPD symptoms and parenting were moderately associated, suggesting a reciprocal relationship. There was some support for time-specific elevations in BPD symptoms predicting subsequent increases in harsh punishment and caregiver low warmth. There was little support for increases in harsh punishment and caregiver low warmth predicting subsequent elevations in BPD symptoms. Child impulsivity and negative affectivity, and caregiver psychopathology were related to parenting trajectories, while only child characteristics predicted BPD trajectories. The results highlight the stability of the reciprocal associations between parenting and BPD trajectories in adolescent girls and add to our understanding of the longitudinal course of BPD in youth.

[**Adolescent Symptom Inventory-4**]

- 14-38. Taylor, Z. E., Eisenberg, N., VanSchyndel, S. K., Eggum-Wilkens, N. D., & Spinrad, T. L. (2014). Children's negative emotions and ego-resiliency: Longitudinal relations with social competence. *Emotion*, 14(2), 397.

We examined the relations of negative emotions in toddlerhood to the development of ego-resiliency and social competence across early childhood. Specifically, we addressed whether fear and anger/frustration in 30-month-old children (N = 213) was associated with the development of ego-resiliency across 4 time points (42 to 84 months), and, in turn, whether ego-resiliency predicted social competence at 84 months. Child anger/frustration negatively predicted the intercept of ego-resiliency at 42 months (controlling for prior ego-resiliency at 18 months) as well as the slope. Fear did not significantly predict either the intercept or slope of ego-resiliency in the structural model, although it was positively correlated with anger/frustration and was negatively related to ego-resiliency in zero-order correlations. The slope of ego-resiliency was positively related to children's social competence at 84 months; however, the intercept of ego-resiliency (set at 42 months) was not a significant predictor of later social competence. Furthermore, the slope of ego-resiliency mediated the relations between anger/frustration and children's later social competence. The results suggest that individual differences in anger/frustration might contribute to the development of ego-resiliency, which, in turn, is associated with children's social competence.

[**Child Symptom Inventory-4**]

- 14-39. Theunissen, S. C., Rieffe, C., Kouwenberg, M., De Raeve, L. J., Soede, W., Briare, J. J., & Frijns, J. H. (2014). Behavioral problems in school-aged hearing-impaired children: the influence of sociodemographic, linguistic, and medical factors. *European Child & Adolescent Psychiatry*, 23(4), 187-196.

The purpose of this study was to examine several behavioral problems in school-aged hearing-impaired children with hearing aids or cochlear implants, compared to normally hearing children. Additionally, we wanted to

investigate which sociodemographic, linguistic, and medical factors contributed to the level of behavioral problems, to pinpoint where targeted interventions can take place. This large, retrospective study included a sample of 261 school-aged children (mean age = 11.8 years, SD = 1.6), that consisted of three age- and gender-matched subgroups: 75 with hearing aids, 57 with cochlear implants, and 129 normally hearing controls. Self- and parent-reports concerning reactive and proactive aggression, delinquency, and symptoms of psychopathy, attention deficit hyperactivity disorder, oppositional defiant disorder, and conduct disorder were used. In addition, several language and intelligence tests were administered. Hearing-impaired children showed significantly more proactive aggression, symptoms of psychopathy, attention deficit hyperactivity disorder, oppositional defiant disorder, and conduct disorder than their normally hearing peers. More behavioral problems were associated with special schools for the deaf, sign (-supported) language, hearing aids (in contrast to cochlear implants), higher age, male gender, lower socioeconomic status, lower intelligence, and delayed language development. Hearing-impaired children face multiple problems regarding their behavior. The outcomes implicate that professionals should be aware of the higher risk of developing behavioral problems, in order to screen, detect, and treat in time. Furthermore, the associated risk and protective factors emphasize that clinicians must always consider the heterogeneity of the group of hearing-impaired children, in order to help and support the individual patient. **[Childhood and Adolescent Symptom Inventory-4, Dutch]**

- 14-40. Tolou-Shams, M., Rizzo, C. J., Conrad, S. M., Johnson, S., Oliveira, C., & Brown, L. K. (2014). Predictors of detention among juveniles referred for a court clinic forensic evaluation. *Journal of the American Academy of Psychiatry and the Law Online*, 42(1), 56-65.

Juvenile offenders have disproportionately high rates of psychiatric and substance use disorders relative to their nonoffending counterparts. Less is known about the impact of psychiatric and substance use disorders on repeat juvenile justice involvement among juveniles specifically referred for forensic mental health evaluations. We describe the demographic, psychiatric, and legal history background of 404 juveniles who underwent a court clinic forensic mental health evaluation, and we examine the association between these factors and detention rates of 20 percent over a 12-month postevaluation period. After accounting for known predictors of reoffending, such as prior offense history and externalizing disorders, dual diagnosis (i.e., co-occurring psychiatric and substance use disorders) remained a salient predictor of future detention. Consistent with prior literature on juvenile offending, substance use may greatly enhance the likelihood of subsequent detention. **[Adolescent Symptom Inventory-4; Youth's Inventory-4]**

- 14-41. Tseng, M. C. M., Gau, S. S. F., Tseng, W. L., Hwu, H. G., & Lee, M. B. (2014). Co-occurring eating and psychiatric symptoms in Taiwanese college students: Effects of gender and parental factors. *Journal of Clinical Psychology*, 70(3), 224-237.

Objective: To test whether gender and parental factors moderate the relationships between symptoms of eating disorder (ED) and other psychiatric symptoms. Methods: A total of 5,015 new entrants completed several questionnaires and 541 individuals with ED symptoms were identified by the Adult Self-Report Inventory-4 that assessed a wide range of Diagnostic and Statistical Manual of Mental Disorders Fourth Edition psychopathology. The participants also reported on their parents' attitude toward them before their ages of 16. Results: ED symptoms, female gender, less parental care, and more parental protection were associated with more severe co-occurring psychiatric symptoms. Gender and parental factors also demonstrated differential moderating effects on the relationships between ED and co-occurring psychiatric symptoms. Conclusions: Parenting counseling may be individualized to young adults with ED symptoms and different co-occurring psychiatric symptoms. **[Adult Self-Report Inventory-4, Chinese translation]**

- 14-42. Tseng, M. C. M., Gau, S. S. F., Tseng, W. L., Hwu, H. G., & Lee, M. B. (2014). Co-occurring eating and psychiatric symptoms in Taiwanese college students: Effects of gender and parental factors. *Journal of Clinical Psychology*, 70(3), 224-237.

With the publication of the Diagnostic and Statistical Manual of Mental Disorders-Fifth Edition, autism spectrum disorders are defined by two symptom clusters (social communication and restricted/repetitive behaviors) instead of the current three clusters. The current study examined the structure of the Baby and Infant Screen for Children with aUtism Traits (BISCUIT). First, an exploratory factor analysis was replicated whose results were largely comparable to the previous findings. Then, confirmatory factor analyses compared a two and three factor structure

for the BISCUIT. Measures of model fit supported both the two and three factor models relatively well. When directly compared, the three factor model was found to be preferred over the two factor model. Implications are discussed. [**Adult Self Report Inventory-4**, Chinese translation]

- 14-43. Vander Wyk, B. C., Hoffman, F., & Pelphrey, K. A. (2014). Equivalent neural responses in children and adolescents with and without autism during judgments of affect. *Developmental Cognitive Neuroscience*, 8, 121-130.

Previous research has noted disrupted patterns of neural activation during emotion, processing in individuals with autism spectrum disorders (ASD). However, prior research relied on, designs that may place greater cognitive load on individuals with ASD. In order to address this issue, we adapted the fMRI task of Ochsner et al. (2004a) for children by, presenting fewer stimuli, with fewer valence levels, and longer stimuli duration. A localizer sample of, typically developing children (n = 26) was used to construct regions of interest involved in emotional, processing. Activations in these regions during self- and other-referential emotion processing was, compared in age, IQ, gender matched groups (n = 17 ASD, n = 16 TD). Matched samples replicate, condition contrasts of the localizer, but no group differences were found in behavior measures or, neural activation. An exploratory functional connectivity analysis in a subset of the matched groups, also did not detect striking differences between the groups. These findings suggest that disruptions in activation in emotion processing neural networks in ASD is partially a function of task related cognitive load. [**Adolescent Symptom Inventory-4**]

- 14-44. Villodas, M. T., McBurnett, K., Kaiser, N., Rooney, M., & Piffner, L. J. (2014). Additive effects of parent adherence on social and behavioral outcomes of a collaborative school-home behavioral intervention for ADHD. *Child Psychiatry & Human Development*, 45(3), 348-360.

The present study evaluated the impact of the Collaborative Life Skills Program (CLS), a novel school-home psychosocial intervention, on social and behavioral impairments among children with attention and behavior problems. Fifty-seven ethnically/racially diverse children (70 % boys) with attention and/or behavior problems in the second through fifth grades participated in a pilot study. Ten school-based mental health professionals were trained and then implemented the intervention at their respective schools. Children significantly improved from pre- to post-treatment on parent, teacher, and report card ratings of children's social and behavioral functioning. Treatment improvements were consistent for children with and without co-occurring disruptive behavior problems. The impact of the intervention was enhanced when parents used the intervention strategies more regularly, according to both clinicians' and parents' reports. Findings support the emphasis of CLS on coordinating intervention strategies across contexts to facilitate the generalization of treatment-related improvements in social and behavioral functioning. [**Child Symptom Inventory-4; ADHD Symptom Checklist-4**]

- 14-45. Wheeler, A., Raspa, M., Bann, C., Bishop, E., Hessel, D., Sacco, P., & Bailey, D. B. (2014). Anxiety, attention problems, hyperactivity, and the Aberrant Behavior Checklist in fragile X syndrome. *American Journal of Medical Genetics Part A*, 164(1), 141-155.

Behavior problems are a common challenge for individuals with fragile X syndrome (FXS) and constitute the primary clinical outcome domain in trials testing new FXS medications. However, little is known about the relationship between caregiver-reported behavior problems and co-occurring conditions such as anxiety and attention problems. In this study, 350 caregivers, each with at least one son or daughter with full-mutation FXS, rated one of their children with FXS using the Aberrant Behavior ChecklistCommunity Version (ABC-C); the Anxiety subscale of the Anxiety, Depression, and Mood Scale; and the Attention/Hyperactivity Items from the Symptom Inventories. In addition to examining family consequences of these behaviors, this study also sought to replicate psychometric findings for the ABC-C in FXS, to provide greater confidence for its use in clinical trials with this population. Psychometric properties and baseline ratings of problem behavior were consistent with other recent studies, further establishing the profile of problem behavior in FXS. Cross-sectional analyses suggest that selected dimensions of problem behavior, anxiety, and hyperactivity are age related; thus, age should serve as an important control in any studies of problem behavior in FXS. Measures of anxiety, attention, and hyperactivity were highly associated with behavior problems, suggesting that these factors at least coincide with problem behavior. However, these problems generally did not add substantially to variance in caregiver burden predicted by elevated behavior problems. The results provide further evidence of the incidence of problem behaviors and co-occurring conditions in FXS and the impact of these behaviors on the family. [**Childhood & Adolescent Symptom**]

**Inventory-4R; Adult Symptom Inventory-4]**

- 14-46. White, S. W., Smith, L. A., & Schry, A. R. (2014). Assessment of global functioning in adolescents with autism spectrum disorders: Utility of the Developmental Disability–Child Global Assessment Scale. *Autism*, 18(4), 362-369.

Assessment of global functioning is an important consideration in treatment outcome research; yet, there is little guidance on its evidence-based assessment for children with autism spectrum disorders. This study investigated the utility and validity of clinician-rated global functioning using the Developmental Disability-Child Global Assessment Scale in a sample of higher functioning adolescents with autism spectrum disorders and comorbid anxiety disorders enrolled in a randomized controlled trial ( $n = 30$ ). Pretreatment Developmental Disability-Child Global Assessment Scale scores correlated with severity of autism spectrum disorders core symptoms ( $r = -.388$ ,  $p = .034$ ), pragmatic communication ( $r = .407$ ,  $p = .032$ ), and verbal ability ( $r = .449$ ,  $p = .013$ ) and did not correlate with severity of anxiety symptoms or with parent-reported adaptive behavior. Change in Developmental Disability-Child Global Assessment Scale scores during treatment was associated with autism spectrum disorders symptomatic improvement ( $r = .414$ ,  $p = .040$ ) and with improved general communication ( $r = .499$ ,  $p = .013$ ). Results support the importance of assessing global functioning in addition to symptom change and treatment response in clinical trials. [**Adolescent Symptom Inventory-4**]

- 14-47. Yoosefi Looyeh, M., Kamali, K., Ghasemi, A., & Tonawanik, P. (2014). Treating social phobia in children through group narrative therapy. *The Arts in Psychotherapy*, 41(1), 16-20.

This study explored the effectiveness of group narrative therapy in treating the symptoms of social phobia among boys. Twenty-four boys, aged 10-11 with a confirmed diagnosis of social phobia were randomly assigned to receive treatment ( $N = 12$ ) or placed on a waiting list ( $N = 12$ ) considered as a control group. The treatment group received fourteen 90-min sessions of narrative therapy twice a week. Results showed significant differences in the symptom scores for the intervention and waiting list groups. Assessment by parents and teachers showed that the group narrative therapy had a significant effect on reducing symptoms of social phobia among participants in the treatment group both at home and school settings one week after completion of treatment and sustained after thirty days. [**Adolescent Symptom Inventory-4; Child Symptom Inventory-4**]

**YEAR: 2013**

- 13.1 Altin, M., El-Shafei, A.A., Yu, M., Desai, D., Treuer, T., Zavadenko, N.N., & Gao, H.Y. (2013). Pharmacological treatment for attention deficit hyperactivity disorder: functional outcomes in children and adolescents. *Drugs in Context*, 212260. doi: 10.7573/dic.212260

Objective: Functional outcomes were measured over a 12-month period in children and adolescents with attention deficit hyperactivity disorder (ADHD) after they received monotherapy. Design: Prospective, observational, noninterventive study. Setting: Conducted in six non-Western countries. Participants: Outpatients 6 to 17 years of age with a verified diagnosis of ADHD in accordance with the Diagnostic and Statistical Manual, Fourth Edition, Text Revision (DSM-IV-TR), together with their physicians, decided to initiate or switch treatment for ADHD. Patients were prescribed pharmacological monotherapy: methylphenidate ( $n=221$ ), nootropic agents ( $n=91$ ), or atomoxetine ( $n=234$ ). Measurements: Patients were followed for changes in their functional status and quality of life, which were assessed with the Child Health and Illness Profile–Child Edition (CHIPCE) Achievement domain. Results: At the end of the study, a mean improvement on the CHIP-CE Achievement domain score was observed for all countries and therapies except in Taiwan, where patients received atomoxetine, and in Lebanon, where patients received methylphenidate. No patient experienced a serious adverse event during the study. Four patients discontinued due to a treatment-emergent adverse event. Conclusion: After 12 months of treatment, clinical and functional outcomes were improved in children and adolescents from non-Western countries who initiated and remained on their prescribed pharmacological monotherapy. [**Child Symptom Inventory-4**, Arabic, Russian, and Mandarin translations]

- 13-2. Arnold, L. E., Mount, K., Frazier, T., Demeter, C., Youngstrom, E. A., Fristad, M. A.,... & Axelson, D. (2012). Pediatric bipolar disorder and ADHD: Family history comparison in the LAMS clinical sample. *Journal of Affective Disorders*, 141(2), 382-389.

Background: Transgenerational association of bipolar spectrum disorder (BPSD) and attention deficit/hyperactivity disorder (ADHD) has been reported, but inconclusively. Method: Children ages 6-12 were systematically recruited at first outpatient visit at 9 clinics at four universities and reliably diagnosed; 621 had elevated symptoms of mania (>12 on the Parent General Behavior Inventory 10-Item Mania Scale); 86 had scores below 12. We analyzed baseline data to test a familial association hypothesis: compared to children with neither BPSD nor ADHD, those with either BPSD or ADHD would have parents with higher rates of both bipolar and ADHD symptoms, and parents of comorbid children would have even higher rates of both. Results: Of 707 children, 421 had ADHD without BPSD, 45 BPSD without ADHD, 117 comorbid ADHD+BPSD, and 124 neither. The rate of parental manic symptoms was similar for the comorbid and BPSD-alone groups, significantly greater than for ADHD alone and "neither" groups, which had similar rates. ADHD symptoms in parents of children with BPSD alone were significantly less frequent than in parents of children with ADHD (alone or comorbid), and no greater than for children with neither diagnosis. Family history of manic symptoms, but not ADHD symptoms, was associated with parent-rated child manic-symptom severity over and above child diagnosis. Limitations: The sample was not epidemiologic, parent symptoms were based on family history questions, and alpha was 0.05 despite multiple tests. Conclusions: These results do not support familial linkage of BPSD and ADHD; they are compatible with heritability of each disorder separately with coincidental overlap. [*Child Symptom Inventory-4*]

- 13-3. Beauchaine, T. P., Gatzke-Kopp, L., Neuhaus, E., Chipman, J., Reid, M. J., & Webster-Stratton, C. (2013). Sympathetic-and parasympathetic-linked cardiac function and prediction of externalizing behavior, emotion regulation, and prosocial behavior among preschoolers treated for ADHD. *Journal of Consulting and Clinical Psychology*, 81(3), 481.

Objective: To evaluate measures of cardiac activity and reactivity as prospective biomarkers of treatment response to an empirically supported behavioral intervention for attention-deficit/hyperactivity disorder (ADHD). Method: Cardiac preejection period (PEP), an index of sympathetic-linked cardiac activity, and respiratory sinus arrhythmia (RSA), an index of parasympathetic-linked cardiac activity, were assessed among 99 preschool children (ages 4-6 years) with ADHD both at rest and in response to behavioral challenge, before participants and their parents completed 1 of 2 versions of the Incredible Years parent and child interventions. Results: Main effects of PEP activity and reactivity and of RSA activity and reactivity were found. Although samplewide improvements in behavior were observed at posttreatment, those who exhibited lengthened cardiac PEP at rest and reduced PEP reactivity to incentives scored higher on measures of conduct problems and aggression both before and after treatment. In contrast, children who exhibited lower baseline RSA and greater RSA withdrawal scored lower on prosocial behavior before and after treatment. Finally, children who exhibited greater RSA withdrawal scored lower on emotion regulation before and after treatment. Conclusions: We discuss these findings in terms of (a) individual differences in underlying neurobiological systems subserving appetitive (i.e., approach) motivation, emotion regulation, and social affiliation and (b) the need to develop more intensive interventions targeting neurobiologically vulnerable children. [*Child Symptom Inventory-4*]

- 13-4. Becker, S. P., McBurnett, K., Hinshaw, S. P., & Pfiffner, L. J. (2013). Negative social preference in relation to internalizing symptoms among children with ADHD predominantly inattentive type: Girls fare worse than boys. *Journal of Clinical Child & Adolescent Psychology*, 42(6), 784-795.

Despite distinct peer difficulties, less is known about the peer functioning of children with attention-deficit/hyperactivity disorder (ADHD) predominantly inattentive type (ADHD-I) in comparison to the peer functioning of children with ADHD combined type. Our purpose was to examine whether child sex moderated the relations between negative social preference and internalizing/externalizing problems in children with ADHD-I. Participants included 188 children diagnosed with ADHD-I (110 boys; ages 7-11; 54% Caucasian). Teacher ratings of the proportion of classmates who like/accept and dislike/reject the participating child were used to calculate negative social preference scores. Children, parents, and teachers provided ratings of anxious and depressive symptoms, and parents and teachers provided ratings of externalizing problems. Boys and girls did not differ on teachers' negative social preference scores. As hypothesized, however, the relation between negative social preference and internalizing symptoms was moderated by sex such that negative social preference was consistently and more strongly associated with internalizing symptoms among girls than in boys. In terms of externalizing problems, negative social preference was associated with teacher (but not parent) ratings, yet no moderation by child sex was found. Negative social preference is associated with teacher-report of externalizing problems for both boys



and girls with ADHD-I, whereas negative social preference is consistently associated with girls' internalizing symptoms across child, parent, and teacher ratings. Implications for future research and interventions are discussed. [**Child Symptom Inventory-4**]

- 13-5. Belleau, E. L., Phillips, M. L., Birmaher, B., Axelson, D. A., & Ladouceur, C. D. (2013). Aberrant executive attention in unaffected youth at familial risk for mood disorders. *Journal of Affective Disorders*, 147(1), 397-400.

Background: Aberrant attentional processes in individuals with mood disorders - bipolar disorder (BD) and major depressive disorder (MDD) - have been well documented. This study examined whether unaffected youth at familial risk for mood disorders would exhibit poor alerting, orienting, and executive attention relative to age-matched controls. Methods: A sample of youth (8-17 years old) having one parent with either BD or MDD (Mood-Risk, n=29) and youth having healthy parents (HC, n=27) completed the Attention Network Test-Short version (ANT-S), which assesses alerting, orienting, and executive attention. Results: Relative to HCs, the Mood-Risk group had significantly slower reaction times on an index of executive attention, but no differences on indices of alerting or orienting. There were no differences between the two at-risk groups (i.e., youth with BD parent vs. youth with MDD parent) on any ANT-S measure. Limitations: The current study is limited by its cross-sectional design, small sample size, and failure to control for familial environmental factors. Conclusions: The findings extend previous results indicating that altered executive attention may represent an endophenotype for mood disorders in at-risk youth. [**Adolescent Symptom Inventory-4**]

- 13-6. Bergeron, L., Berthiaume, C., St-Georges, M., Piche, G., & Smolla, N. (2013). Reliability, validity, and clinical use of the Dominic Interactive: A DSM-based, self-report screen for school-aged children. *Canadian Journal of Psychiatry*, 58(8), 466-475.

Objectives: As no single informant can be considered the gold standard of child psychopathology, interviewing of children regarding their own symptoms is necessary. Our study focused on the reliability, validity, and clinical use of the Dominic Interactive (DI), a multimedia self-report screen to assess symptoms for the most frequent Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition, Text Revision, mental disorders in school-aged children. Methods: A sample of 585 children aged 6 to 11 years from the community and psychiatric clinics was used to analyze the internal consistency, the test-retest estimate of reliability, and the criterion-related validity of the DI against the referral status. In addition, cross-informant correlation coefficients between this instrument (child report) and the **Child Symptom Inventory** (parent report) were explored in a subsample of 292 participants. Results: For the total sample, Cronbach alpha coefficients ranged from 0.63 to 0.91. Test-retest kappas varied from 0.42 to 0.62 for categories based on cut-off points, except for specific phobias. Intraclass correlation coefficients ranged from 0.70 to 0.81 for symptom scales. The DI discriminated between referred and nonreferred children in psychiatric clinics for all symptom scales. Significant cross-informant correlation coefficients were higher for the externalizing symptoms (0.35 to 0.48) than the internalizing symptoms (0.14 to 0.27). Conclusions: Findings of our study reasonably support adequate psychometric properties of the DI. This instrument offers a developmentally sensitive screening method to obtain unique information from young children about their mental health problems in front-line services, psychiatric clinics, and research settings. [**Child Symptom Inventory-4**]

- 13-7. Bunte, T. L., Laschen, S., Schoemaker, K., Hessen, D. J., van der Heijden, P. G., & Matthys, W. (2013). Clinical usefulness of observational assessment in the diagnosis of DBD and ADHD in preschoolers. *Journal of Clinical Child & Adolescent Psychology*, 42(6), 749-761.

The aim of the present study was to investigate the clinical usefulness of an observational tool the Disruptive Behavior Diagnostic Observation Schedule (DB-DOS) in the diagnosis of disruptive behavior disorders (DBD) and attention deficit/hyperactivity disorder (ADHD) in preschoolers. We hypothesized that the DB-DOS may help support the presumption of a diagnosis generated by the information from parents and teachers (or other caregivers). Participants were referred preschool children with externalizing behavioral problems (N=193; 83% male) and typically developing children (N=58; 71% male). In view of the clinical validity study each child was given a diagnosis of either DBD (N=40), or ADHD (N=54) or comorbid (DBD+ADHD; N=66) based on best-estimate diagnosis. The DB-DOS demonstrated good interrater and test-retest reliability for DBD and ADHD symptom scores. Confirmatory factor analysis demonstrated an excellent fit of the DB-DOS multidomain model of DBD symptom scores and a satisfactory fit of ADHD symptom scores. The DB-DOS demonstrated good

convergent validity, moderate divergent validity, and good clinical validity on a diagnostic group level for DBD and ADHD symptom scores. The Receiver Operating Characteristic curve analyses revealed that for DBD the sensitivity and specificity are moderate and for ADHD good to excellent. The presumption of a diagnosis based on information from parents, teachers, and cognitive assessment was supported by the DB-DOS in 60% for DBD and 75% for ADHD. The DB-DOS can be used to help support a presumption of a DBD and/or ADHD diagnosis in preschool children. [*Early Childhood Inventory-4*]

- 13-8. Bunte, T. L., Schoemaker, K., Hessen, D. J., van der Heijden, P. G., & Matthys, W. (2013). Clinical usefulness of the kiddie-disruptive behavior disorder schedule in the diagnosis of DBD and ADHD in preschool children. *Journal of Abnormal Child Psychology*, 41(5), 681-690.

The aim of the present study was to investigate the clinical usefulness of a semi-structured diagnostic parent interview, i.e., the Kiddie-Disruptive Behavior Disorder Schedule (K-DBDS), in preschool children. For Oppositional Defiant Disorder (ODD), to define symptoms two coding methods were compared, i.e., one based on the threshold "often" and the other based on the frequency of behaviors in combination with the presence of clinical concern. For Attention-Deficit/Hyperactivity Disorder (ADHD), to define symptoms, two coding methods were compared, i.e., one with and one without consideration of pervasiveness across contexts. Participants were referred preschool children with externalizing behavioral problems (N = 193; 83% male) and typically developing (TD) children (N = 58; 71% male). The referred children were given a diagnosis of either ODD/CD (N = 39), or ADHD (N = 58) or comorbid ODD/CD+ADHD (N = 57) or no diagnosis (N = 39) based on best-estimate diagnosis. Receiver Operating Characteristic curve analyses showed that a cutoff score of four ODD symptoms using "often" as the threshold for frequency of behaviors led to a sensitivity of 87% and a specificity of 93%; the coding method which included the frequency of behaviors yielded a sensitivity of 56% and a specificity of 100%. For ADHD, a clinical cutoff score of five symptoms without the pervasiveness criterion yielded a sensitivity of 83% and a specificity of 98%; when the pervasiveness criterion was included sensitivity was 77% and specificity 98%. In the clinical assessment of ODD and ADHD in preschool children, the K-DBDS may be used with ODD symptom definition based on the threshold "often" and ADHD pervasiveness across contexts not included. [*Early Childhood Inventory-4*]

- 13-9. Chung, T., Kim, K. H., Hipwell, A. E., & Stepp, S. D. (2013). White and black adolescent females differ in profiles and longitudinal patterns of alcohol, cigarette, and marijuana use. *Psychology of Addictive Behaviors*, 27(4), 1110.

Emerging research suggests that white youth are more likely to show continuity of alcohol use in the year after drinking onset, compared with black youth. Little is known, however, regarding racial differences in year-to-year continuity of alcohol, cigarette, and marijuana use during adolescence, particularly among females, who are at greater risk for certain substance-related harm than males. This study used latent class/transition analysis to identify profiles of past year alcohol, cigarette, and marijuana use at ages 13-17 in a community sample of 1076 adolescent females (57% black, 43% white). Three profiles of past year substance use were identified in separate analyses by race: "no use," "alcohol only," and "polydrug use." Although similar labels describe the profiles, the probability of endorsing use of a particular substance for a given profile differed by race, precluding direct comparison. Latent transition analyses of five annual waves covering ages 13-17 indicated that an intermittent pattern of use (e. g., use in one year, but not the next) was relatively low at all ages among white girls, but among black girls, an intermittent pattern of use began to decline at age 15. Among black girls, conduct problems at age 12 predicted substance using profiles at age 13, whereas among white girls, intentions to use alcohol and cigarettes at age 12 predicted substance using profiles at age 13. Racial differences in girls' substance use profiles suggest the potential utility of culturally tailored interventions that focus on differences in risk for specific substances and relatively distinct early patterns of use. [*Child Symptom Inventory-4*]

- 13-10. Conner, C. M., Maddox, B. B., & White, S. W. (2013). Parents' state and trait anxiety: Relationships with anxiety severity and treatment response in adolescents with autism spectrum disorders. *Journal of Autism and Developmental Disorders*, 43(8), 1811-1818.

Comorbid anxiety is common among children with Autism Spectrum Disorder (ASD), and parents of children with ASD are more likely to have anxiety disorders. This study investigated the relationship between parents' state and trait anxiety and parent-reported internalizing and externalizing symptoms among adolescents (n = 30) with ASD,

as well as the relationship of parents' anxiety symptoms and adolescent treatment response in the context of a randomized controlled trial. Parental state anxiety correlated with severity of adolescent anxiety, and trait anxiety in parents correlated with parent-reported adolescent internalizing and externalizing symptoms. Also, parents of adolescent treatment responders experienced a decrease in their own trait anxiety. Findings highlight the importance of considering parental anxiety when targeting anxiety among youth with ASD. [**Adolescent Symptom Inventory-4**]

- 13-11. Dougherty, L. R., Smith, V. C., Bufferd, S. J., Stringaris, A., Leibenluft, E., Carlson, G. A., & Klein, D. N. (2013). Preschool irritability: Longitudinal associations with psychiatric disorders at age 6 and parental psychopathology. *Journal of the American Academy of Child & Adolescent Psychiatry*, 52(12), 1304-1313.

Objective: There is increasing scientific and clinical attention to chronic irritability in youth. However, little is known about the predictive validity and clinical significance of chronic irritability during early childhood. This prospective, longitudinal study examined associations of chronic irritability with psychiatric disorders and parental psychopathology in a large community sample of preschoolers. Method: Four hundred sixty-two preschool-age children were assessed at 3 and 6 years of age. Child psychopathology was assessed at baseline (3 years) and follow-up (6 years) using a diagnostic interview, the Preschool Age Psychiatric Assessment, with parents. Items from the Preschool Age Psychiatric Assessment were used to create a dimensional measurement of chronic irritability. Parental psychopathology was assessed with a diagnostic interview at baseline. Results: Chronic irritability was concurrently associated with a wide range of psychiatric disorders and functional impairment at 3 and 6 years of age. Irritability at 3 years predicted depression, oppositional defiant disorder, and functional impairment at 6 years after controlling for baseline disorders. Irritability also was associated with parental depression and anxiety. Conclusions: Findings underscore the central role of irritability in early-emerging mental health problems. They are consistent with longitudinal studies in older youth indicating that chronic irritability predicts later depression and anxiety and support the importance of early detection and interventions targeting preschool irritability. [**Early Childhood Inventory-4**]

- 13-12. Fanti, K. A. (2013). Individual, social, and behavioral factors associated with co-occurring conduct problems and callous-unemotional traits. *Journal of Abnormal Child Psychology*, 41(5), 811-824.

Conduct problems (CP) and callous-unemotional (CU) traits can have a long-lasting negative impact into adulthood. Importantly, among youth with CP, those high on CU traits engage in a more severe, aggressive, and persistent pattern of antisocial behavior. The current study investigates the co-occurrence between CP and CU traits among a large sample of Greek-Cypriot adolescents (N = 1,674; 50.1 % girls). Five distinct groups were identified with Latent Profile Analysis: low risk (48.7 %), average risk (33.8 %), co-occurring high CP-high CU (5.4 %), high CP-low CU (5.2 %), and low CP-high CU (6.9 %). Although more boys were identified in the higher risk groups, boys and girls within each group were not differentiated on levels of CP or CU traits during early adolescence. Youth in the identified groups were compared on early (Mean age = 12.12) and middle (Mean age = 14.02) adolescence individual and contextual factors. Youth with high CP-high CU were at higher risk for behavioral (bullying and substance use), individual (inattention, impulsivity, narcissism), and contextual (low family-support) problems compared to youth in the high CP-low CU and low CP-high CU groups, providing evidence that the combination of CP and CU traits might constitute a pathological group. These findings demonstrate the usefulness of sub-typing CP based on CU traits for the forthcoming fifth edition of the Diagnostic and Statistical Manual. Additional novel findings suggested that adolescents scoring high on CP, irrespective of CU, were not differentiated on hyperactivity, victimization, and anxiety/depression, and adolescents scoring high on CU traits, with or without CP, reported similar low levels of self-esteem and peer and family social-support. [**Adolescent Symptom Inventory-4**]

- 13-13. Fanti, K. A., Demetriou, C. A., & Kimonis, E. R. (2013). Variants of callous-unemotional conduct problems in a community sample of adolescents. *Journal of Youth and Adolescence*, 42(7), 964-979.

Callous-unemotional traits are believed to be a childhood precursor to psychopathy, and among youth with conduct problems they designate those showing a particularly severe, stable, and aggressive pattern of antisocial behavior. Youth with callous-unemotional traits are a heterogeneous population and, analogous to adults with psychopathy, research suggests that lower anxious primary and high-anxious secondary variants exist. Using a community sample of 2,306 Greek-Cypriot adolescents (M age = 16 years; 49.7 % female), the first aim of the

study was to examine whether variants of callous-unemotional traits could be identified using latent profile analysis of scores on measures of callous-unemotional traits, conduct problems, and anxiety. Additional aims of the study were to compare the identified clusters on external measures theorized to distinguish them (i.e., self-esteem, narcissism, impulsivity, sensation seeking and proactive/reactive aggression) and social factors relevant to adolescent development. Results indicated that, in addition to low risk (i.e., low scores on callous-unemotional traits, conduct problems, and anxiety) and anxious (i.e., high scores on anxiety, low scores on callous-unemotional traits and conduct problems) subgroups, two groups of youth scoring high on callous-unemotional traits and conduct problems were identified. High-anxious secondary callous-unemotional variants were distinguished by lower self-esteem in combination with greater narcissism, aggression, and markedly higher conduct problems, whereas lower anxious primary variants showed higher self-esteem. Secondary callous-unemotional variants also reported greater susceptibility to peer pressure and popularity striving than primary variants. Both variants exhibited poorer outcomes relative to low risk and anxious youth, although anxious youth reported lower self-esteem and higher impulsivity and reactive aggression scores in comparison with low risk youth. Findings integrate two lines of inquiry focused on subtyping children and adults with psychopathic traits and antisocial behaviors. They also support the utility of subtyping callous-unemotional traits based on conduct problems and anxiety levels and provide information on common and distinct risk factors associated with primary and secondary callous-unemotional variants in a community sample of adolescent boys and girls. [**Youth's Inventory-4**]

- 13-14. Gadow, K.D. (2013). Association of schizophrenia spectrum and autism spectrum disorder (ASD) symptoms in children with ASD and clinic controls. *Research in Developmental Disabilities*, 34, 1289-1299.

Objective: This study examines relations between the severity of specific symptoms of schizophrenia spectrum disorder (SSD) and severity of the three defining symptom domains of autism spectrum disorder (ASD) in children with ASD ( $N=147$ ) and child psychiatry outpatient referrals (Controls;  $N=339$ ). Method: Participants were subdivided into four groups depending on ASD status ( $\pm$ ) and whether they met symptom criteria for attention-deficit/hyperactivity disorder ( $\pm$ ADHD). Their mothers and teachers evaluated them with a DSM-IV-referenced rating scale. Results: Correlations between schizoid personality symptoms and ASD social skills deficits were moderate to large, and this was true for children with ASD and Controls, regardless of ADHD status, and for mother's and teachers' ratings. Conversely, severity of hallucinations, delusions, and disorganized thinking were minimally correlated with ASD severity with the exception of Controls with ADHD. The disorganized behavior and negative symptoms of schizophrenia evidenced the strongest pattern of associations with ASD symptoms, and this was particularly true for children with co-morbid ADHD ( $\pm$ ASD, all three ASD symptom dimensions), and for teachers' ratings of all four groups. Nevertheless, there was considerable variability in relations for specific symptoms across informants and groups. Correlations between SSD symptom severity and IQ were generally low, particularly among the ASD Only group and for all teacher-rated symptoms. Conclusion: Associations between ASD and SSD symptoms were often dimension-specific, and this was particularly evident in children without ADHD ( $\pm$ ASD; mothers' ratings). Findings were interpreted as supporting the deconstruction of complex clinical phenotypes as a means of better understanding interrelations among psychiatric syndromes. [**Child and Adolescent Symptom Inventory-4R**]

- 13-15. Gadow, K.D., DeVincent, C.J., Siegal, V.I., Olvet, D.M., Kibria, S., Kirsch, S.F., & Hatchwell, E. (2013). Allele-specific associations of 5-HTTLPR/rs25531 with ADHD and autism spectrum disorder. *Progress in Neuro-Psychopharmacology & Biological Psychiatry*, 40, 292-297.

Background: The aims of the present study were to examine the association between a common serotonin transporter gene (SLC6A4) polymorphism 5-HTTLPR/rs25531 with severity of attention-deficit hyperactivity disorder (ADHD) and autism spectrum disorder (ASD) symptoms. Methods: Mothers and teachers completed a validated DSM-IV-referenced rating scale for ADHD and ASD symptoms in 118 children with ASD. Results: Analyses indicated that children with at least one copy of the S or L<sub>G</sub> allele obtained significantly more severe maternal ratings of hyperactivity ( $p=0.001$ ;  $\eta^2=0.097$ ) and impulsivity ( $p=0.027$ ;  $\eta^2=0.044$ ) but not inattention ( $p=0.061$ ;  $\eta^2=0.032$ ), controlling for ASD severity, than children homozygous for the L<sub>A</sub> allele. Conversely, mothers' ratings indicated that children with L<sub>A</sub>/L<sub>A</sub> genotype had more severe ASD social deficits than S+ or L<sub>G</sub> allele carriers ( $p=0.003$ ;  $\eta^2=0.081$ ), controlling for ADHD symptom severity. Teachers' ratings though consistent with mothers' ratings of hyperactivity and social deficits were marginally significant ( $p=0.07/p=0.09$ ). There was some evidence that the magnitude of parent-teacher agreement regarding symptom severity varied as a function of the child's genotype. Conclusion: The 5-HTTLPR/rs25531 polymorphism or its correlates may modulate

severity of ADHD and ASD symptoms in children with ASD, but in different ways. These tentative, hypothesis-generating findings require replication with larger independent samples. [**Child Symptom Inventory-4**]

- 13-16. Gadow, K.D., Kaat, A.J., & Lecavalier, L. (2013). Relation of symptom-induced impairment with other illness parameters in clinic-referred youth. *Journal of Child Psychology and Psychiatry*, 54, 1198-1207.

Objective: To examine the relation of caregiver ratings of psychiatric symptom-induced impairment with number and severity of symptoms and informant agreement in consecutive child psychiatry outpatient referrals. Methods: Parents and teachers completed a broadband *DSM-IV*-referenced rating scale with disorder-specific impairment for 636 youth (6-18 years). Illness parameters included impairment, number and severity of symptoms, and their combination (symptom+impairment) as well as categorical (cutoff) and dimensional scoring. Results: Agreement between impairment and other illness parameters showed considerable variation as a function of type of parameter, disorder, and informant but to lesser extent age and gender. Many youth who met impairment cutoff for specific disorders did not meet symptom cutoff. Conversely, most youth who met symptom cutoff were impaired. Symptom cutoff evidenced greater convergence with impairment cutoff than combined symptom+impairment cutoffs. Severity of impairment was moderately to highly correlated with number and severity of symptoms. Parents' and teachers' ratings indicated little disorder-specific agreement about youth who met impairment cutoff, symptom cutoff, or combined symptom+impairment cutoff. Therefore, sole reliance on one informant greatly underestimates the pervasiveness of impairment. Conclusion. Findings are consistent with the notion that each illness parameter represents a unique conceptual construct, which has important clinical and research implications. [**Child and Adolescent Symptom Inventory-4R**]

- 13-17. Hallett, V., Lecavalier, L., Sukhodolsky, D.G., Cipriano, N., Aman, M.G., McCracken, J.T., McDougale, C.J., Tierney, E., King, B.H., Hollander, E., Sikich, L., Bregman, J., Anagnostou, E., Donnelly, C., Katsoyich, L., Dukes, K., Vitiello, B., Gadow, K., & Scahill, L. (2013). Exploring the manifestations of anxiety in children with autism spectrum disorders. *Journal of Autism and Developmental Disorders*, 43, 2341-2352.

This study explores the manifestation and measurement of anxiety symptoms in 415 children with ASDs on a 20-item, parent-rated, *DSM-IV* referenced anxiety scale. In both high and low-functioning children (IQ above vs. below 70), commonly endorsed items assessed restlessness, tension and sleep difficulties. Items requiring verbal expression of worry by the child were rarely endorsed. Higher anxiety was associated with functional language, IQ above 70 and higher scores on several other behavioral measures. Four underlying factors emerged: Generalized Anxiety, Separation Anxiety, Social Anxiety and Over-arousal. Our findings extend our understanding of anxiety across IQ in ASD and provide guidance for improving anxiety outcome measurement. [**CASI-4 ASD Anxiety Scale (CASI-Anx)**]

- 13-18. Hong, J., Novick, D., Treuer, T., Montgomery, W., Haynes, V. S., Wu, S., & Haro, J. M. (2013). Predictors and consequences of adherence to the treatment of pediatric patients with attention-deficit/hyperactivity disorder in Central Europe and East Asia. *Patient Preference and Adherence*, 7, 987.

Purpose: To assess baseline predictors and consequences of medication non-adherence in the treatment of pediatric patients with attention-deficit/hyperactivity disorder (ADHD) from Central Europe and East Asia. Patients and methods: Data for this post-hoc analysis were taken from a 1-year prospective, observational study that included a total of 1,068 newly-diagnosed pediatric patients with ADHD symptoms from Central Europe and East Asia. Medication adherence during the week prior to each visit was assessed by treating physicians using a 5-point Likert scale, and then dichotomized into either adherent or non-adherent. Clinical severity was measured by the Clinical Global Impressions-ADHD-Severity (CGI-ADHD) scale and the Child Symptom Inventory-4 (CSI-4) Checklist. Health-Related Quality of Life (HRQoL) was measured using the Child Health and Illness Profile-Child Edition (CHIP-CE). Regression analyses were used to assess baseline predictors of overall adherence during follow-up, and the impact of time-varying adherence on subsequent outcomes: response (defined as a decrease of at least 1 point in CGI), changes in CGI-ADHD, CSI-4, and the five dimensions of CHIP-CE. Results: Of the 860 patients analyzed, 64.5% (71.6% in Central Europe and 55.5% in East Asia) were rated as adherent and 35.5% as non-adherent during follow-up. Being from East Asia was found to be a strong predictor of non-adherence. In East Asia, a family history of ADHD and parental emotional distress were associated with non-adherence, while having no other children living at home was associated with non-adherence in Central Europe as well as in the overall sample. Non-adherence was associated with poorer response and less improvement on CGI-ADHD and CSI-4,

but not on CHIP-CE. Conclusion: Non-adherence to medication is common in the treatment of ADHD, particularly in East Asia. Non-adherence was associated with poorer response and less improvement in clinical severity. A limitation of this study is that medication adherence was assessed by the treating clinician using a single item question. [**Child Symptom Inventory-4**], Czech, Hungarian, Romanian, Slovakian, Korean, Chinese, Mandarin, Turkish]

- 13-19. Hopkins, J., Lavigne, J. V., Gouze, K. R., LeBailly, S. A., & Bryant, F. B. (2013). Multi-domain models of risk factors for depression and anxiety symptoms in preschoolers: Evidence for common and specific factors. *Journal of Abnormal Child Psychology*, 41(5), 705-722.

Relatively few studies have examined multiple pathways by which risk factors from different domains are related to symptoms of anxiety and depression in young children; even fewer have assessed risks for these symptoms specifically, rather than for internalizing symptoms in general. We examined a theoretically- and empirically-based model of variables associated with these symptom types in a diverse community sample of 796 4-year-olds (391 boys, 405 girls) that included factors from the following domains: contextual (SES, stress and family conflict); parent characteristics (parental depression); parenting (support/engagement, hostility and scaffolding); and child characteristics including negative affect (NA) effortful control (EC) sensory regulation (SR), inhibitory control (IC) and attachment. We also compared the models to determine which variables contribute to a common correlates of symptoms of anxiety or depression, and which correlates differentiate between those symptom types. In the best-fitting model for these symptom types (a) SES, stress and conflict had indirect effects on both symptom types via long-chain paths; (b) caregiver depression had direct effects and indirect ones (mediated through parenting and child effortful control) on both symptom types; (c) parenting had direct and indirect effects (via temperament and SR); and temperament had direct effects on both symptom types. These data provide evidence of common risk factors, as well as indicate some specific pathways/mediators for the different symptom types. EC was related to anxiety, but not depression symptoms, suggesting that strategies to improve child EC may be particularly effective for treatment of anxiety symptoms in young children. [**Early Childhood Inventory-4**]

- 13-20. Kaat, A.J., Gadow, K.D., & Lecavalier, L. (2013). Psychiatric symptom impairment in children with autism spectrum disorders. *Journal of Abnormal Child Psychology*, 41, 959-969.

The general aim of this study was to examine the relation of psychiatric symptom-induced impairment with other common parameters of mental health in children with autism spectrum disorder (ASD). Prevalence rates are used to illustrate the implications of different criteria for caseness. Parents/teachers completed DSM-IV-referenced rating scales for 6-12 year old children with ASD ( $N=115$ ), the majority of whom were boys (86%). Most children were rated by parents (81%) or teachers (86%) as being socially or academically impaired by symptoms of at least one psychiatric disorder. The most common impairing conditions (parent/teacher) were attention-deficit/hyperactivity disorder (67%/71%), oppositional defiant disorder (35%/33%), and anxiety disorder (47%/34%), and the combined rates based on both informants were generally much higher. Agreement between symptom cutoff and impairment cutoff was acceptable for most disorders. A larger percentage of youth were impaired by psychiatric symptoms than met symptom cutoff criteria, and the discrepancy between impairment cutoff and clinical cutoff (impairment cutoff plus symptom cutoff) was even greater. Impairment was moderately to highly correlated with both number and severity of symptoms. Parents' and teachers' ratings indicated little agreement as to whether a child was impaired. Findings for youth with ASD were similar to non-ASD child psychiatry outpatient referrals, but clearly different in several ways from comparable studies of community-based samples. [**Child and Adolescent Symptom Inventory-4R**]

- 13-21. Kashikar-Zuck, S., Zafar, M., Barnett, K. A., Aylward, B. S., Strotman, D., Slater, S. K., ... & Powers, S. W. (2013). Quality of life and emotional functioning in youth with chronic migraine and juvenile fibromyalgia. *The Clinical Journal of Pain*, 29(12), 1066-1072.

Chronic pain in children is associated with significant negative impact on social, emotional, and school functioning. Previous studies on the impact of pain on children's functioning have primarily used mixed samples of pain conditions or single pain conditions (e.g., headache and abdominal pain) with relatively small sample sizes. As a result, the similarities and differences in the impact of pain in subgroups of children with chronic pain have not been closely examined. Objective: To compare pain characteristics, quality of life, and emotional functioning among youth with pediatric chronic migraine (CM) and juvenile fibromyalgia (JFM). Methods: We combined data

obtained during screening of patients for 2 relatively large intervention studies of youth (age range, 10 to 18 y) with CM (N=153) and JFM (N=151). Measures of pain intensity, quality of life (Pediatric Quality of Life; PedsQL, child and parent-proxy), depressive symptoms (Children's Depression Inventory), and anxiety symptoms (Adolescent Symptom Inventory-4 Anxiety subscale) were completed by youth and their parent. A multivariate analysis of covariance controlling for effects of age and sex was performed to examine differences in quality of life and emotional functioning between the CM and JFM groups. Results: Youth with JFM had significantly higher anxiety and depressive symptoms, and lower quality of life in all domains. Among children with CM, overall functioning was higher but school functioning was a specific area of concern. Discussion: Results indicate important differences in subgroups of pediatric pain patients and point to the need for more intensive multidisciplinary intervention for JFM patients. [**Adolescent Symptom Inventory-4**]

- 13-22. Keenan, K., Hipwell, A., Babinski, D., Bortner, J., Henneberger, A., Hinze, A., ... & Sapotichne, B. (2013). Examining the developmental interface of cortisol and depression symptoms in young adolescent girls. *Psychoneuroendocrinology*, 38(10), 2291-2299.

Despite the substantial amount of data supporting a link between HPA-axis functioning and depression, the ontogeny of this association is not known. The aim of the present study was to contribute data on the developmental interface of HPA-axis functioning and depression in girls by testing associations between repeated measures of depression symptoms and cortisol levels in childhood and early adolescence. Girls (N = 232) and their mothers, who were participating in a longitudinal study, were interviewed about depression symptoms annually from ages 9 to 12 years. Cortisol was assayed from saliva at ages 10 and 12 years upon arrival to the lab and following administration of the cold pressor task (CPT). Time of day of collection of saliva and level of pubertal development were included as covariates in model testing. Although most girls did not show an increase in cortisol in response to the CPT, lower levels of output during the CPT were associated with higher levels of depression symptoms. These findings were observed only for cortisol levels assessed at age 12 years. Girls with low levels of cortisol output at age 12, and decreases in output from ages 10 to 12, had stable or slightly increasing depression symptoms from ages 9 to 12 years. We conclude that associations between HPA-axis functioning and depression emerge as early as age 12. However, individual differences in cortisol levels at age 12 also were associated with depression symptoms at earlier ages. The data suggest two possibilities: (1) that childhood depression is associated with HPA-axis dysregulation, but that age related changes in the sensitivity or plasticity of the HPA-axis may result in a delay in the emergence of such an association, or (2) that dysregulation of the functioning of the HPA-axis develops following repeated experience of depression symptoms. [**Child Symptom Inventory-4**]

- 13-23. Kenworthy, L., Yerys, B. E., Weinblatt, R., Abrams, D. N., & Wallace, G. L. (2013). Motor demands impact speed of information processing in autism spectrum disorders. *Neuropsychology*, 27(5), 529.

The apparent contradiction between preserved or even enhanced perceptual processing speed on inspection time tasks in autism spectrum disorders (ASD) and impaired performance on complex processing speed tasks that require motor output (e.g., Wechsler Processing Speed Index) has not yet been systematically investigated. This study investigates whether adding motor output demands to an inspection time task impairs ASD performance compared to that of typically developing control (TDC) children. The performance of children with ASD (n = 28; mean Full Scale IQ (FSIQ) = 115) and TDC (n = 25; mean FSIQ = 122) children was compared on processing speed tasks with increasing motor demand. Correlations were run between ASD task performance and Autism Diagnostic Observation Schedule (ADOS) Communication scores. Performance by the ASD and TDC groups on a simple perceptual processing speed task with minimal motor demand was equivalent, though it diverged (ASD worse than TDC) on 2 tasks with the same stimuli but increased motor output demands. ASD performance on the moderate but not the high speeded motor output demand task was negatively correlated with ADOS communication symptoms. These data address the apparent contradiction between preserved inspection time in the context of slowed "processing speed" in ASD. They show that processing speed is preserved when motor demands are minimized, but that increased motor output demands interfere with the ability to act on perceptual processing of simple stimuli. Reducing motor demands (e.g., through the use of computers) may increase the capacity of people with ASD to demonstrate good perceptual processing in a variety of educational, vocational, and social settings. [**Child Symptom Inventory-4; Child and Adolescent Symptom Inventory-4R**]

- 13-24. Kim, S., Nordling, J. K., Yoon, J. E., Boldt, L. J., & Kochanska, G. (2013). Effortful control in "hot" and "cool" tasks differentially predicts children's behavior problems and academic performance. *Journal of Abnormal*

*Child Psychology*, 41(1), 43-56.

Effortful control (EC), the capacity to deliberately suppress a dominant response and perform a subdominant response, rapidly developing in toddler and preschool age, has been shown to be a robust predictor of children's adjustment. Not settled, however, is whether a view of EC as a heterogeneous rather than unidimensional construct may offer advantages in the context of predicting diverse developmental outcomes. This study focused on the potential distinction between "hot" EC function (delay-of-gratification tasks that called for suppressing an emotionally charged response) and more abstract "cool" EC functions (motor inhibition tasks, suppressing-initiating response or Go-No Go tasks, and effortful attention or Stroop-like tasks). Children (N = 100) were observed performing EC tasks at 38 and 52 months. Mothers, fathers, and teachers rated children's behavior problems and academic performance at 67, 80, and 100 months, and children participated in a clinical interview at 100 months. Structural Equation Modeling (SEM) analyses with latent variables produced consistent findings across all informants: Children's scores in "hot" EC tasks, presumably engaging emotion regulation skills, predicted behavior problems but not academic performance, whereas their scores in "cool" EC tasks, specifically those engaging effortful attention, predicted academic performance but not behavior problems. The models of EC as a heterogeneous construct offered some advantages over the unidimensional models. Methodological and clinical implications of the findings are discussed. [**Child Symptom Inventory-4**]

- 13-25. King, B. H., Dukes, K., Donnelly, C. L., Sikich, L., McCracken, J. T., Scahill, L., ... & Hirtz, D. (2013). Baseline factors predicting placebo response to treatment in children and adolescents with Autism Spectrum Disorders: A multisite randomized clinical trial. *JAMA Pediatrics*, 167(11), 1045-1052.

Importance: The finding of factors that differentially predict the likelihood of response to placebo over that of an active drug could have a significant impact on study design in this population. Objective: To identify possible nonspecific, baseline predictors of response to intervention in a large randomized clinical trial of children and adolescents with autism spectrum disorders. Design, setting, and participants: Randomized clinical trial of citalopram hydrobromide for children and adolescents with autism spectrum disorders and prominent repetitive behavior. Baseline data at study entry were examined with respect to final outcome to determine if response predictors could be identified. A total of 149 children and adolescents 5 to 17 years of age (mean [SD] age, 9.4 [3.1] years) from 6 academic centers were randomly assigned to citalopram (n = 73) or placebo (n = 76). Participants had autistic disorder, Asperger syndrome, or pervasive developmental disorder, not otherwise specified; had illness severity ratings that were moderate or more than moderate on the Clinical Global Impression-Severity scale; and scored moderate or more than moderate on compulsive behaviors measured with the modified Children's Yale-Brown Obsessive-Compulsive Scale. Interventions: Twelve weeks of treatment with citalopram (10 mg/5 mL) or placebo. The mean (SD) maximum dose of citalopram was 16.5 (6.5) mg by mouth daily (maximum dose, 20 mg/d). Main outcomes and measures: A positive response was defined as having a score of at least much improved on the Clinical Global Impression-Improvement scale at week 12. Baseline measures included demographic (sex, age, weight, and pubertal status), clinical, and family measures. Clinical variables included baseline illness severity ratings (the Aberrant Behavior Checklist, the Child and Adolescent Symptom Inventory, the Vineland Adaptive Behavior Scales, the Repetitive Behavior Scale-Revised, and the Children's Yale-Brown Obsessive-Compulsive Scale). Family measures included the Caregiver Strain Questionnaire. Results: Several baseline predictors of response were identified, and a principal component analysis yielded 3 composite measures (disruptive behavior, autism/mood, and caregiver strain) that significantly predicted response at week 12. Specifically, participants in the placebo group were significantly less likely than participants in the citalopram group to respond at week 12 if they entered the study more symptomatic on each of the 3 composite measures, and they were at least 2 times less likely to be responders. Conclusions and relevance: This analysis suggests strategies that may be useful in anticipating and potentially mitigating the nonspecific response in randomized clinical trials of children and adolescents with autism spectrum disorders. [**Child Symptom Inventory-4**]

- 13-26. Kochanska, G., & Kim, S. (2013). Difficult temperament moderates links between maternal responsiveness and children's compliance and behavior problems in low-income families. *Journal of Child Psychology and Psychiatry*, 54(3), 323-332.

Background: Research has shown that interactions between young children's temperament and the quality of care they receive predict the emergence of positive and negative socioemotional developmental outcomes. This



multimethod study addresses such interactions, using observed and mother-rated measures of difficult temperament, children's committed, self-regulated compliance and externalizing problems, and mothers' responsiveness in a low-income sample. Methods: In 186 thirty-month-old children, difficult temperament was observed in the laboratory (as poor effortful control and high anger proneness), and rated by mothers. Mothers' responsiveness was observed in lengthy naturalistic interactions at 30 and 33 months. At 40 months, children's committed compliance and externalizing behavior problems were assessed using observations and several well-established maternal report instruments. Results: Parallel significant interactions between child difficult temperament and maternal responsiveness were found across both observed and mother-rated measures of temperament. For difficult children, responsiveness had a significant effect such that those children were more compliant and had fewer externalizing problems when they received responsive care, but were less compliant and had more behavior problems when they received unresponsive care. For children with easy temperaments, maternal responsiveness and developmental outcomes were unrelated. All significant interactions reflected the diathesis-stress model. There was no evidence of differential susceptibility, perhaps due to the pervasive stress present in the ecology of the studied families. Conclusions: Those findings add to the growing body of evidence that for temperamentally difficult children, unresponsive parenting exacerbates risks for behavior problems, but responsive parenting can effectively buffer risks conferred by temperament. [**Early Childhood Inventory-4**]

- 13-27. Kochanska, G., & Kim, S. (2013). Early attachment organization with both parents and future behavior problems: From infancy to middle childhood. *Child Development*, 84(1), 283-296.

Links between children's attachment security with mothers and fathers, assessed in Strange Situation with each parent at 15 months (N=101), and their future behavior problems were examined. Mothers and fathers rated children's behavior problems, and children reported their own behavior problems at age 8 (N=86). Teachers rated behavior problems at age 6 1/2 (N = 86). Insecurity with both parents had a robust effect: "Double-insecure" children reported more overall problems, and were rated by teachers as having more externalizing problems than those secure with at least 1 parent. Security with either parent could offset such risks, and security with both conferred no additional benefits. High resistance toward both parents in Strange Situation may confer "dual risk" for future externalizing behavior. [**Child Symptom Inventory-4**]

- 13-28. Kochanska, G., Kim, S., & Boldt, L. J. (2013). Origins of children's externalizing behavior problems in low-income families: Toddlers' willing stance toward their mothers as the missing link. *Development and Psychopathology*, 25(4), 891-901.

Although children's active role in socialization has been long acknowledged, relevant research has typically focused on children's difficult temperament or negative behaviors that elicit coercive and adversarial processes, largely overlooking their capacity to act as positive, willing, even enthusiastic, active socialization agents. We studied the willing, receptive stance toward their mothers in a low-income sample of 186 children who were 24 to 44 months old. Confirmatory factor analysis supported a latent construct of willing stance, manifested as children's responsiveness to mothers in naturalistic interactions, responsive imitation in teaching contexts, and committed compliance with maternal prohibitions, all observed in the laboratory. Structural equation modeling analyses confirmed that ecological adversity undermined maternal responsiveness, and responsiveness, in turn, was linked to children's willing stance. A compromised willing stance predicted externalizing behavior problems, assessed 10 months later, and fully mediated the links between maternal responsiveness and those outcomes. Ecological adversity had a direct, unmediated effect on internalizing behavior problems. Considering children's active role as willing, receptive agents capable of embracing parental influence can lead to a more complete understanding of detrimental mechanisms that link ecological adversity with antisocial developmental pathways. It can also inform research on the normative socialization process, consistent with the objectives of developmental psychopathology. [**Early Childhood Inventory-4**]

- 13-29. Kochanska, G., Kim, S., Boldt, L. J., & Yoon, J. E. (2013). Children's callous-unemotional traits moderate links between their positive relationships with parents at preschool age and externalizing behavior problems at early school age. *Journal of Child Psychology and Psychiatry*, 54(11), 1251-1260.

Background: Growing research on children's traits as moderators of links between parenting and developmental outcomes has shown that variations in positivity, warmth, or responsiveness in parent-child relationships are particularly consequential for temperamentally difficult or biologically vulnerable children. But very few studies have

addressed the moderating role of children's callous-unemotional (CU) traits, a known serious risk factor for antisocial cascades. We examined children's CU traits as moderators of links between parent-child Mutually Responsive Orientation (MRO) and shared positive affect and future externalizing behavior problems. Methods: Participants included 100 two-parent community families of normally developing children, followed longitudinally. MRO and shared positive affect in mother-child and father-child dyads were observed in lengthy, diverse naturalistic contexts when children were 38 and 52 months. Both parents rated children's CU traits at 67 months and their externalizing behavior problems (Oppositional Defiant Disorder and Conduct Disorder) at 67, 80, and 100 months. Results: Children's CU traits moderated links between early positive parent-child relationships and children's future externalizing behavior problems, even after controlling for strong continuity of those problems. For children with elevated CU traits, higher mother-child MRO and father-child shared positive affect predicted a decrease in mother-reported future behavior problems. There were no significant associations for children with relatively lower CU scores. Conclusions: Positive qualities for early relationships, potentially different for mother-child and father-child dyads, can serve as potent factors that decrease probability of antisocial developmental cascades for children who are at risk due to elevated CU traits. [*Child Symptom Inventory-4*]

- 13-30. Kowatch, R. A., Youngstrom, E. A., Horwitz, S., Demeter, C., Fristad, M. A., Birmaher, B., ... & Findling, R. L. (2013). Prescription of psychiatric medications and polypharmacy in the LAMS cohort. *Psychiatric Services*, 64(10), 1026-1034.

Objective: This study evaluated demographic and clinical correlates and predictors of polypharmacy at baseline assessment in the Longitudinal Assessment of Manic Symptoms (LAMS) sample, a cohort of children age six to 12 years at their first outpatient mental health visit at university-affiliated clinics. Methods: Use of medications in four classes (mood stabilizers, antidepressants, antipsychotics, and stimulants) was assessed, and the Service Assessment for Children and Adolescents classified lifetime and current use of various services. Analyses examined correlates of the number of medications prescribed and odds of polypharmacy, defined as use of two or more concurrent medications. Results: In the total sample, 201 of 698 participants (29%) were prescribed two or more medications. These participants had lower Children's Global Assessment Scale scores, more comorbid disorders, and higher baseline parent-reported mood symptoms than those prescribed no or one medication. White youths were three times as likely as nonwhite youths to be receiving two or more psychotropics, even after adjustment for other demographic and clinical characteristics. Of 262 participants (38% of sample) not being treated with medications, 252 (96%) had a diagnosis of at least one psychiatric disorder (74% had two or more). Conclusions: Findings suggest that patients with greater severity and comorbidity were more likely to receive two or more medications. However, 38% of these children with serious disorders were not receiving psychotropic medication at the time of this assessment. Results counter findings suggesting overtreatment with medications of children with psychiatric disorders in the community. [*Child and Adolescent Symptom Inventory-4R*]

- 13-31. Ladouceur, C. D., Diwadkar, V. A., White, R., Bass, J., Birmaher, B., Axelson, D. A., & Phillips, M. L. (2013). Fronto-limbic function in unaffected offspring at familial risk for bipolar disorder during an emotional working memory paradigm. *Developmental Cognitive Neuroscience*, 5, 185-196.

Evidence from neuroimaging studies indicate that individuals with bipolar disorder (BD) exhibit altered functioning of fronto-limbic systems implicated in voluntary emotion regulation. Few studies, however, have examined the extent to which unaffected youth at familial risk for BD exhibit such alterations. Using an fMRI emotional working memory paradigm, we investigated the functioning of fronto-limbic systems in fifteen healthy bipolar offspring (8-17 years old) with at least one parent diagnosed with BD (HBO), and 16 age-matched healthy control (HC) participants. Neural activity and functional connectivity analyses focused on a priori neural regions supporting emotion processing (amygdala and ventral striatum) and voluntary emotion regulation (ventrolateral prefrontal cortex (VLPFC), dorsolateral prefrontal cortex (DLPFC), and anterior cingulate cortex (ACC)). Relative to HC, HBO exhibited greater right VLPFC (BA47) activation in response to positive emotional distracters and reduced VLPFC modulation of the amygdala to both the positive and negative emotional distracters; there were no group differences in connectivity for the neutral distracters. These findings suggest that alterations in the functioning of fronto-limbic systems implicated in voluntary emotion regulation are present in unaffected bipolar offspring. Future longitudinal studies are needed to determine the extent to which such alterations represent neurodevelopmental markers of risk for future onset of BD. [*Child Symptom Inventory-4*]

- 13-32. Lara, D. R., Ottoni, G. L., Brunstein, M. G., Frozi, J., de Carvalho, H. W., & Bisol, L. W. (2012). Development

and validity data of the Brazilian Internet Study on Temperament and Psychopathology (BRAINSTEP). *Journal of Affective Disorders*, 141(2), 390-398.

**Background:** The internet provides a research opportunity for psychiatry and psychology. This article presents the development and preliminary data of a large web-survey created to study how temperament relates to other psychological measures, behavior and psychiatric disorders. **Methods:** We used the Affective and Emotional Composite Temperament Scale (AFECTS) to evaluate temperament and we selected several self-report instruments to evaluate behavior, psychological constructs and mental disorders. The system provides anonymous psychological (phase 1) and psychiatric (phase 2) feedback and includes questions to assess the validity of the answers. Each phase has around 450 questions. This system was broadcast utilizing Brazilian media. **Results:** After the exclusion of 21.5% of the volunteers (those who failed the validation questions), 41,427 participants concluded the first part of the system (mean age = 31.2 +/- 10.5 yrs, 26.9% males), and 21,836 (mean age = 32.5 +/- 10.9 yrs, 25.1% males) completed phase 2. Around 25% have received a psychiatric diagnosis from a mental health professional. Demographic and temperament profiles of those who completed either only 80 questions, only phase 1, or the whole system were similar. The rate of non-serious answers (e. g. on bizarre behaviors) was very low and congruency of answers was very high. The internal consistency of classical trait scales (TCI-R and PANAS) was high (Cronbach's alpha > 0.80) for all dimensions. **Limitations:** Relatively high dropout rate due to the length of the process and an overrepresentation of female, young and well-educated subjects. **Conclusions:** The BRAINSTEP provides valid and abundant data on psychological and psychiatric measures. [**Adult Self-Report Inventory-4**]

- 13-33. Lavigne, J. V., Herzing, L. B., Cook, E. H., LeBailly, S. A., Gouze, K. R., Hopkins, J., & Bryant, F. B. (2013). Gene x Environment effects of serotonin transporter, dopamine receptor D4, and monoamine oxidase A genes with contextual and parenting risk factors on symptoms of oppositional defiant disorder, anxiety, and depression in a community sample of 4-year-old children. *Development and Psychopathology*, 25(02), 555-575.

Genetic factors can play a key role in the multiple level of analyses approach to understanding the development of child psychopathology. The present study examined gene-environment correlations and Gene x Environment interactions for polymorphisms of three target genes, the serotonin transporter gene, the D4 dopamine receptor gene, and the monoamine oxidase A gene in relation to symptoms of anxiety, depression, and oppositional behavior. Saliva samples were collected from 175 non-Hispanic White, 4-year-old children. Psychosocial risk factors included socioeconomic status, life stress, caretaker depression, parental support, hostility, and scaffolding skills. In comparison with the short forms (s/s, s/l) of the serotonin transporter linked polymorphic repeat, the long form (l/l) was associated with greater increases in symptoms of oppositional defiant disorder in interaction with family stress and with greater increases in symptoms of child depression and anxiety in interaction with caretaker depression, family conflict, and socioeconomic status. In boys, low-activity monoamine oxidase A gene was associated with increases in child anxiety and depression in interaction with caretaker depression, hostility, family conflict, and family stress. The results highlight the important of gene-environment interplay in the development of symptoms of child psychopathology in young children. [**Early Childhood Inventory-4**]

- 13-34. Lerner, M. D., McLeod, B. D., & Mikami, A. Y. (2013). Preliminary evaluation of an observational measure of group cohesion for group psychotherapy. *Journal of Clinical Psychology*, 69(3), 191-208.

Objective Group psychotherapy research would benefit from an observational measure of group cohesion to complement existing self-report measures. This study introduces the Therapy Process Observational Coding System-Group Cohesion scale (TPOCS-GC), which observationally assesses cohesion between each member and the group. Method In total 27 parents participated in a group parent-training social competency intervention for children with attention deficit-hyperactivity disorder. Independent coders double-coded group cohesion and the alliance in 144 client-sessions. Parents, teachers, and children completed cognitive, behavioral, and therapy participation measures. Results The TPOCS-GC demonstrated modest to strong item-level interrater reliability and acceptable internal consistency. Group cohesion evidenced moderate stability over the course of treatment. Relations between TPOCS-GC and theoretically linked and unrelated variables provided some evidence for construct and predictive validity. **Conclusions:** This preliminary study suggests that the TPOCS-GC is a reliable instrument that may help fill an instrumentation gap in the field. [**Child Symptom Inventory-4**]

- 13-35. Lin, Y. H., & Gau, S. S. F. (2013). Association between morningness–eveningness and the severity of compulsive internet use: The moderating role of gender and parenting style. *Sleep Medicine*, 14(12), 1398-1404.

Background: Eveningness and Internet addiction are major concerns in adolescence and young adulthood. We investigated the relationship between morningness–eveningness and compulsive Internet use in young adults and explored the moderating effects of perceived parenting styles and family support on such relationships. Methods: The participants consisted of 2731 incoming college students (men, 52.4%; mean age, 19.4 +/- 3.6 years) from a National University in Taiwan. Each participant completed the questionnaires, which included the Morningness–Eveningness Scale (MES), the Yale-Brown Obsessive Compulsive Scale modified for Internet use (YBOCS-IU), the Parental Bonding Instrument for parenting style, the Family Adaptation, Partnership, Growth, Affection, and Resolve questionnaire (APGAR) for perceived family support, and the Adult Self-Report Inventory-4 (ASRI-4) for psychopathology. The morning (n = 459), intermediate (n = 1878), and evening (n = 394) groups were operationally defined by the MES t scores. Results: The results showed that eveningness was associated with greater weekend sleep compensation, increased compulsive Internet use, more anxiety, poorer parenting styles, and less family support; additionally, the most associated variables for increased compulsive Internet use were the tendency of eveningness, male gender, more anxiety symptoms, less maternal affection/care, and a lower level of perceived family support. The negative association between the morning type and compulsive Internet use severity escalated with increased maternal affection/care and decreased with increased perceived family support. The positive association between the evening type and compulsive Internet use severity declined with increased maternal protection. However, the father's parenting style did not influence the relationship between morningness–eveningness and compulsive Internet use severity. Conclusions: Our findings imply that sleep schedule and the parental and family process should be part of specific measures for prevention and intervention of compulsive Internet use. [**Adult Self-Report Inventory-4**]

- 13-36. Lockwood, P. L., Sebastian, C. L., McCrory, E. J., Hyde, Z. H., Gu, X., De Brito, S. A., & Viding, E. (2013). Association of callous traits with reduced neural response to others' pain in children with conduct problems. *Current Biology*, 23(10), 901-905.

Children with conduct problems (CP) persistently violate others' rights and represent a considerable societal cost [1]. These children also display atypical empathic responses to others' distress [2], which may partly account for their violent and antisocial behavior. Callous traits index lack of empathy in these children and confer risk for adult psychopathy [3]. Investigating neural responses to others' pain is an ecologically valid method to probe empathic processing [4], but studies in children with CP have been inconclusive [5, 6]. Using functional magnetic resonance imaging (fMRI), we measured neural responses to pictures of others in pain (versus no pain) in a large sample of children with CP and matched controls. Relative to controls, children with CP showed reduced blood oxygen level-dependent responses to others' pain in bilateral anterior insula (AI), anterior cingulate cortex (ACC), and inferior frontal gyrus, regions associated with empathy for pain in previous studies [7, 8]. In the CP group, callous traits were negatively associated with responses to others' pain in AI and ACC. We conclude that children with CP have atypical neural responses to others' pain. The negative association between callous traits and AI/ACC response could reflect an early neurobiological marker indexing risk for empathic deficits seen in adult psychopathy. [**Child and Adolescent Symptom Inventory-4R**]

- 13-37. Marmorstein, N. R. (2013). Associations between dispositions to rash action and internalizing and externalizing symptoms in children. *Journal of Clinical Child & Adolescent Psychology*, 42(1), 131-138.

Impulsivity is not a unitary construct; instead, dispositions to rash action can be divided into five moderately-correlated dimensions. However, the associations between these dimensions and symptoms of psychopathology among youth remain unclear. The goal of this study was to examine associations between different dispositions to rash action and psychopathology in a community sample of middle school youth. One hundred forty-four youth (M age = 11.9; 65% Hispanic, 30% African American; 50% male; 81% qualifying for free school lunches) participated in this study. Self-reported questionnaire measures of dispositions to rash action (lack of planning, lack of perseverance, sensation seeking, negative urgency, and positive urgency) and psychopathology symptoms (conduct disorder [CD], alcohol use, depression, overall anxiety, panic, generalized anxiety, social anxiety, and separation anxiety, as well as teacher reports of attention deficit/hyperactivity disorder [ADHD] inattentive and hyperactive symptoms) were used. Negative and positive urgency were positively associated with all symptom

types examined except certain anxiety subtypes (and positive urgency was not associated with ADHD symptoms). Lack of planning was positively associated with externalizing and depressive symptoms. Lack of perseverance was positively associated with CD. Sensation seeking was positively associated with both CD and alcohol use. When other dispositions were adjusted for, negative urgency remained a positive predictor of CD, whereas positive urgency remained a positive predictor of depressive and panic symptoms. Sensation seeking was negatively associated with separation anxiety. Psychopathology symptoms are differentially related to dispositions to rash action in children; emotion-based dispositions to rash action may be particularly important targets for future research. [**Child Symptom Inventory-4**]

- 13-38. Marshal, M. P., Dermody, S. S., Shultz, M. L., Sucato, G. S., Stepp, S. D., Chung, T., ... & Hipwell, A. E. (2013). Mental health and substance use disparities among urban adolescent lesbian and bisexual girls. *Journal of the American Psychiatric Nurses Association*, 19(5), 271-279.

Background: Sexual minority girls (SMGs) report large substance use disparities and victimization experiences, yet there is a dearth of research that focuses exclusively on SMGs. Objective: To examine substance use and mental health disparities among SMGs and to determine whether disparities were larger for African American compared with European American girls. Method: Data were used from Wave 11 of the Pittsburgh Girls Study, a multiple-cohort, prospective study of urban girls. Girls for the current analysis were aged 16 to 19 years. Fifty-five percent were African American. One hundred and seventy-three (8.3%) identified as SMGs, and 1,891 identified as heterosexual. Multiple regression analyses controlling for age, race, and parent education were conducted. Results: SMGs reported a robust pattern of large disparities in externalizing, internalizing, and borderline personality disorder symptoms. There was little evidence to suggest disparities were moderated by race. Conclusion: SMGs and their families would benefit from intervention and prevention programs to reduce disparities among this highly vulnerable population. [**Child Symptom Inventory-4; Adult Self-Report Inventory-4**]

- 13-39. Mattison, R. E., & Blader, J. C. (2013). What affects academic functioning in secondary special education students with serious emotional and/or behavioral problems? *Behavioral Disorders*, 38(4), 201-211.

Concern is growing over the limited academic progress in special education students with emotional and/or behavioral disorders (EBD). We know little about how academic and behavioral factors interact in these students to affect their academic functioning. Therefore, potential associations were investigated over the course of one school year for 196 secondary students with EBD in a self-contained public school (SCS). Demographics, IQ and achievement testing, teacher checklist ratings for emotional/behavioral problems, and standard measures of school function were gathered. First, academic achievement was studied, and regression analyses showed that both reading and math achievement were significantly increased by higher verbal IQ and lower ADHD-inattentive symptoms (ADHD-I), and math also by higher performance IQ and younger age. Next, general academic performance was examined, and regression analysis demonstrated that major-subject GPA was significantly increased by lower ADHD-I teacher ratings, higher math achievement, and younger age. In comparison, out-of-school suspensions were significantly increased by higher conduct disorder and lower social phobia ratings. Thus, in these students with EBD in an SCS, academic functioning was primarily affected by academic parameters, and by ADHD-I but not by other emotional/behavioral problems. These results can further inform the planning of academic interventions for many students with EBD. [**Child Symptom Inventory-4**]

- 13-40. Mikami, A. Y., Griggs, M. S., Lerner, M. D., Emeh, C. C., Reuland, M. M., Jack, A., & Anthony, M. R. (2013). A randomized trial of a classroom intervention to increase peers' social inclusion of children with attention-deficit/hyperactivity disorder. *Journal of Consulting and Clinical Psychology*, 81(1), 100.

Objective: Interventions for peer problems among children with attention-deficit/hyperactivity disorder (ADHD) typically focus on improving these children's behaviors. This study tested the proposition that an adjunctive component encouraging the peer group to be socially inclusive of children with ADHD would augment the efficacy of traditional interventions. Method: Two interventions were compared: contingency management training (COMET), a traditional behavioral management treatment to improve socially competent behavior in children with ADHD, and Making Socially Accepting Inclusive Classrooms (MOSAIC), a novel treatment that supplemented behavioral management for children with ADHD with procedures training peers to be socially inclusive. Children ages 6.8-9.8 (24 with ADHD; 113 typically developing [TD]) attended a summer day program grouped into same-age, same-sex classrooms with previously unacquainted peers. Children with ADHD received both COMET and

MOSAIC with a repeated measures crossover design. TD children provided sociometric information about the children with ADHD. Results: Whereas the level of behavior problems displayed by children with ADHD did not differ across treatment conditions, children with ADHD displayed improved sociometric preference and more reciprocated friendships, and received more positive messages from peers, when they were in MOSAIC relative to COMET. However, the beneficial effects of MOSAIC over COMET predominantly occurred for boys relative to girls. Conclusions: Data support the concept that adjunctive procedures to increase the inclusiveness of the peer group may ameliorate peer problems among children with ADHD, and suggest the potential utility of modifying MOSAIC to be delivered in regular classroom settings. [*Child Symptom Inventory-4*]

- 13-41. Mikami, A. Y., Reuland, M. M., Griggs, M. S., Jia, M., & Suldo, S. (2013). Collateral effects of a peer relationship intervention for children with Attention Deficit Hyperactivity Disorder on typically developing classmates. *School Psychology Review*, 42(4), 458-476.

General education teachers often implement classroom practices to address the needs of selected children with clinically significant behavior problems. The extent to which such practices affect the classmates of the selected children is an important question. Making Socially Accepting Inclusive Classrooms (MOSAIC) is a teacher-delivered classroom intervention, designed for and validated to improve the peer relationships of children with attention deficit hyperactivity disorder (ADHD). The current study examined the collateral effects of MOSAIC on 113 typically developing (TD) classmates (ages 6.8-9.8, 47% boys) of the children with ADHD; TD children did not meet criteria for any clinical disorder. All children were enrolled in a summer program containing 16 classrooms with teachers randomly assigned to MOSAIC or to an active comparison intervention condition. Results indicated that TD children showed reduced negative sociometric nominations from peers, increased reciprocated friendships, and reduced negative interactions with peers in MOSAIC. The positive effects of MOSAIC were accentuated for TD children with higher levels of disruptive behavior. In sum, the benefits of a peer relationship intervention targeted for children with ADHD may extend to TD classmates. [*Child Symptom Inventory-4*]

- 13-42. Moskowitz, L. J., Mulder, E., Walsh, C. E., McLaughlin, D. M., Zarcone, J. R., Proudfit, G. H., & Carr, E. G. (2013). A multimethod assessment of anxiety and problem behavior in children with Autism Spectrum Disorders and Intellectual Disability. *American Journal on Intellectual and Developmental Disabilities*, 118(6), 419-434.

Despite the increased risk for anxiety disorders in children with autism spectrum disorders (ASD), there is a lack of research on the assessment and treatment of anxiety in this population, particularly for those with an intellectual disability (ID). The present study evaluated a multimethod strategy for the assessment of anxiety and problem behavior in three children with ASD and ID. Anxiety was operationally defined using: (1) behavioral data from anxious behaviors, (2) affective/contextual data from parent-report and observer ratings of overall anxiety, and (3) physiological data (heart rate [HR] and respiratory sinus arrhythmia [RSA]). A functional assessment of problem behavior during high-and low-anxiety conditions was conducted. Higher levels of problem behavior and HR and lower RSA were found in the high-anxiety than in the low-anxiety conditions. [*Child Symptom Inventory-4*]

- 13-43. Pang, K. C., & Beauchaine, T. P. (2013). Longitudinal patterns of autonomic nervous system responding to emotion evocation among children with conduct problems and/or depression. *Developmental Psychobiology*, 55(7), 698-706.

Conduct disorder (CD) and depression co-occur at far greater levels than chance, despite largely separate diagnostic criteria. One potential shared mechanism of this comorbidity is emotion dysregulation, which characterizes both internalizing and externalizing disorders. Previous research demonstrates that respiratory sinus arrhythmia (RSA) a peripheral biomarker of emotion regulation is attenuated among children with CD, and among children with depression. However, few studies have examined biomarkers of emotion regulation as a function of heterotypic comorbidity. We evaluated longitudinal patterns of RSA and RSA reactivity to emotion evocation across three annual assessments among 207 children diagnosed at ages 8-12 years with CD (n=30), depression (n=28), comorbid CD and depression (n=80), or no psychiatric condition (n=69). Using continuous symptom counts as predictors, DepressionxCD interactions were observed for both Time 1 resting RSA and Time 1 RSA reactivity. CD, depression, and their interaction were all associated with low resting RSA at Time 1. In addition, concurrently elevated CD and depression scores predicted the greatest RSA reactivity to emotion evocation. Psychopathology scores were unrelated to developmental changes in RSA and RSA reactivity over time. [*Adolescent Symptom*]

**Inventory-4]**

- 13-44. Pfiffner, L. J., Villodas, M., Kaiser, N., Rooney, M., & McBurnett, K. (2013). Educational outcomes of a collaborative school-home behavioral intervention for ADHD. *School Psychology Quarterly*, 28(1), 25.

This study evaluated educationally relevant outcomes from a newly developed collaborative school-home intervention (Collaborative Life Skills Program [CLS]) for youth with attention and/or behavior problems. Participants included 17 girls and 40 boys in second through fifth grades (mean age = 8.1 years) from diverse ethnic backgrounds. CLS was implemented by 10 school-based mental health professionals at their schools and included 3 integrated components over 12 weeks: group behavioral parent training, classroom behavioral intervention, and a child social and independence skills group. Parent and teacher ratings of attention-deficit/hyperactivity disorder (ADHD) symptoms, organizational skills, and homework problems, and teacher-rated academic skills, report card grades, academic achievement, and classroom observations of student engagement were measured before and after treatment. Significant pre-post improvement was found for all measures, with large effect sizes for ADHD symptoms, organizational skills, and homework problems, and medium to large effects for teacher-rated academic skills, report card grades, academic achievement, and student engagement. Improvements in organizational skills mediated the relationship between improvement in ADHD symptoms and academic skills. Significant improvement in both ratings and objective measures (achievement testing, report cards, classroom observations) suggests that improvement exceeded what might be accounted for by expectancy or passage of time. Findings support the focus of CLS on both ADHD symptom reduction and organizational skill improvement and support the feasibility of a model which utilizes school-based mental health professionals as providers. [**Child Symptom Inventory-4; ADHD Symptom Checklist-4**]

- 13-45. Pouw, L. B., Rieffe, C., Oosterveld, P., Huskens, B., & Stockmann, L. (2013). Reactive/proactive aggression and affective/cognitive empathy in children with ASD. *Research in Developmental Disabilities*, 34(4), 1256-1266.

The main aim of this study was to examine the extent to which affective and cognitive empathy were associated with reactive and proactive aggression, and whether these associations differed between children with an Autism Spectrum Disorder (ASD) and typically developing (TD) children. The study included 133 children (67 ASD, 66 TD, Mage = 139 months), who filled out self-report questionnaires. The main findings showed that the association between reactive aggression and affective empathy was negative in TD children, but positive in children with ASD. The outcomes support the idea that a combination of poor emotion regulation and impaired understanding of others' emotions is associated with aggressive behavior in children with ASD. [**Child Symptom Inventory-4**]

- 13-46. Salama, C., Morris, M., Armistead, L., Koenig, L. J., Demas, P., Ferdon, C., & Bachanas, P. (2013). Depressive and conduct disorder symptoms in youth living with HIV: The independent and interactive roles of coping and neuropsychological functioning. *AIDS Care*, 25(2), 160-168.

Emerging research suggests the importance of psychosocial characteristics (e.g., coping and social support) for positive adaptation among youth with behaviorally acquired HIV. However, little is known about how these traits interact with cognitive abilities to impact emotional and behavioral adjustment. This study examined whether coping skills and executive functioning interact in their association with psychological adjustment in HIV-positive youth. Data from Project Adolescents Living with HIV/AIDS (ALPHA), a study to examine psychosocial, behavioral and neuropsychological functioning of youth with behaviorally acquired HIV, were used. Fifty-nine participants, aged 14-23, diagnosed with HIV prior to age 20 and receiving care in one of two HIV clinics in Atlanta or New York City, were recruited, consented and enrolled. Participants completed measures of depressive symptoms (Beck Depression Inventory), conduct disorder (Adolescent Symptom Index), and use of positive and negative coping strategies (Kidcope). The Wisconsin Card Sorting Test (WCST) assessed abstract reasoning (categories completed) and cognitive inflexibility (perseverative errors). In this sample of HIV-positive youth, depressive symptoms were best predicted by an interactive combination of negative coping skills and poor neuropsychological functioning. Neuropsychological functioning (cognitive inflexibility) and negative coping skills were directly associated with conduct disorder symptoms. Results highlight the importance of including neuropsychological assessment in the evaluation of HIV-positive youth, particularly those with emotional or behavioral problems. [**Adolescent Symptom Inventory-4**]

- 13-47. Scott, L. N., Whalen, D. J., Zalewski, M., Beeney, J. E., Pilkonis, P. A., Hipwell, A. E., & Stepp, S. D. (2013). Predictors and consequences of developmental changes in adolescent girls' self-reported quality of attachment to their primary caregiver. *Journal of Adolescence*, 36(5), 797-806.

In an at-risk community sample of 2101 girls, we examined trajectories, predictors, and consequences of changes in a central aspect of adolescents' perceived quality of attachment (QOA), i.e., their reported trust in the availability and supportiveness of the primary caregiver. Results demonstrated two distinct epochs of change in this aspect of girls' perceived QOA, with a significant linear decrease in early adolescence (ages 11-14) followed by a plateau from 14 to 16. Baseline parent-reported harsh punishment, low parental involvement, single parent status, and child-reported depression symptoms predicted steeper decreases in attachment during early adolescence, which in turn predicted greater child-reported depression and conduct disorder symptoms in later adolescence. Results suggest that both parent and child factors contribute to trajectories of self-reported QOA in adolescence, and a faster rate of decrease in girls' perceived QOA to caregivers during early adolescence may increase risk for both internalizing and externalizing symptoms. [**Child Symptom Inventory-4; Adolescent Symptom Inventory-4**]

- 13-48. Sheikh, H. I., Kryski, K. R., Smith, H. J., Dougherty, L. R., Klein, D. N., Bufferd, S. J., ... & Hayden, E. P. (2013). Catechol-O-methyltransferase gene val158met polymorphism and depressive symptoms during early childhood. *American Journal of Medical Genetics Part B: Neuropsychiatric Genetics*, 162(3), 245-252.

Catechol-O-Methyltransferase (COMT) is a critical regulator of catecholamine levels in the brain. A functional polymorphism of the COMT gene, val158met, has been linked to internalizing symptoms (i.e., depression and anxiety) in adolescents and adults. We extended this research by investigating whether the val158met polymorphism was associated with childhood symptoms of depression and anxiety in two independent samples of young children (Ns=476 and 409). In both samples, preschool-aged children were genotyped for the COMT val158met polymorphism. Symptoms of psychopathology were assessed via parent interviews and primary caregiver reports. In both samples, children homozygous for the val allele had higher levels of depressive symptoms compared to children with at least one copy of the met allele. Our findings extend previous research in older participants by showing links between the COMT val158met polymorphism and internalizing symptoms in early childhood. [**Early Childhood Inventory-4**]

- 13-49. Soyly, E., Soyly, N., Yıldırım, Y. S., Polat, C., & Sakallıoğlu, Ö. (2013). The prevalence of psychiatric symptoms in preschool children with adenotonsillar hypertrophy. *International Journal of Pediatric Otorhinolaryngology*, 77(7), 1094-1098.

Objectives: The aim of this study was to determine the prevalence of psychiatric disorders and symptoms in preschool-age children who are indicated for operation due to adenotonsillar hypertrophy. Materials and methods: Forty-eight patients between the ages of three and five years with indication for adenotonsillectomy were included in the study, as well as 40 control patients. Cases underwent routine ear nose throat (ENT) examination, flexible nasopharyngoscopy and tympanometry. The Early Childhood Inventory-4 (ECI-4) parent form and Strengths and Difficulties Questionnaire (SDQ) parent form were completed by the parent caring for the child. The SPSS for Windows 16.0 program was used for statistical analysis. Results: Groups were compared according to they received at least one psychiatric diagnosis measured by ECI-4, the group of adenotonsillar hypertrophy was diagnosed more than the control group. Attention deficit hyperactivity disorder (ADHD), oppositional defiant disorder (ODD) and sleep disorders were detected at a higher rate in patients with adenotonsillar hypertrophy. It also was established that in the comparison of the severity of psychiatric symptoms determined by ECI-4, symptom severity of ADHD, ODD, anxiety disorders, and sleep disorders was higher in the adenotonsillar hypertrophy group than in the control group. In the evaluation of the SDQ parent form, it was determined that attention deficit, hyperactivity, behavioral, and peer relations problems occurred more frequently in the adenotonsillar hypertrophy group. Conclusions: In addition to oral respiration, snoring, and disordered breathing during sleep, adenotonsillar hypertrophy may also associated with psychiatric disorders and symptoms. [**Early Childhood Inventory-4**]

- 13-50. Soyly, E., Soyly, N., Yıldırım, Y. S., Sakallıoğlu, Ö., Polat, C., & Orhan, İ. (2013). Psychiatric disorders and symptoms severity in patients with adenotonsillar hypertrophy before and after adenotonsillectomy. *International Journal of Pediatric Otorhinolaryngology*, 77(10), 1775-1781.



**Objective:** The objective of this study was to compare the frequency of psychiatric disorders and the severity of psychiatric symptoms in patients with adenotonsillar hypertrophy with a healthy control group and investigate the potential improvement after adenotonsillectomy. **Materials and methods:** The study group consisted of 40 patients with adenotonsillar hypertrophy and a control group consisted of 35 healthy volunteers without adenotonsillar hypertrophy. A routine ear nose throat (ENT) examination, flexible nasopharyngoscopy and tympanometry were carried out. The same procedures were applied to the control group. The parents of all the participants were required to fill out the Early Childhood Inventory-4 form, the Strengths and Difficulties Questionnaire and a personal information form. At postoperative month six, the patients were re-examined, and their parents were required to fill out the same forms. **Results:** Attention deficit hyperactivity disorders and sleep disorders determined with the Early Childhood Inventory-4 were more common in the patients with adenotonsillar hypertrophy than in the control group. There was a significant decrease in the rates of both types of disorders at postoperative month six. The total psychiatric symptom severity was higher in the patients with adenotonsillar hypertrophy and the following were more frequent: cases of attention deficit hyperactivity disorder, oppositional defiant disorder, symptom severity of anxiety disorders and sleep disorders determined with the Early Childhood Inventory-4, as well as emotional problems, attention deficit hyperactivity disorder problems, behavioural problems and peer problems determined with the Strengths and Difficulties Questionnaire parent-report form. There was a statistically significant decrease in all the other symptoms at postoperative month six, except for the severity of oppositional defiant disorder symptoms determined with the Early Childhood Inventory-4 and behavioural problems determined with the Strengths and Difficulties Questionnaire parent-report form. There were no differences in the severity of psychiatric disorders or symptoms between the adenotonsillar hypertrophy group and the control group at postoperative month six. **Conclusion:** Adenotonsillar hypertrophy is associated with psychiatric disorders and symptoms. Adenotonsillectomy ameliorated the symptoms and the severity of these disorders in most cases. [Early Childhood Inventory-4]

- 13-51. Stephens, R. J., Chung, S. A., Jovanovic, D., Guerra, R., Stephens, B., Sandor, P., & Shapiro, C. M. (2013). Relationship between polysomnographic sleep architecture and behavior in medication-free children with TS, ADHD, TS and ADHD, and controls. *Journal of Developmental & Behavioral Pediatrics*, 34(9), 688-696.

**Objective:** To describe the relationship between sleep architecture and behavioral measures in unmedicated children and adolescents with Tourette syndrome (TS), attention-deficit hyperactivity disorder (ADHD), TS and comorbid ADHD (TS 1 ADHD), and healthy controls. The study also set out to examine differences in sleep architecture with each diagnosis. **Method:** A cross-sectional, 2-night consecutive polysomnographic sleep study was conducted in 90 children. All participants were matched for age, gender, and level of intelligence. **Results:** Scores on the Child Behavior Checklist delinquency measure were modestly but significantly correlated with the number of movements during REM sleep ( $r = .36$ ,  $p = .003$ ). Significant correlations were also noted among the number of total arousals and arousals from slow wave sleep (SWS), and scores on the measures of conduct disorder, hyperactivity/immaturity, and restless/disorganized behaviors. There were a few significant differences in sleep architecture among the diagnostic groups. The ADHD-only group exhibited a significantly higher number of total arousals ( $p < .01$ ) and arousals from SWS ( $p < .01$ ) compared with the other three study groups. **Discussion:** Our findings indicate that children with TS and/or ADHD and who have more arousals from sleep are significantly more likely to have issues with conduct disorder, hyperactivity/immaturity, and restless/disorganized behavior. It was also noted that having ADHD, alone or comorbid with TS, is associated with a significantly greater number of movements during both non-REM and REM sleep. This study underscores the compelling need for the diagnosis and treatment of any sleep disorders in children with TS and/or ADHD so as to facilitate better management of problem behaviors. [Child Symptom Inventory-4]

- 13-52. Thornton, L. C., Frick, P. J., Crapanzano, A. M., & Terranova, A. M. (2013). The incremental utility of callous-unemotional traits and conduct problems in predicting aggression and bullying in a community sample of boys and girls. *Psychological Assessment*, 25(2), 366.

The current study tested whether callous-unemotional (CU) traits explained unique variance in measures of aggression and bullying, and in measures assessing cognitive and affective correlates to aggression, when controlling for conduct problem severity. In a sample of 284 ethnically diverse students (ages 9 to 14 years), a self-report measure of CU traits did not explain unique variance in self-report measures of reactive aggression but did interact with conduct problems in predicting proactive aggression, with conduct problems being more strongly related to proactive aggression in students high on CU traits. Conduct problems were also more strongly related to

peer-reports of bullying in girls high on CU traits. Further, CU traits were negatively related to behaviors that defend victims of bullying, independent of conduct problem severity. Finally, conduct problems were more strongly related to anger dysregulation in students low on CU traits, and conduct problems were more strongly related to positive expectations for aggressive behavior in girls high on CU traits. These findings provide support for the proposal to include CU traits as a specifier for the diagnosis of conduct disorder. [**Early Childhood Inventory-4**]

- 13-53. Voltas Moreso, N., Hernández-Martínez, C., Arija Val, V., & Canals Sans, J. (2013). Socio-demographic and psychopathological risk factors in obsessive-compulsive disorder: Epidemiologic study of school population. *International Journal of Clinical and Health Psychology*, 13(2), 118-126.

We assessed the presence of emotional disorders (obsessive-compulsive, anxiety and depressive) in 1,514 Spanish non-referred children (8-12 years old) to investigate the predictive ability of psychopathological and socio-demographic characteristics, and identify which of these were possible correlates for clinical obsessive-compulsive disorder (OCD) and subclinical OCD. At one year later, 562 subjects (risk group and without risk group) were re-assessed and we established the OCD diagnoses or the subclinical OCD diagnoses. We found that 20 participants presented clinical OCD and 46 participants presented subclinical OCD. Somatic and separation anxiety symptomatology were good predictors for clinical OCD, and obsessive concern was a predictor for subclinical OCD. Clinical OCD was associated with order/checking/pollution symptoms and with a lower socioeconomic status (SES). Subclinical OCD was associated with hyperactive and impulsive manifestations, obsessive concern, and superstition/mental compulsion. An early detection and the follow-up of anxiety or obsessive symptoms in children may be important for preventing the course of OCD. [**Child Symptom Inventory-4**]

- 13-54. Webster-Stratton, C., Reid, M. J., & Beauchaine, T. P. (2013). One-year follow-up of combined parent and child intervention for young children with ADHD. *Journal of Clinical Child & Adolescent Psychology*, 42(2), 251-261.

Efficacies of the Incredible Years (IY) interventions are well-established in children with oppositional defiant disorder (ODD) but not among those with a primary diagnosis of attention-deficit/hyperactivity disorder (ADHD). We sought to evaluate 1-year follow-up outcomes among young children with ADHD who were treated with the IY interventions. Four- to 6-year-olds with ADHD (n=49, 73% male) participated in 6 months of treatment using the IY parent and child interventions. Immediate posttreatment results indicated improvements in parenting, children's externalizing and attention problems, and social contact at school. At 1-year follow up, 22 of 27 variables that showed significant posttreatment effects demonstrated maintenance to 1-year follow up. Children with higher ODD symptoms at baseline showed more improvement in oppositionality and total behavior problems, and their mothers showed more improvement on harsh discipline scores. Approximately 70 to 75% of children were reported by their parents and teachers to fall below clinical cutoffs on measures of externalizing symptoms at the 1-year follow up (compared to 50% at baseline), and more than 50% fell below clinical cutoffs on measures of hyperactivity and inattentiveness (all were in the clinical range at baseline). Children with ADHD who were treated with the IY parent and child treatment programs showed maintenance of treatment effects 1 year after treatment. [**Child Symptom Inventory-4**]

- 13-55. White, S. W., Ollendick, T., Albano, A. M., Oswald, D., Johnson, C., Southam-Gerow, M. A., ... & Scahill, L. (2013). Randomized controlled trial: Multimodal anxiety and social skill intervention for adolescents with autism spectrum disorder. *Journal of Autism and Developmental Disorders*, 43(2), 382-394.

Anxiety is common among adolescents with autism spectrum disorders (ASD) and may amplify the core social disability, thus necessitating combined treatment approaches. This pilot, randomized controlled trial evaluated the feasibility and preliminary outcomes of the Multimodal Anxiety and Social Skills Intervention (MASSI) program in a sample of 30 adolescents with ASD and anxiety symptoms of moderate or greater severity. The treatment was acceptable to families, subject adherence was high, and therapist fidelity was high. A 16 % improvement in ASD social impairment (within-group effect size = 1.18) was observed on a parent-reported scale. Although anxiety symptoms declined by 26 %, the change was not statistically significant. These findings suggest MASSI is a feasible treatment program and further evaluation is warranted. [**Adolescent Symptom Inventory-4**]

- 13-56. Williams, P.L., Chernoff, M., Angelidou, K., Brouwers, P., Kacanek, D., Deygoo, N.S., Nachman, N., & Gadow, K.D. (2013). Participation and retention of youth with perinatal HIV infection in mental health research studies: The IMPAACT P1055 psychiatric co-morbidity study. *Journal of Acquired Immune Deficiency Syndromes*, 63,

401-409.

**Background:** Obtaining accurate estimates of mental health problems among youth perinatally infected with HIV (PHIV) helps clinicians develop targeted interventions but requires enrollment and retention of representative youth into research studies. **Methods:** The study design for IMPAACT P1055, a US-based, multisite prospective study of psychiatric symptoms among PHIV youth and uninfected controls aged 6 to 17 years old, is described. Participants were compared with nonparticipants by demographic characteristics and reasons were summarized for study refusal. Adjusted logistic regression models were used to evaluate the association of psychiatric symptoms and other factors with loss to follow-up (LTFU). **Results:** Among 2281 youth screened between 2005 and 2006 at 29 IMPAACT research sites, 580 (25%) refused to participate, primarily because of time constraints. Among 1162 eligible youth approached, 582 (50%) enrolled (323 PHIV and 259 Control), with higher participation rates for Hispanic youth. Retention at 2 years was significantly higher for PHIV than Controls (84% vs 77%,  $P = 0.03$ ). In logistic regression models adjusting for sociodemographic characteristics and HIV status, youth with any self-assessed psychiatric condition had higher odds of LTFU compared with those with no disorder (adjusted odds ratio = 1.56, 95% confidence interval: 1.00 to 2.43). Among PHIV youth, those with any psychiatric condition had 3-fold higher odds of LTFU (adjusted odds ratio = 3.11, 95% confidence interval: 1.61 to 6.01). **Conclusions:** Enrollment and retention of PHIV youth into mental health research studies is challenging for those with psychiatric conditions and may lead to underestimated risks for mental health problems. Creative approaches for engaging HIV-infected youth and their families are required for ensuring representative study populations. [**Child and Adolescent Symptom Inventory-4R**]

- 13-57. Yang, H. N., Tai, Y. M., Yang, L. K., & Gau, S. S. F. (2013). Prediction of childhood ADHD symptoms to quality of life in young adults: Adult ADHD and anxiety/depression as mediators. *Research in Developmental Disabilities*, 34(10), 3168-3181.

Childhood attention-deficit/hyperactivity disorder (ADHD) symptoms may persist, co-occur with anxiety and depression (ANX/DEP), and influence quality of life (QoL) in later life. However, the information about whether these persistent ADHD and ANX/DEP mediate the influence of childhood ADHD on adverse QoL in adulthood is lacking. This study aimed to determine whether adult ADHD symptoms and/or ANX/DEP mediated the association between childhood ADHD and QoL. We assessed 1382 young men aged 19-30 years in Taiwan using self-administered questionnaires for retrospective recall of ADHD symptoms at ages 6-12, and assessment of current ADHD and ANX/DEP symptoms, and QoL. We conducted mediation analyses and compared the values of mediation ratio (P<sub>m</sub>) by adding mediators (adult ADHD and ANX/DEP), individually and simultaneously into a regression model with childhood ADHD as an independent variable and QoL as a dependent variable. Our results showed that both adult ADHD and ANX/DEP symptoms significantly-mediated the association between childhood ADHD and QoL ( $P\text{-}M=0.71$  for ANX/DEP,  $P\text{-}M = 0.78$  for adult ADHD symptoms, and  $P\text{-}M = 0.91$  for both). The significance of negative correlations between childhood ADHD and four domains of adult QoL disappeared after adding these two mediators in the model. Our findings suggested that the strong relationship between childhood ADHD and adult life quality can be explained by the presence of persistent ADHD symptoms and co-occurring ANX/DEP. These two mediators are recommended to be included in the assessment and intervention for ADHD to offset the potential adverse life quality outcome in ADHD. [**Adult Self-Report Inventory-4**]

- 13-58. Yau, G., Schluchter, M., Taylor, H. G., Margevicius, S., Forrest, C. B., Andreias, L., ... & Hack, M. (2013). Bullying of extremely low birth weight children: Associated risk factors during adolescence. *Early Human Development*, 89(5), 333-338.

**Background:** Preterm children have many risk factors which may increase their susceptibility to being bullied. **Aims:** To examine the prevalence of bullying among extremely low birth weight (ELBW, <1 kg) and normal birth weight (NBW) adolescents and the associated sociodemographic, physical, and psychosocial risk factors and correlates among the ELBW children. **Methods:** Cohort study of self-reports of bullying among 172 ELBW adolescents born 1992-1995 compared to 115 NBW adolescents of similar age, sex and sociodemographic status. Reports of being bullied were documented using the KIDSCREEN-52 Questionnaire which includes three Likert type questions concerning social acceptance and bullying. Multiple linear regression analyses adjusting for sociodemographic factors were used to examine the correlates of bullying among the ELBW children. **Results:** Group differences revealed a non-significant trend of higher mean bullying scores among ELBW vs. NBW children (1.56 vs. 1.16,  $p = 0.057$ ). ELBW boys had significantly higher bullying scores than NBW boys (1.94 vs. 0.91,

$p < 0.01$ ), whereas ELBW and NBW girls did not differ (1.34 vs. 1.30,  $p = 0.58$ ). Bullying of ELBW children was significantly associated with subnormal IQ functional limitations, anxiety and ADHD, poor school connectedness, less peer connectedness, less satisfaction with health and comfort, and less risk avoidance. Conclusion: ELBW boys, but not girls, are more likely to be victims of bullying than NBW boys. School and health professionals need to be aware of the risk of bullying among ELBW male adolescents. [**Adolescent Symptom Inventory-4; Youth's Inventory-4**]

- 13-59. Yerys, B. E., Kenworthy, L., Jankowski, K. F., Strang, J., & Wallace, G. L. (2013). Separate components of emotional go/no-go performance relate to autism versus attention symptoms in children with autism. *Neuropsychology*, 27(5), 537-545.

Objective: The present investigation examined whether higher functioning children with autism would demonstrate impaired response inhibition performance in an emotional go/no-go task, and whether severity of attention-deficit/hyperactivity disorder (ADHD) or autism symptoms correlated with performance. Method: Forty-four children (21 meeting criteria for autism; 23 typically developing controls [TDCs]) completed an emotional go/no-go task in which an emotional facial expression (angry, fearful, happy, or sad) was the go stimulus and a neutral facial expression was the no-go stimulus, and vice versa. Results: The autism group was faster than the TDC group on all emotional go, trials. Moreover, the children in the autism group who had the fastest reaction times on emotional go trials were rated as having the greatest number of symptoms (Autism Diagnostic Observation Schedule Social + Communication score), even after accounting for the association with ADHD symptoms. The autism group also made more impulsive responses (i.e., lower  $d'$ , more false alarms) than the TDC group on all trials. As  $d'$  decreased or false alarms increased, so did ADHD symptoms. Hyperactivity/impulsivity symptoms were significantly correlated with false alarms, but inattention symptoms were not. There was not a significant relationship between no-go false alarms and autism symptoms; even after partialing out associations with autism symptoms, the significant correlation between ADHD symptoms and no-go false alarms remained. Conclusion: The present findings support a comorbidity model that argues for shared and independent risk factors, because ADHD and autism symptoms related to independent aspects of emotional go/no-go performance. [**Child Symptom Inventory-4; Child and Adolescent Symptom Inventory-4R**]

- 13-60. Yerys, B. E., Ruiz, E., Strang, J., Sokoloff, J., Kenworthy, L., & Vaidya, C. J. (2013). Modulation of attentional blink with emotional faces in typical development and in autism spectrum disorders. *Journal of Child Psychology and Psychiatry*, 54(6), 636-643.

Background: The attentional blink (AB) phenomenon was used to assess the effect of emotional information on early visual attention in typically developing (TD) children and children with autism spectrum disorders (ASD). The AB effect is the momentary perceptual unawareness that follows target identification in a rapid serial visual processing stream. It is abolished or reduced for emotional stimuli, indicating that emotional information has privileged access to early visual attention processes. Methods: We examined the AB effect for faces with neutral and angry facial expressions in 8- to 14-year-old children with and without an ASD diagnosis. Results: Children with ASD exhibited the same magnitude AB effect as TD children for both neutral and angry faces. Conclusions: Early visual attention to emotional facial expressions was preserved in children with ASD. [**Child Symptom Inventory-4; Child and Adolescent Symptom Inventory-4R**]

## YEAR: 2012

- 12-1. Alderson, RM, Rapport, MD, Kasper, LJ, Sarver, DE, & Kofler, MJ. (2012). Hyperactivity in boys with attention deficit/hyperactivity disorder (ADHD): The association between deficient behavioral inhibition, attentional processes, and objectively measured activity. *Child Neuropsychology*, 18, 487-505.

Contemporary models of ADHD hypothesize that hyperactivity reflects a byproduct of inhibition deficits. The current study investigated the relationship between children's motor activity and behavioral inhibition by experimentally manipulating demands placed on the limited-resource inhibition system. Twenty-two boys (ADHD=11, TD=11) between the ages of 8 and 12 years completed a conventional stop-signal task, two choice-task variants (no-tone, ignore-tone), and control tasks while their motor activity was measured objectively by actigraphs placed on their nondominant wrist and ankles. All children exhibited significantly higher activity rates under all three experimental tasks relative to control conditions, and children with ADHD moved significantly more

than typically developing children across conditions. No differences in activity level were observed between the inhibition and noninhibition experimental tasks for either group, indicating that activity level was primarily associated with basic attentional rather than behavioral inhibition processes. [**Child Symptom Inventory-4**]

- 12-2. Arnold, LE, Mount, K, Frazier, T, Demeter, C, Youngstrom, EA, Fristad, MA, Birmaher, B, Horwitz, S, Findling, RL, Kowatch, R, & Axelson, D. (2012). Pediatric bipolar disorder and ADHD: Family history comparison in the LAMS clinical sample. *Journal of Affective Disorders*, 141, 382-389.

Background: Transgenerational association of bipolar spectrum disorder (BPSD) and attention deficit/hyperactivity disorder (ADHD) has been reported, but inconclusively. Method: Children ages 6-12 were systematically recruited at first outpatient visit at 9 clinics at four universities and reliably diagnosed; 621 had elevated symptoms of mania (>12 on the Parent General Behavior Inventory 10-Item Mania Scale); 86 had scores below 12. We analyzed baseline data to test a familial association hypothesis: compared to children with neither BPSD nor ADHD, those with either BPSD or ADHD would have parents with higher rates of both bipolar and ADHD symptoms, and parents of comorbid children would have even higher rates of both. Results: Of 707 children, 421 had ADHD without BPSD, 45 BPSD without ADHD, 117 comorbid ADHD+BPSD, and 124 neither. The rate of parental manic symptoms was similar for the comorbid and BPSD-alone groups, significantly greater than for ADHD alone and "neither" groups, which had similar rates. ADHD symptoms in parents of children with BPSD alone were significantly less frequent than in parents of children with ADHD (alone or comorbid), and no greater than for children with neither diagnosis. Family history of manic symptoms, but not ADHD symptoms, was associated with parent-rated child manic-symptom severity over and above child diagnosis. Limitations: The sample was not epidemiologic, parent symptoms were based on family history questions, and alpha was 0.05 despite multiple tests. Conclusions: These results do not support familial linkage of BPSD and ADHD; they are compatible with heritability of each disorder separately with coincidental overlap. [**Child and Adolescent Symptom Inventory-4R**]

- 12-3. Beauchaine, TP, & Gatzke-Kopp, LM. (2012). Instantiating the multiple levels of analysis perspective in a program of study on externalizing behavior. *Development and Psychopathology*, 24, 1003-1018.

During the last quarter century, developmental psychopathology has become increasingly inclusive and now spans disciplines ranging from psychiatric genetics to primary prevention. As a result, developmental psychopathologists have extended traditional diathesis stress and transactional models to include causal processes at and across all relevant levels of analysis. Such research is embodied in what is known as the multiple levels of analysis perspective. We describe how multiple levels of analysis research has informed our current thinking about antisocial and borderline personality development among trait impulsive and therefore vulnerable individuals. Our approach extends the multiple levels of analysis perspective beyond simple Biology x Environment interactions by evaluating impulsivity across physiological systems (genetic, autonomic, hormonal, neural), psychological constructs (social, affective, motivational), developmental epochs (preschool, middle childhood, adolescence, adulthood), sexes (male, female), and methods of inquiry (self-report, informant report, treatment outcome, cardiovascular, electrophysiological, neuroimaging). By conducting our research using any and all available methods across these levels of analysis, we have arrived at a developmental model of trait impulsivity that we believe confers a greater understanding of this highly heritable trait and captures at least some heterogeneity in key behavioral outcomes, including delinquency and suicide. [**Child Symptom Inventory-4**]

- 12-4. Bolden, J, Rapport, MD, Raiker, JS, Sarver, DE, & Kofler, MJ. (2012). Understanding phonological memory deficits in boys with attention-deficit/hyperactivity disorder (ADHD): dissociation of short-term storage and articulatory rehearsal processes. *Journal of Abnormal Child Psychology*, 40, 999-1011.

The current study dissociated and examined the two primary components of the phonological working memory subsystem-the short-term store and articulatory rehearsal mechanism-in boys with ADHD (n = 18) relative to typically developing boys (n = 15). Word lists of increasing length (2, 4, and 6 words per trial) were presented to and recalled by children following a brief (3 s) interval to assess their phonological short-term storage capacity. Children's ability to utilize the articulatory rehearsal mechanism to actively maintain information in the phonological short-term store was assessed using word lists at their established memory span but with extended rehearsal times (12 s and 21 s delays). Results indicate that both phonological short-term storage capacity and articulatory rehearsal are impaired or underdeveloped to a significant extent in boys with ADHD relative to typically developing boys, even after controlling for age, SES, IQ, and reading speed. Larger magnitude deficits, however, were

apparent in short-term storage capacity ( $ES = 1.15$  to  $1.98$ ) relative to articulatory rehearsal ( $ES = 0.47$  to  $1.02$ ). These findings are consistent with previous reports of deficient phonological short-term memory in boys with ADHD, and suggest that future attempts to develop remedial cognitive interventions for children with ADHD will need to include active components that require children to hold increasingly more information over longer time intervals. [**Child Symptom Inventory-4**]

- 12-5. Bufferd, S.J., Dougherty, L.R., Carlson, G.A., Rose, S., & Klein, D.N. (2012). Psychiatric disorders in preschoolers: Continuity from ages 3 to 6. *American Journal of Psychiatry*, 169, 1157-1164.

Objective: Recent studies indicate that many preschoolers meet diagnostic criteria for psychiatric disorders. However, data on the continuity of these diagnoses are limited, particularly from studies examining a broad range of disorders in community samples. Such studies are necessary to elucidate the validity and clinical significance of psychiatric diagnoses in young children. The authors examined the continuity of specific psychiatric disorders in a large community sample of preschoolers from the Preschool period (age 3) to the beginning of the school-age period (age 6). Method: Eligible families with a 3-year child were recruited from the community through commercial mailing lists. For 462 children, the child's primary caretaker was interviewed at baseline and again when the child was age 6, using the parent-report Preschool Age Psychiatric Assessment, a comprehensive diagnostic interview. The authors examined the continuity of DSM-IV diagnoses from ages 3 to 6. Results: Three-month rates of disorders were relatively stable from age 3 to age 6. Children who met criteria for any diagnosis at age 3 were nearly five times as likely as the others to meet criteria for a diagnosis at age 6. There was significant homotypic continuity from age 3 to age 6 for anxiety, attention deficit hyperactivity disorder (ADHD), and oppositional defiant disorder, and heterotypic continuity between depression and anxiety, between anxiety and oppositional defiant disorder, and between ADHD and oppositional defiant disorder. Conclusions: These results indicate that preschool psychiatric disorders are moderately stable, with rates of disorders and patterns of homotypic and heterotypic continuity similar to those observed in samples of older children. [**Early Childhood Inventory-4**]

- 12-6. Canals, J., Hernandez-Martinez, C., Cusi, S., & Voltas, N. (2012). The epidemiology of obsessive-compulsive disorder in Spanish school children. *Journal of Anxiety Disorders*, 26, 746-752.

We aimed to assess the prevalence (at three levels of severity) and other epidemiological data of OCD in a sample of 1,514 Spanish non-referred children. The estimated prevalence was 1.8% for OCD, 5.5% for subclinical OCD and 4.7% for DC symptomatology. We did not find significant differences between genders or academic grade regarding DC symptoms and OCD, but more subclinical prevalence was found in males than in females. Socio-demographic variables were not related to any level of OCD, but academic performance was significantly lower in clinical OCD. The co-morbidity between OCD and any psychiatric disorder was high (85%) and higher for emotional disorders than for behavioral disorders. The impairment was associated with comorbidity and was worse for OCD with comorbid emotional problems. The results suggest that OCD is not rare in school children and adolescents and that it has an impact on their personal functioning. We suggest the possibility of an early diagnosis and treatment. [**Child Symptom Inventory-4, Spanish**]

- 12-7. Canals, J., Hernandez-Martinez, C., Cusi, S., & Domenech, E. (2012). Examination of a cutoff score for the Screen for Child Anxiety Related Emotional Disorders (SCARED) in a non-clinical Spanish population. *Journal of Anxiety Disorders*, 26, 785-791.

We aimed to find a valid cutoff score for the Screen for Child Anxiety Related Emotional Disorders, child (SCARED-C) and parent (SCARED-P) Spanish versions for detecting Anxiety Disorders (AD) in a non-clinical population. The predictive accuracy of the SCARED-C and SCARED-P was assessed using the Area Under the Curve (AUC) of ROC curves. In general, the predictive accuracy of the SCARED-C (full version, short version, and four factors) was good and better than that of the SCARED-P. To differentiate between children who meet the diagnostic criteria for any AD and children who do not, we propose cutoff scores of 25 and 17 for the SCARED-C and SCARED-P, respectively. The sensitivities are 75.9% and 62.8%, and the specificities are 68.5% and 69.5%. The SCARED-C factor that had the best predictive accuracy was Somatic panic followed by Separation Anxiety, Generalized Anxiety and Social Phobia. The SCARED-P factor with the best predictive accuracy was Separation Anxiety. The results support the use of SCARED-C as a screening test for Anxiety disorders while SCARED-P should only be used as complementary information. [**Child Symptom Inventory-4, Spanish**]

- 12-8. Caspersen, ID, & Habekost, T. (2013). Selective and sustained attention in children with spina bifida myelomeningocele. *Child Neuropsychology*, 19, 55-77.

Spina bifida myelomeningocele (SBM) is a neural tube defect that has been related to deficits in several cognitive domains including attention. Attention function in children with SBM has often been studied using tasks that are confounded by complex motor demands or tasks that do not clearly distinguish perceptual from response-related components of attention. We used a verbal-report paradigm based on the Theory of Visual Attention and a new continuous performance test, the Dual Attention to Response Task, for measuring parameters of selective and sustained attention in 6 children with SBM and 18 healthy control children. The two tasks had minimal motor demands, were functionally specific and were sensitive to minor deficits. As a group, the children with SBM were significantly less efficient at filtering out irrelevant stimuli. Moreover, they exhibited frequent failures of sustained attention and response control in terms of omission errors, premature responses, and prolonged inhibition responses. All 6 children with SBM showed deficits in one or more parameters of attention; for example, three patients had elevated visual perception thresholds, but large individual variation was evident in their performance patterns, which highlights the relevance of an effective case-based assessment method in this patient group. Overall, the study demonstrates the strengths of a new testing approach for evaluating attention function in children with SBM. [*Child Symptom Inventory-4*]

- 12-9. Chaplin, TM, Sinha, R, Simmons, JA, Healy, SM, Mayes, LC, Hommer, RE, & Crowley, MJ. (2012). Parent-adolescent conflict interactions and adolescent alcohol use. *Addictive Behaviors*, 37, 605-612.

Objective: One important factor in adolescents' development of problem alcohol use is their family environment. Yet, the mechanisms that relate parenting to youth alcohol use are not well characterized. This study employed a naturalistic laboratory-based approach to observe parenting behaviors (support, structure, criticism) and adolescents' physiological and emotional responses to parent-adolescent interactions to examine associations with adolescent alcohol use. Method: Fifty eight 10-16 year olds and their parents completed a 10 minute Parent Adolescent Interaction Task (PAIT) in which they discussed a mutually highly-rated conflict topic. Parental support, structure, and criticism were coded from the interaction. Adolescents' heart rate (HR), blood pressure (BP), reported emotions, and salivary cortisol were assessed before, during, and after the interaction. Results: Findings indicated that lower parental structure and support were associated with youth's greater diastolic BP and anger arousal in response to the PAIT. Furthermore, higher FIR, systolic BP, and cortisol responses to the interaction were associated with youth's alcohol use. Conclusions: Findings suggest that heightened emotional and physiological responses to parent-adolescent conflict interactions in youth may be one pathway by which parenting is associated with adolescent alcohol use and risk for abuse. [*Child Symptom Inventory-4*]

- 12-10. Chervin, RD, Ruzicka, DL, Hoban, TF, Fetterolf, JL, Garetz, SL, Guire, KE, Dillon, JE, Felt, BT, Hodges, EK, & Giordani, BJ. (2012). Esophageal pressures, polysomnography, and neurobehavioral outcomes of adenotonsillectomy in children. *Chest*, 142, 101-110.

Background: Esophageal pressure monitoring during polysomnography in children offers a gold-standard, "preferred" assessment for work of breathing, but is not commonly used in part because prospective data on incremental clinical utility are scarce. We compared a standard pediatric apnea/hypopnea index to quantitative esophageal pressures as predictors of apnea-related neurobehavioral morbidity and treatment response. Methods: Eighty-one children aged 7.8 +/- 2.8 (SD) years, including 44 boys, had traditional laboratory-based pediatric polysomnography, esophageal pressure monitoring, multiple sleep latency tests, psychiatric evaluations, parental behavior rating scales, and cognitive testing, all just before clinically indicated adenotonsillectomy, and again 7.2 +/- 0.8 months later. Esophageal pressures were used, along with nasal pressure monitoring and oronasal thermocouples, not only to identify respiratory events but also more quantitatively to determine the most negative esophageal pressure recorded and the percentage of sleep time spent with pressures lower than -10 cm H<sub>2</sub>O. Results: Both sleep-disordered breathing and neurobehavioral measures improved after surgery. At baseline, one or both quantitative esophageal pressure measures predicted a disruptive behavior disorder (Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition-defined attention-deficit/hyperactivity disorder, conduct disorder, or oppositional defiant disorder) and more sleepiness and their future improvement after adenotonsillectomy (each  $P < .05$ ). The pediatric apnea/hypopnea index did not predict these morbidities or treatment outcomes (each  $P > .10$ ). The addition of respiratory effort-related arousals to the apnea/hypopnea index did not improve its predictive value. Neither the preoperative apnea/hypopnea index nor esophageal

pressures predicted baseline hyperactive behavior, cognitive performance, or their improvement after surgery. Conclusions: Quantitative esophageal pressure monitoring may add predictive value for some, if not all, neurobehavioral outcomes of sleep-disordered breathing. [**Child Symptom Inventory-4**]

- 12-11. Crowell, SE, Beauchaine, TP, Hsiao, RC, Vasilev, CA, Yaptangco, M, Linehan, MM, & McCauley, E. (2012). Differentiating adolescent self-injury from adolescent depression: possible implications for borderline personality development. *Journal of Abnormal Child Psychology*, 40, 45-57.

Self-inflicted injury (SII) in adolescence marks heightened risk for suicide attempts, completed suicide, and adult psychopathology. Although several studies have revealed elevated rates of depression among adolescents who self injure, no one has compared adolescent self injury with adolescent depression on biological, self-, and informant-report markers of vulnerability and risk. Such a comparison may have important implications for treatment, prevention, and developmental models of self injury and borderline personality disorder. We used a multi-method, multi-informant approach to examine how adolescent SII differs from adolescent depression. Self-injuring, depressed, and typical adolescent females (n = 25 per group) and their mothers completed measures of psychopathology and emotion regulation, among others. In addition, we assessed electrodermal responding (EDR), a peripheral biomarker of trait impulsivity. Participants in the SII group (a) scored higher than depressed adolescents on measures of both externalizing psychopathology and emotion dysregulation, and (b) exhibited attenuated EDR, similar to patterns observed among impulsive, externalizing males. Self-injuring adolescents also scored higher on measures of borderline pathology. These findings reveal a coherent pattern of differences between self-injuring and depressed adolescent girls, consistent with theories that SII differs from depression in etiology and developmental course. [**Youth (Self Report) Inventory-4**]

- 12-12. D'Angelo, EJ, & Augenstein, TM (2012). Developmentally informed evaluation of depression: evidence-based instruments. *Child and Adolescent Psychiatric Clinics of North America*, 21, 279-+ .

This article has two primary aims: (1) to describe how to incorporate evidence-based assessment procedures into diagnostic practice and (2) to present a review of the more commonly used interview methods and clinical measures of depression among preschoolers, school-age children, and adolescents. [**Youth (Self Report) Inventory-4, Child Symptom Inventory-4**]

- 12-13. Drabick, DAG, & Gadow, KD (2012). Deconstructing oppositional defiant disorder: clinic-based evidence for an anger/irritability phenotype. *Journal of the American Academy of Child and Adolescent Psychiatry*, 51, 384-393.

Objective: To examine risk factors and co-occurring symptoms associated with mother-reported versus teacher-reported anger/irritability symptoms (AIS) of oppositional defiant disorder (ODD) in a clinic-based sample of 1,160 youth aged 6 through 18 years. Method: Participants completed a background history questionnaire (mothers), school functioning questionnaire (mothers, teachers), and DSM-IV referenced symptom checklists (mothers, teachers). Youth meeting AIS criteria for ODD were compared to youth with ODD who met criteria for noncompliant symptoms (NS) but not AIS and to clinic controls. Results: Compared with NS youth, youth with AIS were rated as exhibiting higher levels of anxiety and mood symptoms for both mother- and teacher-defined groups, and higher levels of conduct disorder symptoms for mother-defined younger and older youth. The remaining group differences for developmental, psychosocial, and psychiatric correlates varied as a function of informant and youth's age. Conclusions: Evidence suggests that AIS may constitute a more severe and qualitatively different ODD clinical phenotype, but informant and age of youth appear to be important considerations. [**Child and Adolescent Symptom Inventory-4R**]

- 12-14. Eigsti, IM, Schuh, J, Mencl, E, Schultz, RT, & Paul, R (2012). The neural underpinnings of prosody in autism. *Child Neuropsychology*, 18, 600-617.

This study examines the processing of prosodic cues to linguistic structure and to affect, drawing on fMRI and behavioral data from 16 high-functioning adolescents with autism spectrum disorders (ASD) and 11 typically developing controls. Stimuli were carefully matched on pitch, intensity, and duration, while varying systematically in conditions of affective prosody (angry versus neutral speech) and grammatical prosody (questions versus statement). To avoid conscious attention to prosody, which normalizes responses in young people with ASD, the implicit comprehension task directed attention to semantic aspects of the stimuli. Results showed that when



perceiving prosodic cues, both affective and grammatical, activation of neural regions was more generalized in ASD than in typical development, and areas recruited reflect heightened reliance on cognitive control, reading of intentions, attentional management, and visualization. This broader recruitment of executive and "mind-reading" brain areas for a relative simple language-processing task may be interpreted to suggest that speakers with high-functioning autism (HFA) have developed less automaticity in language processing and may also suggest that "mind-reading" or theory of mind deficits are intricately bound up in language processing. Data provide support for both a right-lateralized as well as a bilateral model of prosodic processing in typical individuals, depending upon the function of the prosodic information. **[Child Symptom Inventory-4]**

- 12-15. Farmer, C, Lecavalier, L, Yu, S, Arnold, LE, McDougale, CJ, Scahill, L, Handen, B, Johnson, CR, Stigler, KA, Bearss, K, Swiezy, NB, & Aman, MG (2012). Predictors and moderators of parent training efficacy in a sample of children with autism spectrum disorders and serious behavioral problems. *Journal of Autism and Developmental Disorders*, 42, 1037-1044.

The Research Units on Pediatric Psychopharmacology-Autism Network reported additional benefit when adding parent training (PT) to antipsychotic medication in children with autism spectrum disorders and serious behavior problems. The intent-to-treat analyses were rerun with putative predictors and moderators. The Home Situations Questionnaire (HSQ) and the Hyperactivity/Noncompliance subscale of the Aberrant Behavior Checklist were used as outcome measures. Candidate predictors and moderators included 21 demographics and baseline measures of behavior. Higher baseline HSQ scores predicted greater improvement on the HSQ regardless of treatment assignment, but no other predictors of outcome were observed. None of the variables measured in this study moderated response to PT. Antipsychotic medication plus PT appears to be equally effective for children with a wide range of demographic and behavioral characteristics. **[Child Symptom Inventory-4]**

- 12-16. Gadow, KD (2012). Schizophrenia spectrum and attention-deficit/hyperactivity disorder symptoms in autism spectrum disorder and controls. *Journal of the American Academy of Child and Adolescent Psychiatry*, 51, 1076-1084.

Objective: This study compared the differential severity of specific symptoms of schizophrenia spectrum disorder (SSD) in children with autism spectrum disorder (ASD) and child psychiatry outpatient referrals (controls). Each group was further subdivided into subgroups with and without co-occurring attention-deficit/hyperactivity disorder (ADHD). Method: Children with ASD (n = 147) and controls (n = 335) were evaluated with parent and teacher versions of a psychometrically established DSM-IV-referenced rating scale. Results: The two ASD groups (with and without ADHD) had a larger number of more severe SSD symptoms than their respective control groups (with and without ADHD), extending the observation of an association between ASD and SSD to subgroups with and without co-occurring ADHD. The ASD groups exhibited more severe schizoid personality symptoms than controls, but findings for schizophrenia symptoms were mixed. The ASD + ADHD group generally had more severe disorganized thought, disorganized behavior, and negative schizophrenia symptoms than controls (with and without ADHD); nevertheless, findings varied according to ADHD status (present versus absent), individual symptom (symptom specificity), and informant (informant specificity). Ratings of hallucinations and delusions indicated mild severity and few group differences. Negative symptoms such as inappropriate emotional reactions evidenced considerable group divergence. Conclusion: Findings provide additional support for an interrelation between ASD and SSD symptoms and the differential influence of neurobehavioral syndromes on co-occurring symptom severity, underscore the multidimensionality of SSD in children with ASD, and suggest how symptom phenotypes may contribute to a better understanding of the etiology, nosology, and possibly clinical management. **[Child and Adolescent Symptom Inventory-4R]**

- 12-17. Gadow, KD, Angelidou, K, Chernoff, M, Williams, PL, Heston, J, Hodge, J, & Nachman, S (2012). Longitudinal study of emerging mental health concerns in youth perinatally infected with hiv and peer comparisons. *Journal of Developmental and Behavioral Pediatrics*, 33, 456-468.

Objective: Cross-sectional research indicates high rates of mental health concerns among youth with perinatal HIV infection (PHIV), but few studies have examined emerging psychiatric symptoms over time. Methods: Youth with PHIV and peer comparisons who were HIV-exposed but uninfected or living in households with HIV-infected family members (HIV-affected) and primary caregivers participated in a prospective, multisite, longitudinal cohort study. Groups were compared for differences in the incidence of emerging psychiatric symptoms during 2 years of follow-

up and for differences in psychotropic drug therapy. Logistic regression models were used to evaluate the association of emerging symptoms with HIV status and psychosocial risk factors. Results: Of 573 youth with study entry assessments, 92% attended at least 1 annual follow-up visit (PHIV: 296; comparisons: 229). A substantial percentage of youth who did not meet symptom criteria for a psychiatric disorder at study entry did so during follow-up (PHIV = 36%; comparisons = 42%). In addition, those who met criteria at study entry often met criteria during follow-up (PHIV = 41%; comparisons = 43%). Asymptomatic youth with PHIV were significantly more likely to receive psychotropic medication during follow-up than comparisons. Youth with greater HIV disease severity (entry CD4% <25% vs 25% or more) had higher probability of depression symptoms (19% vs 8%, respectively). Conclusions: Many youth in families affected by HIV are at risk for development of psychiatric symptoms. **[Child and Adolescent Symptom Inventory-4R; Youth (Self Report) Inventory-4R, Child Self Report Inventory-4, Adult Self Report Inventory-4]**

- 12-18. Gadow, KD, & DeVincent, CJ (2012). Comparison of children with autism spectrum disorder with and without schizophrenia spectrum traits: gender, season of birth, and mental health risk factors. *Journal of Autism and Developmental Disorders*, 42, 2285-2296.

Children with autism spectrum disorder (ASD) with and without co-occurring schizophrenia spectrum traits (SST) were examined for differences in co-occurring psychiatric symptoms, background characteristics, and mental health risk factors. Participating mothers and teachers completed a DSM-IV-referenced rating scale and a background questionnaire (mothers only) describing 147 children (6-12 years) with ASD. There was a clear pattern of group differences in co-occurring psychiatric symptom severity (+SST > SST-) and background characteristics. Children with impairing SST had more mental health risk factors. Girls were more likely to be classified SST according to mothers' ratings. Children born in spring-summer were more likely to be classified non-SST by teachers' ratings. Findings provide tentative evidence that SST may be a useful marker of behavioral heterogeneity within the ASD clinical phenotype. **[Child and Adolescent Symptom Inventory-4R]**

- 12-19. Gadow, KD, & Drabick, DAG (2012). Anger and irritability symptoms among youth with ODD: cross-informant versus source-exclusive syndromes. *Journal of Abnormal Child Psychology*, 40, 1073-1085.

We examined differences in co-occurring psychological symptoms and background characteristics among clinically referred youth with oppositional defiant disorder (ODD) with and without anger/irritability symptoms (AIS) according to either parent or teacher (source-exclusive) and both informants (cross-informant), youth with noncompliant symptoms (NS) of ODD, and non-ODD clinic controls. Parents and teachers evaluated 1127 youth (ages 6-18) with a DSM-IV-referenced rating scale to assess ODD and co-occurring psychological symptoms. Parents also completed a background questionnaire (demographic, developmental, treatment, relationship, and academic characteristics) and teachers rated school functioning. Source-exclusive AIS groups were associated with different clinical features, and there was some evidence that cross-informant youth had more mental health concerns than source-exclusive groups. Findings varied to some extent among older (12-18 years) versus younger (6-11 years) youth. In general, the NS group (youth without AIS) was the most similar to clinic controls. AIS and NS are likely candidates for component phenotypes in ODD and continued research into their pathogenesis may have important implications for nosology, etiology, and intervention. **[Child and Adolescent Symptom Inventory-4R]**

- 12-20. Gadow, KD, & Drabick, DAG (2012). Symptoms of autism and schizophrenia spectrum disorders in clinically referred youth with oppositional defiant disorder. *Research in Developmental Disabilities*, 33, 1157-1168.

Examined autism spectrum disorder (ASD) and schizophrenia spectrum disorder (SSD) symptoms in a clinically referred, non-ASD sample (N = 1160: ages 6-18) with and without oppositional defiant disorder (ODD). Mothers and teachers completed DSM-IV-referenced symptom checklists. Youth with ODD were subdivided into angry/irritable symptom (AIS) or noncompliant symptom (NS) subtypes. Two different classification strategies were used: within-informant (source-specific) and between-informant (source-exclusive). For the source-specific strategy, youth were classified AIS, NS, or Control (C) according to mothers' and teachers' ratings separately. A second set of analyses focused on youth classified AIS according to mother or teacher report but not both (source-exclusive) versus both mother and teacher (cross-informant) AIS. Results indicated the mother-defined source-specific AIS groups generally evidenced the most severe ASD and SSD symptoms (AIS > NS > C), but this was more pronounced among younger youth. Teacher-defined source-specific ODD groups exhibited comparable levels of symptom severity (AIS, NS > C) with the exception of SSD (AIS > NS > C; younger youth). Source-

exclusive AIS groups were clearly differentiated from each other, but there was little evidence of differential symptom severity in cross-informant versus source-exclusive AIS. These findings were largely dependent on the informant used to define the source-exclusive groups. AIS and NS groups differed in their associations with ASD and SSD symptoms. Informant discrepancy provides valuable information that can inform nosological and clinical concerns and has important implications for studies that use different strategies to configure clinical phenotypes.

**[Child and Adolescent Symptom Inventory-4R]**

- 12-21. Gadow, KD, Guttman-Steinmetz, S, Rieffe, C, & DeVincent, CJ (2012). Depression symptoms in boys with autism spectrum disorder and comparison samples. *Journal of Autism and Developmental Disorders*, 42, 1353-1363.

This study compares severity of specific depression symptoms in boys with autism spectrum disorder (ASD), attention-deficit hyperactivity disorder (ADHD), or chronic multiple tic disorder (CMTD) and typically developing boys (Controls). Children were evaluated with parent and teacher versions of the **Child Symptom Inventory-4** (CSI-4) and a demographic questionnaire. Mothers' and teachers' ratings generally indicated the most severe symptoms in boys with ASD +/- A ADHD. Associations of depression with ASD severity and IQ varied considerably for specific symptoms of depression, ASD functional domain, and informant. Findings provide additional support for the differential influence of neurobehavioral syndromes on co-occurring symptom severity and illustrate how more fine-grained analyses of clinical phenotypes may contribute to a better understanding of etiology and current nosology.

- 12-22. Giacobbo, RS, Jane, MC, Bonillo, A, Ballespi, S, & Diaz-Reganon, N (2012). Somatic symptoms, severe mood dysregulation, and aggressiveness in preschool children. *European Journal of Pediatrics*, 171, 111-119.

Many researchers have studied somatic symptoms in children. However, its association with severe mood dysregulation (SMD) is poorly known. The aim of this study is to detect the presence of SMD in preschool children and to know the prevalence of somatic symptoms and associations with psychopathology, SMD, and aggressiveness. The study population consists of children between 3 to 6 years of age enrolled in Barcelona's kindergarten schools (n = 319). Their parents completed questionnaires about the presence of somatic symptoms in children, absences from school and pediatric visits, child psychiatric symptoms, presence of symptoms of SMD, and aggressiveness. Teachers were also informed about SMD and aggressiveness. Children who complained frequent somatic symptoms (three or more in the last 2 weeks) were compared with those who did not. Two hundred five children (64.3%) reported at least one physical complaint in the 2 weeks preceding the study. One hundred participants (31.3%) reported frequent somatic complaints. Positive associations were found with anxiety symptomatology, separation anxiety, social phobia, pediatric visits, and school absences, but not with aggressiveness or SMD symptoms. Somatic symptoms are common in a sample of preschool children but do not show a positive association with the symptoms of SMD. **[Early Childhood Inventory-4]**

- 12-23. Goetz, M, Yeh, CB, Ondrejka, I, Akay, A, Herczeg, I, Dobrescu, I, Kim, BN, Jin, XM, Riley, AW, Martenyi, F, Harrison, G, & Treuer, T (2012). A 12-month prospective, observational study of treatment regimen and quality of life associated with ADHD in Central and Eastern Europe and Eastern Asia. *Journal of Attention Disorders*, 16, 44-59.

Objectives: This prospective, observational, non-randomized study aimed to describe the relationship between treatment regimen prescribed and the quality of life (QoL) of ADHD patients in countries of Central and Eastern Europe (CEE) and Eastern Asia over 12 months. Methods: 977 Male and female patients aged 6-17 years seeking treatment for symptoms of ADHD were assessed using the **Child and Adolescent Symptom Inventory-4 Parent Checklists**, and the Clinical Global Impressions-ADHD-Severity scale. QoL was assessed using the Child Health and Illness Profile-Child Edition parent report form. Patients were grouped according to whether they were prescribed psycho-and/or pharmacotherapy (treatment) or not (no/'other' treatment). Results: No statistically significant differences were observed between cohorts (treatment vs. no/'other' treatment) in terms of change in QoL, although there was improvement over 12 months, with a greater improvement experienced by patients in the treatment cohort in both study regions (CEE and Eastern Asia). Psychoeducation/counselling and methylphenidate were the predominant ADHD treatments prescribed. Conclusions: Although both treatment and no/'other' treatment cohorts showed improvements in mean QoL over 12 months, the difference was small and not statistically significant. A major limitation was the higher than anticipated number of patients switching treatments,

predominantly from the no/'other' treatment cohort. **[Czech, Hungarian, Romanian, Slovakian, Korean, Chinese, Mandarin, Turkish]**

- 12-24. Gouze, KR, Lavigne, JV, Hopkins, J, Bryant, FB, & Lebailly, SA (2012). The relationship between temperamental negative affect, effortful control, and sensory regulation: a new look. *Infant Mental Health Journal*, 33, 620-632.

Temperamental negative affectivity (NA) and effortful control (EC) have long been of interest to psychologists, but sensory regulation (SR) has received less attention. Using confirmatory factor analysis, the present study reexamined the Rothbart model of EC and NA using the Children's Behavior Questionnaire (CBQ; M.K. Rothbart, S.A. Ahadi, K.L. Hershey, & P. Fisher, 2001), along with alternative models of EC, NA, and SR using the CBQ and Short Sensory Profile. The results failed to replicate the Rothbart model of EC and NA, which includes SR within the EC and NA factors. A good fit was found for a three-factor model (EC, NA, and SR) that was replicated in a holdout sample. A three-factor model also showed a good fit when EC, NA, and SR items similar to symptoms of behavior problems were eliminated. **[Early Childhood Inventory-4]**

- 12-25. Griggs, MS, & Mikami, AY (2012). Parental attention-deficit/hyperactivity disorder predicts child and parent outcomes of parental friendship coaching treatment. *Journal of the American Academy of Child and Adolescent Psychiatry*, 50, 1236-1246.

Objective: This study investigated the impact of parental attention-deficit/hyperactivity disorder (ADHD) symptoms on the peer relationships and parent child interaction outcomes of children with ADHD among families completing a randomized controlled trial of parental friendship coaching (PFC) relative to control families. Method: Participants were 62 children with ADHD (42 boys and 20 girls, 6 through 10 years old) and their parents. Approximately half of the families received PFC (a 3-month parent training intervention targeting the peer relationships of children with ADHD), and the remainder represented a no-treatment control group. Results: Parental inattention predicted equivalent declines in children's peer acceptance in both treatment and control families. However, treatment amplified differences between parents with high versus low ADHD symptoms for some outcomes: Control families declined in functioning regardless of parents' symptom levels. However, high parental inattention predicted increased child peer rejection and high parental inattention and impulsivity predicted decreased parental facilitation among treated families (indicating reduced treatment response). Low parental symptoms among treated families were associated with improved functioning in these areas. For other outcomes, treatment attenuated differences between parents with high versus low ADHD symptoms: Among control parents, high parental impulsivity was associated with increasing criticism over time, whereas all treated parents showed reduced criticism regardless of symptom levels. Follow-up analyses indicated that the parents experiencing poor treatment response are likely those with clinical levels of ADHD symptoms. Conclusions: Results underscore the need to consider parental ADHD in parent training treatments for children with ADHD. **[Child Symptom Inventory-4]**

- 12-26. Grondhuis, SN, & Aman, MG (2012). Assessment of anxiety in children and adolescents with autism spectrum disorders. *Research in Autism Spectrum Disorders*, 6, 1345-1365.

Anxiety disorders are among the most common comorbid conditions in children and adolescents with autism spectrum disorders (ASDs), although assessment presents unique challenges. Many symptoms of anxiety appear to overlap with common presentations of autism. Furthermore, deficits in language and cognitive functioning make it difficult for such children to convey their emotional states accurately. A comprehensive review of the recent literature was conducted to assay the types and rates of use of tools for evaluating anxiety symptoms in children and adolescents with ASDs. We identified strengths and weaknesses in existing scales, identified instruments that (although imperfect) seem to have a good coverage for youngsters with ASDs, recommended strategies for studying anxiety in these youth, and offered suggestions for future scale development. **[Child Symptom Inventory-4, Child and Adolescent Symptom Inventory-4]**

- 12-27. Guilfoyle, SM, Wagner, JL, Smith, G, & Modi, AC (2012). Early screening and identification of psychological comorbidities in pediatric epilepsy is necessary. *Epilepsy & Behavior*, 25, 495-500.

Youth with epilepsy often have co-occurring psychological symptoms that are due to underlying brain pathology, seizures, and/or antiepileptic drug side effects. The primary study aim was to compare the psychological

comorbidities of youth with new-onset epilepsy versus chronic epilepsy. Primary caregivers of youth with either new-onset ( $n=82$ ;  $M\text{-age}=9.9\pm2.9$ ) or chronic epilepsy ( $n=76$ ;  $M\text{-age}=12.8\pm3.3$ ) completed the Behavioral Assessment Scale for Children-2nd Edition. Compared to those with new-onset epilepsy, the chronic group had significantly higher depressive and withdrawal symptoms, as well as lower activities of daily living. A higher proportion of youth with chronic epilepsy exhibited at-risk/clinically elevated depressive symptoms and difficulties with activities of daily living compared to the new-onset group. Proactive screening in youth with epilepsy to ensure timely identification of psychological symptoms and to guide early psychological intervention is warranted.

**[Adolescent Symptom Inventory-4, Child Symptom Inventory-4]**

- 12-28. Houck, CD, Hadley, W, Tolou-Shams, M, & Brown, L (2012). Truancy is associated with sexual risk among early adolescents. *Journal of Developmental and Behavioral Pediatrics*, 33, 728-731.

Objective: While previous studies have identified relationships between school truancy and adolescent substance use risk, sexual risk remains unaddressed. Methods: Urban early adolescents (mean age, 13.14 years) with mental health symptoms completed audio computer-assisted self-interviews regarding risk behaviors. Results: Teens who reported a history of skipping school ( $n = 25$ ), compared with those who did not ( $n = 113$ ), indicated greater frequency of having ever engaged in oral, vaginal, and anal sex, as well as nonintercourse sexual behaviors. They also reported less value in remaining abstinent but did not demonstrate differences in HIV knowledge or school connectedness. Conclusion: Truancy may serve as an important marker for the early identification of youth at risk for unintended pregnancy or sexually transmitted diseases. **[Adolescent Symptom Inventory-4]**

- 12-29. Kahn, RE, Frick, PJ, Youngstrom, E, Findling, RL, & Youngstrom, JK (2012). The effects of including a callous-unemotional specifier for the diagnosis of conduct disorder. *Journal of Child Psychology and Psychiatry*, 53, 271-282.

Background: With Significant CallousUnemotional Traits has been proposed as a specifier for conduct disorder (CD) in the upcoming revision of the Diagnostic and Statistical Manual of Mental Disorders (DSM-V). The impact of this specifier on children diagnosed with CD should be considered. Methods: A multi-site cross-sectional design with volunteers ( $n = 1136$ ) in the third-seventh grades and 566 consecutive referrals (ages 5-18) to a community mental health center were used to estimate the prevalence rates of CD with and without the proposed specifier. In addition, the degree of emotional and behavioral (especially physical aggression) disturbance and level of impairment in youth with and without CD and with and without the specifier was evaluated. Results: In the community sample, 10%-32% of those with CD and 2%-7% of those without CD met the callous-unemotional (CU) specifier threshold depending on informant. In the clinic-referred sample, 21%-50% of those with CD and 14%-32% without CD met the CU specifier threshold depending on informant. Those with CD and the specifier showed higher rates of aggression in both samples and higher rates of cruelty in the clinic-referred sample. Conclusions: Results indicate between 10% and 50% of youth with CD would be designated with the proposed CU specifier. Those with CD and the specifier appear to be more severe on a number of indices, including aggression and cruelty. **[Child Symptom Inventory-4]**

- 12-30. Keenan, K (2012). Mind the Gap: Assessing impairment among children affected by proposed revisions to the diagnostic criteria for oppositional defiant disorder. *Journal of Abnormal Psychology*, 121, 352-359.

The Diagnostic and Statistical Manual for Mental Disorders, Fifth Edition (DSM-5) workgroup for disruptive behavior disorders is considering adopting a frequency threshold for symptoms of oppositional defiant disorder (ODD). In the present study, the impact of substituting the term "often" with a specific age-based frequency on impairment and prognosis among preschool children was tested in a longitudinal design. Mutually exclusive groups were created to identify children who met criteria for ODD based on a symptom threshold of "often," as in Diagnostic and Statistical Manual for Mental Disorders, Fourth Edition (DSM-4), and those that met criteria for ODD based on a threshold of "1-2 times per day," which approximated the proposal for DSM-5. Comparisons of these groups to each other and to nondiagnosed peers determined the impact of changing the symptom threshold on impairment and prognosis. Close to one-third of children who met DSM-4 criteria for ODD did not meet criteria under the alternative diagnosis; African American children were overrepresented in this group. Preschoolers who met DSM-4, but not the alternative criteria, had higher rates of ODD, conduct disorder (CD), and were more impaired than their nondiagnosed peers at baseline and follow-up. Preschoolers meeting DSM-4 criteria were less

impaired than children meeting the alternative ODD criteria at baseline according to parent, but not according to teacher report. No differences could be detected between those meeting DSM-4 and those meeting the alternative criteria in rate of ODD, CD, or impairment at follow-up. Among clinically referred preschool children, changing the symptom threshold for ODD could result in a sizable group of children who would no longer meet diagnostic criteria, despite demonstrating significant morbidity concurrently and prospectively. [**Early Childhood Inventory-4**]

- 12-31. Kim, S, Nordling, JK, Yoon, JE, Boldt, LJ, & Kochanska, G (2012). Effortful control in "hot" and "cool" tasks differentially predicts children's behavior problems and academic performance. *Journal of Abnormal Child Psychology*, 41, 43-56.

Effortful control (EC), the capacity to deliberately suppress a dominant response and perform a subdominant response, rapidly developing in toddler and preschool age, has been shown to be a robust predictor of children's adjustment. Not settled, however, is whether a view of EC as a heterogeneous rather than unidimensional construct may offer advantages in the context of predicting diverse developmental outcomes. This study focused on the potential distinction between "hot" EC function (delay-of-gratification tasks that called for suppressing an emotionally charged response) and more abstract "cool" EC functions (motor inhibition tasks, suppressing-initiating response or Go-No Go tasks, and effortful attention or Stroop-like tasks). Children (N = 100) were observed performing EC tasks at 38 and 52 months. Mothers, fathers, and teachers rated children's behavior problems and academic performance at 67, 80, and 100 months, and children participated in a clinical interview at 100 months. Structural Equation Modeling (SEM) analyses with latent variables produced consistent findings across all informants: Children's scores in "hot" EC tasks, presumably engaging emotion regulation skills, predicted behavior problems but not academic performance, whereas their scores in "cool" EC tasks, specifically those engaging effortful attention, predicted academic performance but not behavior problems. The models of EC as a heterogeneous construct offered some advantages over the unidimensional models. Methodological and clinical implications of the findings are discussed. [**Child Symptom Inventory-4**]

- 12-32. Kim, JJ, Freeman, SFN, Paparella, T, & Forness, SR (2012). Five-year follow-up of preschoolers with autism and comorbid psychiatric disorders. *Behavioral Disorders*, 38, 57-70.

Although several studies have examined the prevalence of comorbid psychiatric disorders in children with autism spectrum disorders, there are no current longitudinal studies of such children regarding the impact of comorbidity. In this study, 44 of an original sample of 175 preschoolers were located after 5 1/2 years, at an average chronological age of 10 years 3 months, and reassessed for comorbid disorders; a subsample was surveyed regarding use of special education and mental health services. Findings not only suggest continued comorbidity but also somewhat higher than expected use of behavioral services, often requiring out-of-school funding. The differential impact of comorbidity is discussed in relation to special education and access to related services.

[**Adolescent Symptom Inventory-4, Child Symptom Inventory-4**]

- 12-33. Kochanska, G, & Kim, S (2012). Toward a new understanding of legacy of early attachments for future antisocial trajectories: Evidence from two longitudinal studies. *Development and Psychopathology*, 24, Special Issue, 783-806.

Early parent-child attachment has been extensively explored as a contributor to children's future adaptive or antisocial outcomes, but the specific developmental mechanisms remain to be fully understood. We examined long-term indirect developmental sequelae of early security in two longitudinal community samples followed from infancy to early school age: the Family Study (102 mothers, fathers, and infants) and the Parent-Child Study (102 mothers and infants). Constructs at multiple levels (child characteristics, parent-child security, parental discipline, and child antisocial outcomes) were assessed using a range of methods (extensive behavioral observations in a variety of settings, informants' ratings). Both studies supported the proposed model of infant attachment as a potent catalyst that moderates future developmental socialization trajectories, despite having few long-term main effects. In insecure dyads, a pattern of coercion emerged between children who were anger prone as toddlers and their parents, resulting in parents' increased power-assertive discipline. Power assertion in turn predicted children's rule-breaking conduct and a compromised capacity to delay in laboratory paradigms, as well as oppositional, disruptive, callous, and aggressive behavior rated by parents and teachers at early school age. This causal chain was absent in secure dyads, where child anger proneness was unrelated to power assertion, and power assertion

was unrelated to antisocial outcomes. Early insecurity appeared to act as a catalyst for the parent-child dyad embarking on a mutually adversarial path toward antisocial outcomes, whereas security defused such a maladaptive dynamic. The possible mechanisms of those effects were proposed. **[Child Symptom Inventory-4]**

- 12-34. Lara, DR, Ottoni, GL, Brunstein, MG, Frozi, J, de Carvalho, HW, & Bisol, LW, (2012). Development and validity data of the Brazilian Internet Study on Temperament and Psychopathology (BRAINSTEP). *Journal of Affective Disorders*, 141, 390-398.

Background: The internet provides a research opportunity for psychiatry and psychology. This article presents the development and preliminary data of a large web-survey created to study how temperament relates to other psychological measures, behavior and psychiatric disorders. Methods: We used the Affective and Emotional Composite Temperament Scale (AFECTS) to evaluate temperament and we selected several self-report instruments to evaluate behavior, psychological constructs and mental disorders. The system provides anonymous psychological (phase 1) and psychiatric (phase 2) feedback and includes questions to assess the validity of the answers. Each phase has around 450 questions. This system was broadcast utilizing Brazilian media. Results: After the exclusion of 21.5% of the volunteers (those who failed the validation questions), 41,427 participants concluded the first part of the system (mean age = 31.2 +/- 10.5 yrs, 26.9% males), and 21,836 (mean age = 32.5 +/- 10.9 yrs, 25.1% males) completed phase 2. Around 25% have received a psychiatric diagnosis from a mental health professional. Demographic and temperament profiles of those who completed either only 80 questions, only phase 1, or the whole system were similar. The rate of non-serious answers (e. g. on bizarre behaviors) was very low and congruency of answers was very high. The internal consistency of classical trait scales (TCI-R and PANAS) was high (Cronbach's alpha > 0.80) for all dimensions. Limitations: Relatively high dropout rate due to the length of the process and an overrepresentation of female, young and well-educated subjects. Conclusions: The BRAINSTEP provides valid and abundant data on psychological and psychiatric measures. **[Adult Self Report Inventory-4]**

- 12-35. Lavigne, JV, Gouze, KR, Hopkins, J, Bryant, FB, & LeBailly, SA (2012). A multi-domain model of risk factors for ODD symptoms in a community sample of 4-year-olds. *Journal of Abnormal Child Psychology*, 40, 741-757.

Few studies have been designed to assess the pathways by which risk factors are associated with symptoms of psychopathology across multiple domains, including contextual factors, parental depression, parenting, and child characteristics. The present study examines a cross-sectional model of risk factors for symptoms of Oppositional Defiant Disorder (ODD) in a diverse community sample of 796 four-year-old children. In the best-fitting model: (a) SES had indirect effects on contextual factors of stress and conflict, parental depression, and parenting factors including hostility, support, and scaffolding; (b) stress and conflict had both direct effects on ODD symptoms, and indirect effects via parental depression and parenting; (c) parenting had direct effects on ODD symptoms and indirect effects via child effortful control (EC), negative affect (NA) and sensory regulation (SR); (c) NA, EC, and SR had direct effects on symptom frequency, and attachment had indirect effects via EC, and SR. These results highlight the importance of using a multi-domain model to examine risk factors for symptoms of ODD, and also provide information about areas to target in treatment. **[Early Childhood Inventory-4]**

- 12-36. Lefler, EK, Hartung, CM, & Fedeale, DA (2012). Psychometric properties of a primary care mental health screening tool for young children. *Children's Health Care*, 41, 79-96.

The purpose of this article is to examine the psychometric properties of the Primary Care Mental Health Screener (PCMHS; Hartung & Lefler, 2010) for children. Fifty-eight parent-child dyads with children ages 3 to 8 were recruited. Child participants were administered IQ and achievement measures, and parents completed the screening tool and multiple measures of emotional, behavior, and social functioning. Receiver Operating Characteristic analyses suggest that the PCMHS has promising psychometric properties for several common clinical disorders (i.e., attention deficit hyperactivity disorder, oppositional defiant disorder, and anxiety). The PCMHS is a promising new screening tool. Implications, limitations, and future directions for research on children's mental health screening are discussed. **[Early Childhood Inventory-4, Child Symptom Inventory-4]**

- 12-37. Looyeh, MY, Kamali, K, & Shafieian, R (2012). An exploratory study of the effectiveness of group narrative therapy on the school behavior of girls with attention-deficit/hyperactivity symptoms. *Archives of Psychiatric Nursing*, 26, 404-410.

This study explored the effectiveness of group narrative therapy for improving the school behavior of a small sample of girls with attention-deficit/hyperactivity disorder (ADHD). Fourteen clinics referred 9- to 11-year-old girls with a clinical diagnosis of ADHD were randomly assigned to treatment and wait-list control groups. Posttreatment ratings by teachers showed that narrative therapy had a significant effect on reducing ADHD symptoms 1 week after completion of treatment and sustained after 30 days. [**Child Symptom Inventory-4**]

- 12-38. Lopez-Villalobos, JA, Andres-De Llano, J, Sanchez-Azon, MI, Sanguino-Andres, R, & Alberola-Lopez, S (2012). Disruptive behavior disorders: Multidimensional analysis. *International Journal of Clinical and Health Psychology*, 12, 405-417.

The study focuses on the analysis of the contribution of sociodemographic, clinical, academic and family variables to the likelihood of the presence of disruptive behaviour disorder (DBD). Ex post facto, retrospective, transversal, comparative study in two groups (cases of DBD and clinical controls) is used. Ages range 6 to 16 years. Sample of 1,847 clinical cases. Cases and controls are defined by clinical interview according to DSM-IV-TR criteria. A descriptive phase and an estimated logistic regression procedure are included. The proposed model is significant and correctly classified 87.2% of cases. The variables male sex (OR = 1.82,  $p = .00$ ), comorbidity (OR = 7.68,  $p = .00$ ), borderline intellectual functioning (OR = 3.15,  $p = .00$ ), less educated mothers (OR = 1.57,  $p = .04$ ) and repeat the course (OR = 2,  $p = .00$ ), significantly increased the probability for DBD. The variables age, psychiatric history, divorced parents and fathers' educational level are not significant in the model. DBD has multidimensional association with clinical, academic and family variables, being eligible for the inclusion in prevention programs. [**Child Symptom Inventory-4**]

- 12-39. Margulies, DM, Weintraub, S, Basile, J, Grover, PJ, & Carlson, GA (2012). Will disruptive mood dysregulation disorder reduce false diagnosis of bipolar disorder in children? *Bipolar Disorders*, 14, 488-496.

Objectives: The frequency of diagnosis of bipolar disorder has risen dramatically in children and adolescents. The DSM-V Work Group has suggested a new diagnosis termed disruptive mood dysregulation disorder (DMDD) (formerly temper dysregulation disorder with dysphoria) to reduce the rate of false diagnosis of bipolar disorder in young people. We sought to determine if the application of the proposed diagnostic criteria for DMDD would reduce the rate of diagnosis of bipolar disorder in children. Patients and methods: Eighty-two consecutively hospitalized children, ages 5 to 12 years, on a childrens inpatient unit were rigorously diagnosed using admission interviews of the parents and the child, rating scales, and observation over the course of hospitalization. Results: Overall, 30.5% of inpatient children met criteria for DMDD by parent report, and 15.9% by inpatient unit observation. Fifty-six percent of inpatient children had parent-reported manic symptoms. Of those, 45.7% met criteria for DMDD by parent-report, though only 17.4% did when observed on the inpatient unit. Conclusion: Although DMDD does decrease the rate of diagnosis of bipolar disorder in children, how much depends on whether history or observation is used. [**Child Symptom Inventory-4, Adolescent Symptom Inventory-4**]

- 12-40. Marmorstein, NR. (2012). Associations between dispositions to rash action and internalizing and externalizing symptoms in children. *Journal of Clinical Child and Adolescent Psychology*, 42, 131-138.

Impulsivity is not a unitary construct; instead, dispositions to rash action can be divided into five moderately-correlated dimensions. However, the associations between these dimensions and symptoms of psychopathology among youth remain unclear. The goal of this study was to examine associations between different dispositions to rash action and psychopathology in a community sample of middle school youth. One hundred forty-four youth (M age = 11.9; 65% Hispanic, 30% African American; 50% male; 81% qualifying for free school lunches) participated in this study. Self-reported questionnaire measures of dispositions to rash action (lack of planning, lack of perseverance, sensation seeking, negative urgency, and positive urgency) and psychopathology symptoms (conduct disorder [CD], alcohol use, depression, overall anxiety, panic, generalized anxiety, social anxiety, and separation anxiety, as well as teacher reports of attention deficit/hyperactivity disorder [ADHD] inattentive and hyperactive symptoms) were used. Negative and positive urgency were positively associated with all symptom types examined except certain anxiety subtypes (and positive urgency was not associated with ADHD symptoms). Lack of planning was positively associated with externalizing and depressive symptoms. Lack of perseverance was positively associated with CD. Sensation seeking was positively associated with both CD and alcohol use. When other dispositions were adjusted for, negative urgency remained a positive predictor of CD, whereas positive



urgency remained a positive predictor of depressive and panic symptoms. Sensation seeking was negatively associated with separation anxiety. Psychopathology symptoms are differentially related to dispositions to rash action in children; emotion-based dispositions to rash action may be particularly important targets for future research. [**Child Symptom Inventory-4**]

- 12-41. Marshal, MP, Sucato, G, Stepp, SD, Hipwell, A, Smith, HA, Friedman, MS, Chung, T, & Markovic, N (2012). Substance use and mental health disparities among sexual minority girls: results from the Pittsburgh girls study. *Journal of Pediatric and Adolescent Gynecology*, 25, 15-18.

Purpose: To examine substance use and mental health disparities between sexual minority girls and heterosexual girls. Methods: Data from the Pittsburgh Girls Study were analyzed. All girls were 17 years old. Girls were included if they were not missing self-reported sexual orientation and mental health data (N = 527). Thirty-one girls (6%) endorsed same-sex romantic orientation/identity or current same-sex attraction. Bivariate analyses were conducted to test group differences in the prevalence of substance use and suicidal behavior, and group differences in depression, anxiety, borderline personality disorder (BPD), oppositional defiant disorder (ODD), and conduct disorder (CD) symptoms. Results: Compared with heterosexual girls, sexual minority girls reported higher past-year rates of cigarette, alcohol, and heavy alcohol use, higher rates of suicidal ideation and self-harm, and higher average depression, anxiety, BPD, ODD, and CD symptoms. Conclusions: Sexual minority girls are an underrepresented group in the health disparities literature, and compared with heterosexual girls, they are at higher risk for mental health problems, most likely because of minority stress experiences such as discrimination and victimization. The disparities found in this report highlight the importance of discussing sexual orientation as part of a comprehensive preventive care visit. [**Child Symptom Inventory-4**]

- 12-42. McCabe, K, Yeh, M, Lau, A, & Argote, CB. (2012). Parent-child interaction therapy for Mexican Americans: results of a pilot randomized clinical trial at follow-up. *Behavior Therapy*, 43, 606-618.

We examined treatment effects over a 6- to 24-month period posttreatment for 3 different interventions for externalizing behavior problems in young Mexican American (MA) children: a culturally modified version of Parent-Child Interaction Therapy (PCIT), called Guiando a Niños Activos (GANA), standard PCIT, and treatment as usual (TAU). Fifty-eight MA families with a 3- to 7-year-old child with clinically significant behavior problems were randomly assigned to GANA, standard PCIT, or TAU. As previously reported, all three treatment approaches produced significant pre-post improvement in conduct problems across a wide variety of parent-report measures, and those effects remained significant over the follow-up period. GANA produced results that were significantly superior to TAU on 6 out of 10 parent-report measures 6 to 24 months posttreatment, and GANA significantly outperformed PCIT on child internalizing symptoms. However, PCIT and TAU did not differ significantly from one another. These data suggest that both PCIT and GANA produce treatment gains that are maintained over time, and that GANA continues to outperform TAU over the long term. [**Early Childhood Inventory-4**]

- 12-43. McPartland, JC, Crowley, MJ, Perszyk, DR, Mukerji, CE, Naples, AJ, Wu, J, & Mayes, LC (2012). Preserved reward outcome processing in ASD as revealed by event-related potentials. *Journal of Neurodevelopmental Disorders*, 4, Article Number: 16.

Background: Problems with reward system function have been posited as a primary difficulty in autism spectrum disorders. The current study examined an electrophysiological marker of feedback monitoring, the feedback-related negativity (FRN), during a monetary reward task. The study advanced prior understanding by focusing exclusively on a developmental sample, applying rigorous diagnostic characterization and introducing an experimental paradigm providing more subtly different feedback valence (reward versus non-reward instead of reward versus loss). Methods: Twenty-six children with autism spectrum disorder and 28 typically developing peers matched on age and full-scale IQ played a guessing game resulting in monetary gain ("win") or neutral outcome ("draw"). ERP components marking early visual processing (N1, P2) and feedback appraisal (FRN) were contrasted between groups in each condition, and their relationships to behavioral measures of social function and dysfunction, social anxiety, and autism symptomatology were explored. Results: FRN was observed on draw trials relative to win trials. Consistent with prior research, children with ASD exhibited a FRN to suboptimal outcomes that was comparable to typical peers. ERP parameters were unrelated to behavioral measures. Conclusions: Results of the current study indicate typical patterns of feedback monitoring in the context of monetary reward in ASD. The study extends prior findings of normative feedback monitoring to a sample composed exclusively of

children and demonstrates that, as in typical development, individuals with autism exhibit a FRN to suboptimal outcomes, irrespective of neutral or negative valence. Results do not support a pervasive problem with reward system function in ASD, instead suggesting any dysfunction lies in more specific domains, such as social perception, or in response to particular feedback-monitoring contexts, such as self-evaluation of one's errors.

**[Child Symptom Inventory-4]**

- 12-44. Miller, LJ, Nielsen, DM, & Schoen, SA (2013). Attention deficit hyperactivity disorder and sensory modulation disorder: A comparison of behavior and physiology. *Research in Developmental Disabilities*, 33, 804-818.

Children with attention deficit hyperactivity disorder (ADHD) are impulsive, inattentive and hyperactive, while children with sensory modulation disorder (SMD), one subtype of Sensory Processing Disorder, have difficulty responding adaptively to daily, sensory experiences. ADHD and SMD are often difficult to distinguish. To differentiate these disorders in children, clinical ADHD, SMD, and dual diagnoses were assessed. All groups had significantly more sensory, attention, activity, impulsivity, and emotional difficulties than typical children, but with distinct profiles. Inattention was greater in ADHD compared to SMD. Dual diagnoses had more sensory-related behaviors than ADHD and more attentional difficulties than SMD. SMD had more sensory issues, somatic complaints, anxiety/depression, and difficulty adapting than ADHD. SMD had greater physiological/electrodermal reactivity to sensory stimuli than ADHD and typical controls. Parent-report measures identifying sensory, attentional, hyperactive, and impulsive difficulties varied in agreement with clinician's diagnoses. Evidence suggests ADHD and SMD are distinct diagnoses. **[Child Symptom Inventory-4]**

- 12-45. Nachman, S, Chernoff, M, Williams, P, Hodge, J, Heston, J, & Gadov, KD (2012). Human immunodeficiency virus disease severity, psychiatric symptoms, and functional outcomes in perinatally infected youth. *Archives of Pediatrics & Adolescent Medicine*, 166, 528-535.

Objective: To evaluate associations between human immunodeficiency virus (HIV) disease severity and psychiatric and functional outcomes in youth with perinatal HIV infection. Design: Cross-sectional analysis of entry data from an observational, prospective 2-year study. Logistic and linear regression models adjusted for potential confounders were used. Setting: Twenty-nine sites of the International Maternal Pediatrics Adolescent AIDS Clinical Trials Group study in the United States and Puerto Rico. Participants: Youth aged 6 to 17 years who had HIV infection (N=319). Main Exposures: Antiretroviral treatment and perinatal HIV infection. Main Outcome Measures: Youth and primary caregivers were administered an extensive battery of measures that assessed psychiatric symptoms; cognitive, social, and academic functioning; and quality of life. Results: Characteristics of HIV were a current CD4 percentage of 25% or greater (74% of participants), HIV RNA levels of less than 400 copies/mL (59%), and current highly active antiretroviral therapy (81%). Analyses indicated associations of past and current Centers for Disease Control and Prevention class C designation with less severe attention-deficit/hyperactivity disorder inattention symptoms, older age at nadir CD4 percentage and lower CD4 percentage at study entry with more severe conduct disorder symptoms, higher RNA viral load at study entry with more severe depression symptoms, and lower CD4 percentage at study entry with less severe symptoms of depression. There was little evidence of an association between specific antiretroviral therapy and severity of psychiatric symptoms. A lower nadir CD4 percentage was associated with lower quality of life, worse Wechsler Intelligence Scale for Children Coding Recall scores, and worse social functioning. Conclusion: Human immunodeficiency virus illness severity markers are associated with the severity of some psychiatric symptoms and, notably, with cognitive, academic, and social functioning, all of which warrant additional study. **[Child and Adolescent Symptom Inventory-4R]**

- 12-46. Namdari, P, Nazari, H, & Pournia, Y (2012). Epidemiologic feature of attention deficit and hyperactivity disorder (ADHD) in elementary school children. *Hong Kong Journal of Paediatrics*, 17, 162-166.

Attention Deficit Hyperactivity Disorder (ADHD) is a prevalent psychiatric disorders starting from childhood that has afflicted 3-5% of school children. ADHD has destructive effects on people's social, educational, personality, and behavioural relationships in childhood and adulthood. This cross-sectional school based study included all the students studying in grades one to five at elementary schools in Khorramabad (N=945), Iran. Eight girls and 8 boys schools were selected using a cluster, multi-stage sampling method. The **Child Symptom Inventories-4** (CSI4) standardised questionnaire was used to collect the data. The questionnaires were completed by teachers and parents in separate meetings. The cases that showed ADHD underwent clinical examinations by psychiatrists.

The results were analysed via descriptive statistics and X-2 tests using the SPSS software. Out of 945 children, 50.7% and 49.3% were girls and boys respectively. Among the people studied, 3.17% suffered from ADHD including 40% from attention deficit, 33.3% from hyperactivity, and 26.6% from the combined type. ADHD was more prevalent in boys than in girls (4.9% vs. 1.5%). There was a significant relationship between children's gender and ADHD ( $p < 0.005$ ). The students in grade 5 showed the lowest, and those in grades 2 and 3 showed the highest ADHD rates. However, no significant relationships were found between parents age, educational level, occupation, income, grade, and psychiatric problems in family. Identifying behavioral disorders including ADHD in school children and adolescents, due to their high prevalence, seems to be necessary. Therefore, this study was conducted to investigate ADHD prevalence in elementary school students of Khorramabad.

- 12-47. Pardini, D, Stepp, S, Hipwell, A, Stouthamer-Loeber, M, & Loeber, R (2012). The clinical utility of the proposed DSM-5 callous-unemotional subtype of conduct disorder in young girls. *Journal of the American Academy of Child and Adolescent Psychiatry*, 51, 62-73.

**Objective:** A callous-unemotional (CU) subtype of conduct disorder (CD) has been proposed as an addition to the fifth edition of the Diagnostic and Statistic Manual of Mental Disorders (DSM-5). This study tested the hypothesis that young girls with the CU subtype of CD would exhibit more severe antisocial behavior and less severe internalizing problems over time relative to girls with CD alone. Second, the developmental outcomes of girls with CU traits in the absence of CD was examined because these girls would be overlooked by the proposed CU subtyping scheme. **Method:** These issues were examined in a community sample of 1,862 girls 6 to 8 years of age at study onset. Outcomes included internalizing and externalizing problems, academic achievement, and global impairment assessed concurrently and at a 6-year follow-up. **Results:** Girls with the CU subtype of CD had higher levels of externalizing disorder symptoms, bullying, relational aggression, and global impairment than girls with CD alone. Girls with CD alone tended to have more anxiety problems than girls with the CU subtype of CD. Girls with high CU traits without CD exhibited higher ODD and attention-deficit/hyperactivity disorder (ADHD) symptoms and lower academic achievement at the 6-year follow-up relative to girls without CU traits and CD. Group differences at the 6-year follow-up were primarily accounted for by baseline differences on the outcomes. **Conclusions:** The proposed DSM-5 CU subtype of CD identifies young girls who exhibit lower anxiety problems and more severe aggression, CD symptoms, academic problems and global impairment across time than girls with CD alone. **[Child Symptom Inventory-4, Adolescent Symptom Inventory-4]**

- 12-48. Pardini, DA, & Byrd, AL (2012). Perceptions of aggressive conflicts and others' distress in children with callous-unemotional traits: 'I'll show you who's boss, even if you suffer and I get in trouble'. *Journal of Child Psychology and Psychiatry*, 53, 283-291.

**Background:** Children with callous-unemotional (CU) traits may have a particularly malevolent view of social conflicts and a pervasive insensitivity to others distress. The current study examined whether children with CU traits have unique expectations and values regarding the consequences of aggressive conflicts and a ubiquitous lack of concern for others feelings independent of co-occurring aggression. **Methods:** Participants were 96 (46 males, 50 females) children recruited from elementary schools within an urban city. Associations between CU traits and child reports of outcome expectancies/ values following aggressive conflicts and facets of empathy were examined after controlling for aggression, academic abilities, and demographic covariates. **Results:** Children with higher CU traits were less likely to expect that aggression would result in victim suffering and feelings of remorse. After controlling for co- occurring aggression, children with higher CU traits were more likely to expect that aggression would result in peer dominance, while children with higher levels of aggression were more likely to expect that attacking others would reduce their aversive behavior. Children with higher CU traits were less concerned that aggressive behavior would result in punishment, victim suffering, and feelings of remorse. Moreover, children with higher CU traits reported lower levels of empathetic concern and sadness in response to others' distress outside of aggressive conflicts. **Conclusions:** Children with CU traits tend to minimize the extent to which aggression causes victim suffering and openly acknowledge caring less about distress and suffering in others. They are less intimidated by the possibility of being punished for aggressive behavior and tend to view aggression as an effective means for dominating others. In sum, children with CU traits have a particularly malicious social schema that may be difficult to change using conventional treatment methods. **[Child Symptom Inventory-4]**

- 12-49. Poch, FV, Carrasco, MG, Moreno, YG, Ballabriga, MCJ, & Aznar, FC (2012). Disruptive behavior in adolescence and its relationship with temperament and coping styles. *Psicothema*, 24, 567-572.

Disruptive behavior in adolescence and its relationship with temperament and coping styles. Employing the DSM-IV TR classification, which classifies both antisocial behavior disorder and oppositional defiant disorder under the label of disruptive behavior disorder, a study was conducted with two aims: a) to determine the symptomatological differences of disruptive behavior disorder in adolescence depending on gender, age and school location, and b) to analyse the relationships between temperament, coping and the psychopathological dimensions of antisocial and oppositional defiant behavior. The YI-4, EATQ-R and ACS were administered to a sample of 1,240 adolescents between 11 and 17 years of age. The results show that boys display a greater number of antisocial behaviors than girls. No differences in school location were observed. In the oppositional defiant symptoms, there were differences according to age group, with 13 to 14 years being an age when there is a greater symptomatology. The data indicate a positive correlation with psychopathological dimensions of both surgency and non-productive coping and a negative correlation with effortful control and productive coping. **[Youths (Self Report) Inventory-4]**

- 12-50. Raiker, JS, Rapport, MD, Kofler, MJ, & Sarver, DE (2012). Objectively-measured impulsivity and attention-deficit/hyperactivity disorder (ADHD): testing competing predictions from the working memory and behavioral inhibition models of ADHD. *Journal of Abnormal Child Psychology*, 40, 699-713.

Impulsivity is a hallmark of two of the three DSM-IV ADHD subtypes and is associated with myriad adverse outcomes. Limited research, however, is available concerning the mechanisms and processes that contribute to impulsive responding by children with ADHD. The current study tested predictions from two competing models of ADHD-working memory (WM) and behavioral inhibition (BI)-to examine the extent to which ADHD-related impulsive responding was attributable to model-specific mechanisms and processes. Children with ADHD ( $n = 21$ ) and typically developing children ( $n = 20$ ) completed laboratory tasks that provided WM (domain-general central executive [CE], phonological/visuospatial storage/rehearsal) and BI indices (stop-signal reaction time [SSRT], stop-signal delay, mean reaction time). These indices were examined as potential mediators of ADHD-related impulsive responding on two objective and diverse laboratory tasks used commonly to assess impulsive responding (CPT: continuous performance test; VMTS: visual match-to-sample). Bias-corrected, bootstrapped mediation analyses revealed that CE processes significantly attenuated between-group impulsivity differences, such that the initial large-magnitude impulsivity differences were no longer significant on either task after accounting for ADHD-related CE deficits. In contrast, SSRT partially mediated ADHD-related impulsive responding on the CPT but not VMTS. This partial attenuation was no longer significant after accounting for shared variance between CE and SSRT; CE continued to attenuate the ADHD-impulsivity relationship after accounting for SSRT. These findings add to the growing literature implicating CE deficits in core ADHD behavioral and functional impairments, and suggest that cognitive interventions targeting CE rather than storage/rehearsal or BI processes may hold greater promise for alleviating ADHD-related impairments. **[Child Symptom Inventory-4]**

- 12-51. Sauder, CL, Beauchaine, TP, Gatzke-Kopp, LM, Shannon, KE, & Aylward, E. (2012). Neuroanatomical correlates of heterotypic comorbidity in externalizing male adolescents. *Journal of Clinical Child and Adolescent Psychology*, 41, 346-352.

Children and adolescents with externalizing behavior disorders including attention-deficit/hyperactivity disorder (ADHD) and conduct disorder (CD) often present with symptoms of comorbid internalizing psychopathology. However, few studies have examined central nervous system correlates of such comorbidity. We evaluated interactions between externalizing and internalizing symptoms in predicting mesolimbic, septo-hippocampal, and anterior cingulate volumes among 12- to 16-year-old boys with either ADHD, ADHD and CD, or no psychiatric condition ( $n = 35$ ). These regions were chosen given established links to trait impulsivity, trait anxiety, and behavior regulation, respectively. Collapsed across groups, Externalizing x Internalizing symptom interactions accounted for individual differences in gray matter densities in each region. Externalizing youth with comorbid internalizing symptoms showed smaller reductions in gray matter than individuals with externalizing psychopathology alone. These results suggest that internalizing symptoms are associated with less severe structural compromises in brain regions subserving motivation and behavior regulation among externalizing boys. **[Adolescent Symptom Inventory-4]**

- 12-52. Scahill, L, McCracken, JT, Bearss, K, Robinson, F, Hollander, E, King, B, Bregman, J, Sikich, L, Dukes, K, Sullivan, L, Anagnostou, E, Donnelly, C, Kim, YS, Ritz, L, Hirtz, D, & Wagner, A. (2012). Design and subject characteristics in the federally-funded citalopram trial in children with pervasive developmental disorders. *Journal of Autism and Developmental Disorders*, 42, 432-440.

The Studies to Advance Autism Research and Treatment Network conducted a randomized trial with citalopram in children with Pervasive developmental disorders (PDDs). We present the rationale, design and sample characteristics of the citalopram trial. Subjects (128 boys, 21 girls) had a mean age of 9.3 (+/- 3.12) years; 132 (88.6%) were diagnosed with autistic disorder (4.7% with Asperger's Disorder; 6.7% with PDD-not otherwise specified). Less than half of the subjects were intellectually disabled; 117 (78.5%) were rated Moderate or Marked on the Clinical Global Impression for Severity. Study measures were similar to previous Research Units on Pediatric Psychopharmacology trials. Subjects in this trial were slightly older and more likely to have complaints of repetitive behavior than participants in RUPP trials. **[Child Symptom Inventory-4]**

- 12-53. Stepp, SD, Burke, JD, Hipwell, AE, & Loeber, R (2012). Trajectories of attention deficit hyperactivity disorder and oppositional defiant disorder symptoms as precursors of borderline personality disorder symptoms in adolescent girls. *Journal of Abnormal Child Psychology*, 40, 7-20.

Little empirical evidence exists regarding the developmental links between childhood psychopathology and borderline personality disorder (BPD) in adolescence. The current study addresses this gap by examining symptoms of attention deficit hyperactivity disorder (ADHD) and oppositional defiant disorder (ODD) as potential precursors. ADHD and BPD share clinical features of impulsivity, poor self-regulation, and executive dysfunction, while ODD and BPD share features of anger and interpersonal turmoil. The study is based on annual, longitudinal data from the two oldest cohorts in the Pittsburgh Girls Study (N = 1,233). We used piecewise latent growth curve models of ADHD and ODD scores from age 8 to 10 and 10 to 13 years to examine the prospective associations between dual trajectories of ADHD and ODD symptom severity and later BPD symptoms at age 14 in girls. To examine the specificity of these associations, we also included conduct disorder and depression symptom severity at age 14 as additional outcomes. We found that higher levels of ADHD and ODD scores at age 8 uniquely predicted BPD symptoms at age 14. Additionally, the rate of growth in ADHD scores from age 10 to 13 and the rate of growth in ODD scores from 8 to 10 uniquely predicted higher BPD symptoms at age 14. This study adds to the literature on the early development of BPD by providing the first longitudinal study to examine ADHD and ODD symptom trajectories as specific childhood precursors of BPD symptoms in adolescent girls. **[Child Symptom Inventory-4]**

- 12-54. Sans, JC, Hernandez-Martinez, C, Munoz, SC, Garcia, LL, & Trallero, JT (2012). The Leyton Obsessional Inventory-Child Version: Validity and reliability in Spanish non-clinical population. *International Journal of Clinical and Health Psychology*, 12, 81-96.

We assessed the factor structure, validity and reliability of the Spanish version of the Leyton Obsessional Inventory-Child Version (LOI-CV) and determined the optimal cut-off score for detecting obsessive-compulsive disorder (OCD). A total of 1,514 students (aged 8-12) participated in the first phase of the study and 562 of these participated in the second phase (participants at risk of mood and anxiety disorders and controls without risk). The LOI-CV was administered in both phases and the OCD diagnosis was made in the second phase. In the exploratory factor analysis, we obtained three factors that explained 45.84% of the variance: Order/checking/pollution, Obsessive concern and Superstition/mental compulsion. The reliability was good (.79-.90). The cut-off scores selected were 21 for the total score and 10 for the interference score, both of which had a sensitivity of 82.4% and a specificity of 84.1% and 83.8%, respectively, for detecting OCD. LOI-CV scores were significantly higher in children with OCD diagnosis than in children with subclinical diagnosis and children without diagnosis. There were no gender or age differences in the LOI-CV scores. The results support the validity and reliability of the LOI-CV as a screening test for OCD in a non-clinical population. **[Child Symptom Inventory-4]**

- 12-55. Sebastian, CL, McCrory, EJP, Cecil, CAM, Lockwood, PL, De Brito, SA, Fontaine, NMG, & Viding, E (2012). Neural responses to affective and cognitive theory of mind in children with conduct problems and varying levels of callous-unemotional traits. *Archives of General Psychiatry*, 69, 814-822.

Context: Reduced neural responses to others' distress is hypothesized to play a critical role in conduct problems coupled with callous-unemotional traits, whereas increased neural responses to affective stimuli may accompany conduct problems without callous-unemotional traits. Heterogeneity of affective profiles in conduct problems may account for inconsistent neuroimaging findings in this population. Objectives: To broaden understanding of neural processing in conduct problems using an affective processing task including an empathy component as well as to explore dimensional contributions of conduct problems symptoms and callous-unemotional traits to variance in affective neural responses. Design: Case-control study. Setting: On-campus neuroimaging facility. Participants: Thirty-one boys with conduct problems (mean age, 14.34 years) and 16 typically developing control subjects (mean age, 13.51 years) matched for age (range, 10-16 years), IQ, socioeconomic status, handedness, and race/ethnicity. Participants were recruited using screening questionnaires in a community-based volunteer sample. Main Outcome Measures: Functional magnetic resonance imaging of a task contrasting affective and cognitive theory of mind judgments. Results: Relative to typically developing children, children with conduct problems showed reduced activation in right amygdala and anterior insula for affective vs cognitive theory of mind judgments. Furthermore, in the right amygdala, regression analysis within the conduct-problems group showed suppressor effects between ratings of conduct problems and callous-unemotional traits. Specifically, unique variance associated with conduct problems was positively correlated with amygdala reactivity, whereas unique variance associated with callous-unemotional traits was negatively correlated with amygdala reactivity. These associations were not explained by hyperactivity, depression/anxiety symptoms, or alcohol use ratings. Conclusions: Childhood conduct problems are associated with amygdala and anterior insula hypoactivity during a complex affective processing task including an empathy component. Suppressor effects between conduct problems and callous-unemotional traits in the amygdala suggest a potential neural substrate for heterogeneity in affective profiles associated with conduct problems. [***Child and Adolescent Symptom Inventory-4R***]

- 12-56. Silk, JS, Stroud, LR, Siegle, GJ, Dahl, RE, Lee, KH, & Nelson, EE (2012). Peer acceptance and rejection through the eyes of youth: pupillary, eyetracking and ecological data from the Chatroom Interact task. *Social Cognitive and Affective Neuroscience*, 7, 93-105.

We developed an ecologically valid virtual peer interaction paradigm-the Chatroom Interact Task in which 60 pre-adolescents and adolescents (ages 9-17 years) were led to believe that they were interacting with other youth in a simulated internet chatroom. Youth received rejection and acceptance feedback from virtual peers. Findings revealed increased pupil dilation, an index of increased activity in cognitive and affective processing regions of the brain, to rejection compared to acceptance trials, which was greater for older youth. Data from a cell-phone Ecological Momentary Assessment (EMA) protocol completed following the task indicated that increased pupillary reactivity to rejection trials was associated with lower feelings of social connectedness with peers in daily life. Eyetracking analyses revealed attentional biases toward acceptance feedback and away from rejection feedback. Biases toward acceptance feedback were stronger for older youth. Avoidance of rejection feedback was strongest among youth with increased pupillary reactivity to rejection, even in the seconds leading up to and following rejection feedback. These findings suggest that adolescents are sensitive to rejection feedback and seek to anticipate and avoid attending to rejection stimuli. Furthermore, the salience of social rejection and acceptance feedback appears to increase during adolescence. [***Adolescent Symptom Inventory-4, Child Symptom Inventory-4***]

- 12-57. Strickland, J, Hopkins, J, & Keenan, K (2012). Mother-teacher agreement on preschoolers' symptoms of ODD and CD: does context matter? *Journal of Abnormal Child Psychology*, 40, 933-943.

The aims of this study were to examine mother-teacher agreement on oppositional defiant disorder (ODD) and conduct disorder (CD) symptoms and diagnoses in preschool children; to determine if context is a source of disagreement; and to explore if sex, referral status, and age moderated agreement rates. Participants included 158 male and 139 female 3- to 5-year old preschool children, their mothers, and teachers. A structured interview, the Kiddie-Disruptive Behavior Disorder Schedule was used for maternal report and teachers completed the ***Early Childhood Inventory-4***. Results indicated that mothers reported more symptoms and diagnoses of ODD and CD than teachers, and mother-teacher agreement on both ODD and CD symptoms and diagnoses was low. Level of mother-teacher agreement increased when reporting on behavior in the same context; however, the rates remain modest. Referral status increased the likelihood of mother and teacher agreement on several ODD and CD symptoms, as well as ODD and CD diagnosis. These data suggest that context plays a role in mother-teacher agreement in the assessment of young children's ODD and CD symptoms.

- 12-58. Tan, PZ, Forbes, EE, Dahl, RE, Ryan, ND, Siegle, GJ, Ladouceur, CD, & Silk, JS (2012). Emotional reactivity and regulation in anxious and nonanxious youth: a cell-phone ecological momentary assessment study. *Journal of Child Psychology and Psychiatry*, 53, 197-206.

Background: Reviews have highlighted anxious youths affective disturbances, specifically, elevated negative emotions and reliance on ineffective emotion regulation strategies. However, no study has examined anxious youths emotional reactivity and regulation in real-world contexts. Methods: This study utilized an ecological momentary assessment approach to compare real-world emotional experiences of 65 youth with generalized anxiety disorder, social anxiety disorder, or social phobia (ANX) and 65 age-matched healthy controls (CON), ages 9-13 years. Results: Hierarchical linear models revealed that ANX reported higher levels of average past-hour peak intensity of nervous, sad and upset emotions than CON youth but similar levels during momentary reports of current emotion. As expected, ANX youth reported more frequent physiological reactions in response to a negative event; however, there were no group differences in how frequently they used cognitive-behavioral strategies. Avoidance, distraction and problem solving were associated with the down-regulation of all negative emotions except nervousness for both ANX and CON youth; however, group differences emerged for acceptance, rumination and physiological responding. Conclusions: In real-world contexts, ANX youth do not report higher levels of momentary negative emotions but do report heightened negative emotions in response to challenging events. Moreover, ANX youth report no differences in how frequently they use adaptive regulatory strategies but are more likely to have physiological responses to challenging events. They are also less effective at using some strategies to down-regulate negative emotion than CON youth. [**Child Symptom Inventory-4, Adolescent Symptom Inventory-4**]

- 12-59. Tanaka, JW, Wolf, JM, Klaiman, C, Koenig, K, Cockburn, J, Herlihy, L, Brown, C, Stahl, SS, South, M, McPartland, JC, Kaiser, MD, & Schultz, RT. (2012). The perception and identification of facial emotions in individuals with autism spectrum disorders using the Let's Face It! Emotion Skills Battery. *Journal of Child Psychology and Psychiatry*, 53, 1259-1267.

Background: Although impaired socialemotional ability is a hallmark of autism spectrum disorder (ASD), the perceptual skills and mediating strategies contributing to the social deficits of autism are not well understood. A perceptual skill that is fundamental to effective social communication is the ability to accurately perceive and interpret facial emotions. To evaluate the expression processing of participants with ASD, we designed the Lets Face It! Emotion Skills Battery (LFI! Battery), a computer-based assessment composed of three subscales measuring verbal and perceptual skills implicated in the recognition of facial emotions. Methods: We administered the LFI! Battery to groups of participants with ASD and typically developing control (TDC) participants that were matched for age and IQ. Results: On the Name Game labeling task, participants with ASD (N = 68) performed on par with TDC individuals (N = 66) in their ability to name the facial emotions of happy, sad, disgust and surprise and were only impaired in their ability to identify the angry expression. On the Matchmaker Expression task that measures the recognition of facial emotions across different facial identities, the ASD participants (N = 66) performed reliably worse than TDC participants (N = 67) on the emotions of happy, sad, disgust, frighten and angry. In the PartsWholes test of perceptual strategies of expression, the TDC participants (N = 67) displayed more holistic encoding for the eyes than the mouths in expressive faces whereas ASD participants (N = 66) exhibited the reverse pattern of holistic recognition for the mouth and analytic recognition of the eyes. Conclusion: In summary, findings from the LFI! Battery show that participants with ASD were able to label the basic facial emotions (with the exception of angry expression) on par with age- and IQ-matched TDC participants. However, participants with ASD were impaired in their ability to generalize facial emotions across different identities and showed a tendency to recognize the mouth feature holistically and the eyes as isolated parts. [**Child Symptom Inventory-4**]

- 12-60. Theunissen, SCPM, Rieffe, C, Kouwenberg, M, De Raeve, L, Soede, W, Briare, JJ, & Frijns, JHM. (2012). Anxiety in children with hearing aids or cochlear implants compared to normally hearing controls. *Laryngoscope*, 122, 654-659.

Objectives/Hypothesis: The objectives of this study were to examine the levels of anxiety in hearing-impaired children with hearing aids or cochlear implants compared to normally hearing children, and to identify individual variables that were associated with differences in the level of anxiety. Study Design: Large retrospective cohort

study. Methods: Self-reports and parent-reports concerning general anxiety, social anxiety, and generalized anxiety disorder were used. The study group (mean age, 11.8 years) consisted of three age-matched subgroups: 32 children with cochlear implants, 51 children with conventional hearing aids, and 127 children without hearing loss. Results: Levels of anxiety in children with cochlear implants and normally hearing children were similar. Early implantation was associated with lower levels of general and social anxiety. Remarkably, children with conventional hearing aids had higher levels of social anxiety, and their parents also reported more generalized anxiety disorder. Conclusions: The outcomes demonstrate that in their level of anxiety, children with cochlear implants might be more comparable to normally hearing children than to children with hearing aids. This positive finding can be the consequence of audiological factors or other aspects of the cochlear implant rehabilitation program. **[Child Symptom Inventory-4]**

- 12-61. Tudor, ME, DeVincent, CJ, & Gadow, KD. (2012). Prenatal pregnancy complications and psychiatric symptoms: Children with ASD versus clinic controls. *Research in Autism Spectrum Disorders*, 6, 1401-1405.

The current study examined the association between prenatal pregnancy complications (PPC) and childhood psychiatric symptoms in children with an autism spectrum disorder (ASD) and non-ASD children who were referred to a psychiatric clinic (Controls). Parents completed a DSM-IV-referenced rating scale and developmental history questionnaire. Participants were classified as having  $\geq 1$  PPC (+PPC) versus none (-PPC). Children with ASD were significantly more likely to have PPC than Controls. Intra-group comparisons demonstrated that children in the ASD + PPC group had more severe anxiety than ASD/-PPC group. The Control + PPC group obtained higher symptom ratings of inattention, hyperactivity, and oppositional behavior than Control/-PPC. Children in the ASD + PPC group were rated as having more severe anxiety and depression symptoms than Control + PPC. Dissimilar associations in ASD and non-ASD samples were found, suggesting divergent pathogenic processes in different clinical phenotypes. **[Child and Adolescent Symptom Inventory-4R]**

- 12-62. van der Molen, E, Hipwell, AE, Vermeiren, R, & Loeber, R. (2012). Cumulative effects of mothers' risk and promotive factors on daughters' disruptive behavior. *Journal of Abnormal Child Psychology*, 40, 727-739.

Little is known about the ways in which the accumulation of maternal factors increases or reduces risk for girls' disruptive behavior during preadolescence. In the current study, maternal risk and promotive factors and the severity of girls' disruptive behavior were assessed annually among girls' ages 7-12 in an urban community sample (N = 2043). Maternal risk and promotive factors were operative at different time points in girls' development. Maternal warmth explained variance in girls' disruptive behavior, even after controlling for maternal risk factors and relevant child and neighborhood factors. In addition, findings supported the cumulative hypothesis that the number of risk factors increased the chance on girls' disruptive behavior disorder (DBD), while the number of promotive factors decreased this probability. Daughters of mothers with a history of Conduct Disorder (CD) were exposed to more risk factors and fewer promotive factors compared to daughters of mothers without prior CD. The identification of malleable maternal factors that can serve as targets for intervention has important implications for intergenerational intervention. Cumulative effects show that the focus of prevention efforts should not be on single factors, but on multiple factors associated with girls' disruptive behavior. **[Child Symptom Inventory-4]**

- 12-63. Viding, E, Sebastian, CL, Dadds, MR, Lockwood, PL, Cecil, CAM, De Brito, SA, & McCrory, EJ (2012). Amygdala response to preattentive masked fear in children with conduct problems: the role of callous-unemotional traits. *American Journal of Psychiatry*, 169, 1109-1116.

Objective: In children with conduct problems, high levels of callous-unemotional traits are associated with amygdala hypoactivity to consciously perceived fear, while low levels of callous-unemotional traits may be associated with amygdala hyperactivity. Behavioral data suggest that fear processing deficits in children with high callous-unemotional traits may extend to stimuli presented below conscious awareness (preattentively). The authors investigated the neural basis of this effect. Amygdala involvement was predicted on the basis of its role in preattentive affective processing in healthy adults and its dysfunction in previous studies of conduct problems. Method: Functional MRI was used to measure neural responses to fearful and calm faces presented preattentively (for 17 ms followed by backward masking) in boys with conduct problems and high callous-unemotional traits (N=15), conduct problems and low callous-unemotional traits (N=15), and typically developing comparison boys (N=16). Amygdala response to fearful and calm faces was predicted to differentiate groups, with the greatest response in boys with conduct problems and low callous-unemotional traits and the lowest in boys with conduct



problems and high callous-unemotional traits. Results: In the right amygdala, a greater amygdala response was seen in boys with conduct problems and low callous-unemotional traits than in those with high callous-unemotional traits. The findings were not explained by symptom levels of conduct disorder, attention-deficit hyperactivity disorder, anxiety, or depression. Conclusions: These data demonstrate differential amygdala activity to preattentively presented fear in children with conduct problems grouped by callous-unemotional traits, with high levels associated with lower amygdala reactivity. The study's findings complement increasing evidence suggesting that callous-unemotional traits are an important specifier in the classification of children with conduct problems.

**[Child Symptom Inventory-4]**

- 12-64. Wang, Y, Horst, KK, Kronenberger, WG, Hummer, TA, Mosier, KM, Kalnin, AJ, Dunn, DW, & Mathews, VP. (2012). White matter abnormalities associated with disruptive behavior disorder in adolescents with and without attention-deficit/hyperactivity disorder. *Psychiatry Research-Neuroimaging*, 202, 245-251.

Disruptive behavior disorders (DBD) are among the most commonly diagnosed mental disorders in children and adolescents. Some important characteristics of DBD vary based on the presence or absence of comorbid attention-deficit/hyperactivity disorder (ADHD), which may affect the understanding of and treatment decision-making related to the disorders. Thus, identifying neurobiological characteristics of DBD with comorbid ADHD (DBD + ADHD) can provide a basis to establish a better understanding of the condition. This study aimed to assess abnormal white matter microstructural alterations in DBD + ADHD as compared to DBD alone and healthy controls using diffusion tensor imaging (DTI). Thirty-three DBD (19 with comorbid ADHD) and 46 age-matched healthy adolescents were studied using DTI. Fractional anisotropy (FA), and mean diffusivity (MD), radial diffusivity (RD) and axial diffusivity (AD) were analyzed using tract-based spatial statistics (TBSS). Significantly lower FA and higher MD, RD and AD in many white matter fibers were found in adolescents with DBD + ADHD compared to controls. Moreover, lower FA and higher RD were also found in the DBD + ADHD versus the DBD alone group. Alterations of white matter integrity found in DBD patients were primarily associated with ADHD, suggesting that ADHD comorbidity in DBD is reflected in greater abnormality of microstructural connections. **[Adolescent**

**Symptom Inventory-4]**

- 12-65. White, SW, Schry, AR, & Maddox, BB (2012). Brief report: the assessment of anxiety in high-functioning adolescents with autism spectrum disorder. *Journal of Autism and Developmental Disorders*, 42, 1138-1145.

Anxiety may exacerbate interpersonal difficulties and contribute to secondary behavioral problems in adolescents with High-Functioning Autism Spectrum Disorder (HFASD). This study was conducted to assess the psychometric properties and construct validity of measures of anxiety with a sample (n = 30) of adolescents with HFASD and comorbid anxiety disorders. Results indicate that the measures (**CASI-Anxiety Scale**; Sukhodolsky et al. 2008; MASC; March 1998) possess acceptable internal consistency, and there is evidence of discriminant validity. Most of the adolescents, however, under-reported problems with anxiety, compared to parent-reported and clinician-derived reports and given they were seeking treatment for anxiety problems. Findings highlight the importance of using multiple raters in clinical practice and consideration of rater discrepancies in clinical research.

- 12-66. Witwer, AN, Lecavalier, L, & Norris, M (2012). Reliability and validity of the children's interview for psychiatric syndromes-parent version in autism spectrum disorders. *Journal of Autism and Developmental Disorders*, 42, 1949-1958.

The Children's Interview for Psychiatric Syndromes-Parent Version (P-ChIPS) is a structured psychiatric interview designed to assess the presence of psychiatric disorders in children and adolescents. This study examined the reliability and validity of the P-ChIPS in 61 youngsters (6- to 17-years-old) with Autism Spectrum Disorders. Reliability analyses were conducted according to level of functioning and language level. Results indicated that interrater reliability values were largely in the good to excellent range. Concordance between the P-ChIPS and the **Child and Adolescent Symptoms Inventory-4R** was fair for the majority of disorders. Percent overall agreement for most disorders was good, lending support to the validity of the P-ChIPS. The results of this study suggest that the P-ChIPS is appropriate for this population.

## YEAR: 2011

- 11-1. Bastiaens, L. (2011). Improvement in global psychopathology increases quality of life during treatment of ADHD

with atomoxetine or stimulants. *Psychiatric Quarterly*, 82, 303-308.

To evaluate what determines the increase in quality of life during treatment for ADHD: improvement in core ADHD symptoms or improvement in global psychopathology ratings. A prospective follow-up of ADHD patients in one community clinic. Standardized evaluation and outcome measures were used, including the Mini International Neuropsychiatric Interview, Child Symptom Inventory, 18 item ADHD rating scale, and the Health and Life Functioning Scale. 75 patients between the ages of 6 and 12 were treated with atomoxetine or stimulants with a stable dose for 10 months. At end point, there were modest improvements in ADHD symptoms, global psychopathology, level of functioning and quality of life. The improvement in quality of life was driven by a decrease in global psychopathology, not by a decrease in ADHD symptoms. The treatment for ADHD may need to be broadened beyond the core symptoms. A chronic disease management model may well be applicable. [*Child Symptom Inventory-4*]

- 11-2. Brenner, S.L., & Beauchaine, T.P. (2011). Pre-ejection period reactivity and psychiatric comorbidity prospectively predict substance use initiation among middle-schoolers: A pilot study. *Psychophysiology*, 48, 1587-1595.

Youth with conduct problems (CPs) or depression are at high risk for early initiation of substance use, and for future substance use disorders (SUDs). Comorbid CPs and depression increase risk even further, yet understanding how these conditions interact remains elusive. One hypothesis is that altered mesolimbic dopamine function contributes to symptoms of CPs, depression, and SUDs. Cardiac pre-ejection period (PEP) reactivity to incentives is linked theoretically and functionally to central dopamine responding. We evaluated PEP reactivity to reward as a prospective biomarker of substance use in a study of 206 youth with depression, CPs, CPs and depression, or no psychiatric condition. Children were 8-12 years old at the first of three annual assessments. Reduced PEP reactivity was associated with increased likelihood of future alcohol use, and CPs interacted with anxiety and depression to double risk for marijuana and other substance use. [*Child Symptom Inventory-4*]

- 11-3. Bufferd, S.J., Dougherty, L.R., Carlson, G.A., & Klein, D.N. (2011). Parent-reported mental health in preschoolers: findings using a diagnostic interview. *Comprehensive Psychiatry*, 52, 359-369.

Previous research suggests that many preschoolers meet criteria for psychiatric diagnoses; still, relatively little is known about preschool mental health, particularly emotional problems, in the community. This study investigated the rates of parent-reported DSM-IV (Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition, Text Revision) disorders in a large community sample of preschoolers using the Preschool Age Psychiatric Assessment (PAPA). Five hundred forty-one parents were interviewed with the PAPA. Of the children, 27.4% met criteria for a PAPA/DSM-IV diagnosis; 9.2% met criteria for 2 or more diagnoses. Oppositional defiant disorder (ODD) (9.4%), specific phobia (9.1%), and separation anxiety disorder (5.4%) were the most common diagnoses; depression (1.8%), selective mutism (1.5%), and panic disorder (0.2%) were the least common. In addition, there was significant comorbidity/covariation between depression, anxiety, and ODD and between ODD and attention-deficit/hyperactivity disorder (odds ratios = 1.81-18.44;  $P < .05$ ), and significant associations with measures of psychosocial functioning. The stability and clinical significance of diagnoses and patterns of comorbidity must be elucidated in future research. [*Early Childhood Inventory-4*]

- 11-4. Chelonis, J.J., Johnson, T.A., Ferguson, S.A., Berry, K.J., Kubacak, B., Edwards, M.C., & Paule, M.G. (2011). Effect of methylphenidate on motivation in children with attention-deficit/hyperactivity disorder. *Experimental and Clinical Psychopharmacology*, 19, 145-153.

The effects of methylphenidate (MPH) on motivation were examined using a progressive ratio (PR) task in children who were prescribed MPH for the treatment of ADHD. Twenty-one children, 7 to 12 years of age, completed two test sessions, one under the effects of medication and one not. During each session, children pressed a lever to earn nickel reinforcers, where the first press resulted in a reinforcer and 10 additional presses were required for each subsequent reinforcer. Children on MPH had a significantly higher breakpoint than when off medication. This MPH-associated increase in the breakpoint manifested as a significant decrease in the interresponse times (IRT). Further, MPH administration resulted in a significant decrease in IRT variability. In contrast, MPH administration had no significant effects on the means and variability of postreinforcement pause duration. These results suggest that MPH increased motivation in children being treated for ADHD. Further, the inability of MPH to significantly reduce postreinforcement pause duration while simultaneously decreasing IRTs suggests that while MPH may

increase motivation to perform an ongoing task, it may have little effect on the initiation of that task. [*Child Symptom Inventory-4*]

- 11-5. Chien, Y.L., Gau, S.S.F., & Gadow, K.D. (2011). Sex difference in the rates and co-occurring conditions of psychiatric symptoms in incoming college students in Taiwan. *Comprehensive Psychiatry*, 52, 195-207.

Objective: The authors investigated the sex difference in the rates and co-occurring patterns in Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition referenced psychiatric symptoms among incoming first-year college students in Taiwan. Methods: This was a college-based questionnaire survey. The participants included 273 1 incoming first-year college students (male, 52.4%; mean age, 19.3 +/- 2.6 years). The participants completed the Chinese version of the **Adult Self Report Inventory-4** for the assessment of a wide range of psychiatric symptoms according to the Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition symptom criteria. The participant rate was 74.1%. Results: There were 55% of the participants having at least one psychiatric symptom. Symptoms of agoraphobia, body dysmorphic, and gender identity disorder were more prevalent in women; those of obsession-compulsion, tics, conduct problems, schizoid personality, and kleptomania were more prevalent in men. The magnitude of symptom correlations between compulsion and gender identity disorder, dysthymia, and antisocial personality, and between gender identity disorder and schizophrenia was significantly greater in male participants, whereas that between conduct problems and obsession and motor tics was significantly greater in female participants. Conclusions: The Chinese version of the Adult Self Report Inventory-4 identified similar sex difference in psychiatric symptoms as Western studies. The sex difference in co-occurring psychiatric conditions warrants further investigation.

- 11-6. Coutanche, M.N., Thompson-Schill, S.L., & Schultz, R.T. (2011). Multi-voxel pattern analysis of fMRI data predicts clinical symptom severity. *NeuroImage*, 57, 113-123.

Multi-voxel pattern analysis (MVPA) has been applied successfully to a variety of fMRI research questions in healthy participants. The full potential of applying MVPA to functional data from patient groups has yet to be fully explored. Our goal in this study was to investigate whether MVPA might yield a sensitive predictor of patient symptoms. We also sought to demonstrate that this benefit can be realized from existing datasets, even when they were not designed with MVPA in mind. We analyzed data from an fMRI study of the neural basis for face processing in individuals with an Autism Spectrum Disorder (ASD), who often show fusiform gyrus hypoactivation when presented with unfamiliar faces, compared to controls. We found reliable correlations between MVPA classification performance and standardized measures of symptom severity that exceeded those observed using a univariate measure; a relation that was robust across variations in ROI definition. A searchlight analysis across the ventral temporal lobes identified regions with relationships between classification performance and symptom severity that were not detected using mean activation. These analyses illustrate that MVPA has the potential to act as a sensitive functional biomarker of patient severity. [*Child Symptom Inventory-4, Adolescent Symptom Inventory-4, Adult Self Report Inventory-4*]

- 11-7. Crapanzano, A.M., Frick, P.J., Childs, K., & Terranova, A.M. (2011). Gender differences in the assessment, stability, and correlates to bullying roles in middle school children. *Behavioral Sciences & the Law*, 29, 677-694.

The current study investigated bullying behaviors in 284 school children in the fourth through seventh grades at the time of the initial assessment. Peer ratings of bullying behavior were obtained at the end of the spring semester of one school year and at the end of the fall semester of the next school year. Importantly, peer ratings were obtained by assessing not only the level at which participants actually bully other students but also whether participants help bullies to hurt the victim (assister), encourage bullies (reinforce), or help the victim of bullying (defender). Our results did not support the utility of differentiating between bullies, assisters, or reinforcers. Specifically, these bullying roles were highly intercorrelated, both concurrently and across school years, and they showed similar correlations with aggression and several characteristics often associated with aggression (i.e., conduct problems, callous-unemotional traits, and positive expectancies about aggression). In contrast, ratings of defending designated a particularly prosocial group of students. Finally, whereas bullying appeared to be very similar in boys and girls, it was somewhat more stable across school years and was related to lower levels of prosocial behavior in boys, both of which could suggest that bullying may be somewhat more related to social group dynamics in girls. [*Youth (Self Report) Inventory-4*]

- 11-8. Davis, D.W., & Williams, P.G. (2011). Attention deficit/hyperactivity disorder in preschool-age children: issues and concerns. *Clinical Pediatrics*, 50, 144-152.

The diagnosis of attention deficit/hyperactivity disorder (ADHD) in children has been steadily increasing over the past 10 years. ADHD is associated with numerous health, behavioral, social, and academic outcomes. The use of medication is common for the treatment of ADHD. However, the evidence base for pharmacological and non-pharmacological treatments for children younger than 6 years of age is limited. Both short-term and long-term studies of efficacy and safety of all interventions are needed in this population, especially the use of psychotropic medications. Understanding the long-term effects of psychotropic medication on the developing brains of preschoolers has important implications for outcomes into adulthood. Nonpharmacologic evidence-based interventions are available and should serve as the first line of treatment in this population. Future research needs include further evidence regarding specific curricula, dose, duration, delivery methods, and staff training to ensure optimal intervention outcomes. [**Early Childhood Inventory-4**]

- 11-9. Dougherty, L.R., Bufferd, S.J., Carlson, G.A., Dyson, M., Olino, T.M., Durbin, C.E., & Klein, D.N. (2011). Preschoolers' observed temperament and psychiatric disorders assessed with a parent diagnostic interview. *Journal of Clinical Child and Adolescent Psychology*, 40, 295-306.

Evidence supports the role of temperament in the origins of psychiatric disorders. However, there are few data on associations between temperament and psychiatric disorders in early childhood. A community sample of 541 three-year-old preschoolers participated in a laboratory temperament assessment, and caregivers were administered a structured diagnostic interview on preschool psychopathology. In bivariate analyses, temperamental dysphoria and low exuberance were associated with depression; fear, low exuberance, and low sociability were associated with anxiety disorders; and disinhibition and dysphoria were associated with oppositional defiant disorder. Although there were no bivariate associations between temperament and attention-deficit/hyperactivity disorder, disinhibition emerged as a unique predictor in multivariate analyses. Findings indicate that the pattern of relations between temperament and psychopathology in older youth and adults is evident as early as age 3. [**Early Childhood Inventory-4**]

- 11-10. Drabick, D. A. G, Bubier, J., Chen, D., Price, J., & Lanza, H. I. (2011). Source-specific oppositional defiant disorder among inner-city children: prospective prediction and moderation. *Journal of Clinical Child and Adolescent Psychology*, 40, 23-35.

We examined prospective prediction from parent- and teacher-reported oppositional defiant disorder (ODD) symptoms to parent-reported ODD, conduct disorder (CD), major depressive disorder (MDD), and generalized anxiety disorder symptoms and whether child executive functioning abilities moderated these relations among an urban, low-income sample of first- to third-grade children (N=87). Time 1 parent-reported ODD predicted each Time 2 outcome. Time 1 teacher-reported ODD predicted Time 2 CD and MDD symptoms. After controlling for Time 1 co-occurring symptoms, only prediction from Time 1 teacher-reported ODD to CD and MDD symptoms remained significant. Child executive functioning abilities moderated relations between Time 1 parent-reported ODD and Time 2 ODD, and Time 1 teacher-reported ODD and Time 2 CD and MDD. Among children with better executive functioning abilities, higher Time 1 ODD was associated with higher Time 2 symptoms. [**Child Symptom Inventory-4**]

- 11-11. Egger, H.L., & Emde, R.N. (2011). Developmentally sensitive diagnostic criteria for mental health disorders in early childhood the diagnostic and statistical manual of mental disorders-iv, the research diagnostic criteria-preschool age, and the diagnostic classification of mental health and developmental disorders of infancy and early childhood-revised. *American Psychologist*, 66, 95-106.

As the infant mental health field has turned its focus to the presentation, course, and treatment of clinically significant mental health disorders, the need for reliable and valid criteria for identifying and assessing mental health symptoms and disorders in early childhood has become urgent. In this article we offer a critical perspective on diagnostic classification of mental health disorders in young children. We place the issue of early childhood diagnosis within the context of classification of psychopathology at other ages and describe, in some detail, diagnostic classifications that have been developed specifically for young children, including the Diagnostic

Classification of Mental Health and Developmental Disorders of Infancy and Early Childhood (DC:0-3R; zero to three, 2005), a diagnostic classification for mental health symptoms and disorders in infants, toddlers, and preschoolers. We briefly outline the role of diagnostic classification in clinical assessment and treatment planning. Last, we review the limitations of current approaches to the diagnostic classification of mental health disorders in young children. [**Early Childhood Inventory-4**]

- 11-12. Findling, R.L., Horwitz, S.M., Birmaher, B., Kowatch, R.A., Fristad, M.A., Youngstrom, E.A., Frazier, T.W., Axelson, D., Ryan, N., Demeter, C.A., Depew, J., Fields, B., Gill, M.K., Deyling, E.A., Rowles, B.M., & Arnold, L. E. (2011). Clinical characteristics of children receiving antipsychotic medication. *Journal of Child and Adolescent Psychopharmacology*, 21, 311-319.

This study explored the demographic and diagnostic features of children who were currently receiving antipsychotics compared to children who were receiving other psychotropics in a cohort of children with and without elevated symptoms of mania (ESM). Participants were recruited from 10 child outpatient mental health clinics associated with four universities. Guardians with children between 6-12 years who presented for new clinical evaluations completed the Parent General Behavior Inventory-10 Item Mania Scale (PGBI-10M). All children who scored 12 on the PGBI-10M and a select demographically matched comparison group of patients who scored  $\leq 11$  were invited to participate. Children were divided into two groups: those receiving at least one antipsychotic medication and those receiving other psychotropic medications. The groups were compared on demographics, diagnoses, psychiatric symptoms, functioning, and past hospitalizations. Of the 707 children enrolled in the Longitudinal Assessment of Manic Symptoms (LAMS) study, 443 (63%) were prescribed psychotropic medication at baseline: 157 (35%) were receiving an antipsychotic and 286 (65%) were prescribed other agents. Multivariate results indicated that being prescribed antipsychotics was related to being white, previous hospitalization, having a psychotic or bipolar 1 disorder and the site where the child was receiving services ( $p < 0.001$ ). In this sample, it is relatively common for a child to be prescribed an antipsychotic medication. However, the only diagnoses associated with a greater likelihood of being treated with an antipsychotic were psychotic disorders or unmodified DSM-IV bipolar 1 disorder. [**Child and Adolescent Symptom Inventory-4**]

- 11-13. Gabis, L.V., Baruch, Y.K., Jokel, A., & Raz, R. (2011). Psychiatric and autistic comorbidity in fragile X syndrome across ages. *Journal of Child Neurology*, 26, 940-948.

Fragile X syndrome is caused by CGG trinucleotide repeat expansion within the fragile X mental retardation 1 gene, when repeat number exceeds 200. The typical psychiatric profile of fragile X syndrome patients includes cognitive and behavioral deficits, psychiatric comorbidity, and autistic characteristics. Specific psychiatric features have not yet been clarified, specifically in relationship to age and genetic characteristics. The objective of this study was to characterize psychiatric comorbidities in subjects with fragile X syndrome at different ages. Subjects with fragile X syndrome and their unaffected siblings were recruited and their parents filled out functional-behavioral and psychiatric comorbidities questionnaires. Adolescents with fragile X syndrome showed decreased prevalence of functional-behavioral deficits. Incidence and severity of most psychiatric comorbidities were lower in older subjects. Incidence of generalized anxiety disorder increased with age in the fragile X syndrome group. The typical profile of patients with fragile X syndrome changes with age. Unaffected siblings exhibit anxiety and motor tics. [**Adolescent Symptom Inventory-4**]

- 11-14. Gadow, K.D., & Nolan, E.E. (2011). Methylphenidate and comorbid anxiety disorder in children with both chronic multiple tic disorder and ADHD. *Journal of Attention Disorders*, 15, 246-256.

Objective: To determine if comorbid anxiety disorder is associated with differential response to immediate release methylphenidate (MPH-IR) in children with both ADHD and chronic multiple tic disorder (CMTD). Method: Children with ( $n = 17$ ) and without ( $n = 37$ ) diagnosed anxiety disorder (ANX) were evaluated in an 8-week, placebo-controlled trial with rating scales and laboratory measures. Results: The +ANX group obtained more severe parent, teacher, and child ratings of anxiety and more severe parent ratings of depression, tics, oppositional defiant disorder (ODD), and peer aggression than the -ANX group. Treatment with short-term MPH-IR was associated with improvement in ADHD, ODD, and peer aggression in the +ANX group. When controlling for ODD severity, there were no apparent group differences in therapeutic response to MPH-IR in children +/- ANX. There was little evidence that MPH-IR contributed to improvement in anxiety or depression symptoms in the +ANX group.

There was some indication that children with comorbid anxiety may differentially experience greater increase in systolic blood pressure (0.5 mg/kg of MPH-IR > placebo). Conclusion: Findings suggest that the co-occurrence of diagnosed CMTD+ADHD+ANX represents a particularly troublesome clinical phenotype, at least in the home setting. Comorbid anxiety disorder was not associated with a less favorable response to MPH-IR in children with ADHD+CMTD, but replication with larger samples is warranted before firm conclusions can be drawn about potential group differences. [*Child Symptom Inventory*]

- 11-15. Gastgeb, H. Z., Wilkinson, D. A., Minshew, N. J., & Strauss, M. S. (2011). Can individuals with autism abstract prototypes of natural faces? *Journal of Autism and Developmental Disorders*, 41, 1609-1618.

There is a growing amount of evidence suggesting that individuals with autism have difficulty with face processing. One basic cognitive ability that may underlie face processing difficulties is the ability to abstract a prototype. The current study examined prototype formation with natural faces using eye-tracking in high-functioning adults with autism and matched controls. Individuals with autism were found to have significant difficulty forming prototypes of natural faces. The eye-tracking data did not reveal any between group differences in the general pattern of attention to the faces, indicating that these difficulties were not due to attentional factors. Results are consistent with previous studies that have found a deficit in prototype formation and extend these deficits to natural faces. [*Adult Self Report Inventory-4*]

- 11-16. Ghanizadeh, A. (2011). Overlap of ADHD and oppositional defiant disorder DSM-IV derived criteria. *Archives of Iranian Medicine*, 14, 179-182.

Objective: One possible reason for being controversies regarding ADHD may be related to the validity and reliability of diagnostic criteria of attention deficit hyperactivity disorder and oppositional defiant disorder. Diagnostic criteria of oppositional defiant disorder include eight symptoms. This study examines the factor structure of oppositional defiant disorder symptoms, its discriminant validity from attention deficit hyperactivity disorder, its convergent validity and internal reliability. Methods: Parents of 111 referral children and adolescents with attention deficit hyperactivity disorder completed DSM-IV referenced based attention deficit hyperactivity disorder and oppositional defiant disorder checklists. Results: Factor analysis indicated that the attention deficit hyperactivity disorder symptom of: "often has trouble organizing activities" and "often runs about or climbs when and where it is not appropriate" were a part of the oppositional defiant disorder component. These symptoms less often than other symptoms differentiate attention deficit hyperactivity disorder from oppositional defiant disorder. The convergent validity for oppositional defiant disorder symptoms ranged from 0.64 to 0.79. Conclusion: The parent-rating checklist of oppositional defiant disorder symptoms properly differentiates oppositional defiant disorder from attention deficit hyperactivity disorder. However, two items of the attention deficit hyperactivity disorder were listed as symptoms of oppositional defiant disorder. If the factor loading of the items is to be confirmed in further studies, it might be necessary to revise these symptoms criterion in future editions of DSM-IV diagnostic criteria. [*Child Symptom Inventory-4*]

- 11-17. Griggs, M.S., & Mikami, A.Y. (2011). The role of maternal and child ADHD symptoms in shaping interpersonal relationships. *Journal of Abnormal Child Psychology*, 39, 437-449.

The current study investigated the influence of maternal ADHD symptoms on: (a) mothers' own social functioning; (b) their child's social functioning; and (c) parent-child interactions following a lab-based playgroup involving children and their peers. Participants were 103 biological mothers of children ages 6-10. Approximately half of the children had ADHD, and the remainder were comparison youth. After statistical control of children's ADHD diagnostic status and mothers' educational attainment, mothers' own inattentive ADHD symptoms predicted poorer self-reported social skills. Children with ADHD were reported to have more social problems by parents and teachers, as well as received fewer positive sociometric nominations from playgroup peers relative to children without ADHD. After control of child ADHD status, higher maternal inattention and hyperactivity/impulsivity each predicted children having more parent-reported social problems; maternal inattention predicted children receiving more negative sociometric nominations from playgroup peers. There were interactions between maternal ADHD symptoms and children's ADHD diagnostic status in predicting some child behaviors and parent-child relationship measures. Specifically, maternal inattention was associated with decreased prosocial behavior for children without ADHD, but did not influence the prosocial behavior of children with ADHD. Maternal inattention was associated with mothers' decreased corrective feedback and, at a trend level, decreased irritability toward their children with

ADHD, but there was no relationship between maternal inattention and maternal behaviors for children without ADHD. A similar pattern was observed for maternal hyperactivity/impulsivity and mothers' observed irritability towards their children. Treatment implications of findings are discussed. [**Child Symptom Inventory-4**]

- 11-18. Griggs, M.S., & Mikami, A.Y. (2011). Parental attention-deficit/hyperactivity disorder predicts child and parent outcomes of parental friendship coaching treatment. *Journal of the American Academy of Child and Adolescent Psychiatry*, 50, 1236-1246.

Objective: This study investigated the impact of parental attention-deficit/hyperactivity disorder (ADHD) symptoms on the peer relationships and parent child interaction outcomes of children with ADHD among families completing a randomized controlled trial of parental friendship coaching (PFC) relative to control families. Method: Participants were 62 children with ADHD (42 boys and 20 girls, 6 through 10 years old) and their parents. Approximately half of the families received PFC (a 3-month parent training intervention targeting the peer relationships of children with ADHD), and the remainder represented a no-treatment control group. Results: Parental inattention predicted equivalent declines in children's peer acceptance in both treatment and control families. However, treatment amplified differences between parents with high versus low ADHD symptoms for some outcomes: Control families declined in functioning regardless of parents' symptom levels. However, high parental inattention predicted increased child peer rejection and high parental inattention and impulsivity predicted decreased parental facilitation among treated families (indicating reduced treatment response). Low parental symptoms among treated families were associated with improved functioning in these areas. For other outcomes, treatment attenuated differences between parents with high versus low ADHD symptoms: Among control parents, high parental impulsivity was associated with increasing criticism over time, whereas all treated parents showed reduced criticism regardless of symptom levels. Follow-up analyses indicated that the parents experiencing poor treatment response are likely those with clinical levels of ADHD symptoms. Conclusions: Results underscore the need to consider parental ADHD in parent training treatments for children with ADHD. [**Child Symptom Inventory-4**]

- 11-19. Guyer, A.E., Choate, V.R., Grimm, K.J., Pine, D.S., & Keenan, K. (2011). Emerging depression is associated with face memory deficits in adolescent girls. *Journal of the American Academy of Child and Adolescent Psychiatry*, 50, 180-190.

Objective: To examine the association between memory for previously encoded emotional faces and depression symptoms assessed over 4 years in adolescent girls. Investigating the interface between memory deficits and depression in adolescent girls may provide clues about depression pathophysiology. Method: Participants were 213 girls recruited from a longitudinal, community-based study; the majority were African American. Scores on depressive screening measures at age 8 were used to increase the base rate of depression. Depression symptoms and diagnoses were assessed annually for 4 years. In year 4, when the girls were 12 to 13 years old, a face emotion encoding task was administered during which ratings were generated in response to sad, fearful, angry, and happy faces. A surprise memory task followed whereby participants identified which of two faces, displaying neutral expressions, they had seen previously. Results: Girls with higher depression symptom levels from ages 9 to 12 years evidenced lower accuracy in identifying previously encoded emotional faces. Controlling for IQ, higher depression symptom level was associated with a memory deficit specific to previously encoded sad and happy faces. These effects were not moderated by race. Conclusions: Individual differences in face memory deficits relate to individual differences in emerging, early adolescent depression, and may be vulnerability markers for depression. [**Child Symptom Inventory-4**]

- 11-20. Hipwell, A.E., Sapotichne, B., Klostermann, S., Battista, D., & Keenan, K. (2011). Autobiographical memory as a predictor of depression vulnerability in girls. *Journal of Clinical Child and Adolescent Psychology*, 40, 254-265.

Overgeneral autobiographical memory (AM), the tendency to recall categories of events when asked to provide specific instances from one's life, is purported to be a marker of depression vulnerability that develops in childhood. Although early adolescence is a period of risk for depression onset especially among girls, prospective examination of this putative risk factor is lacking. The current study examined the prospective associations between AM recall and depressive symptomatology in an enriched community sample of predominantly African American girls. Girls (n=195) were interviewed about depressive symptoms at ages 11 and 12 years, and AM recall was assessed at age 11. The findings showed that overgeneral retrieval to positive, but not negative, cue

words predicted subsequent depressive symptoms after controlling for age 11 symptoms, race, poverty, and Verbal IQ. A moderating effect of race was also shown, whereby overgeneral AM bias predicted depressive symptoms more strongly among European American girls. [**Child Symptom Inventory-4**]

- 11-21. Hipwell, A.E., Stepp, S.D., Keenan, K., Chung, T., & Loeber, R. (2011). Brief report: Parsing the heterogeneity of adolescent girls' sexual behavior: Relationships to individual and interpersonal factors. *Journal of Adolescence*, 34, 589-592.

Clusters of pre-sexual and sexual behaviors were identified in an urban US sample of 546 mid-adolescent girls. No distinct group of girls engaging in sexually risky behavior was revealed. Sexually active girls were older, lived with a single parent, and reported more substance use and depression, but similar levels of conduct problems, impulsivity and deviant peers to girls engaging in pre-sexual behavior. [**Adolescent Symptom Inventory-4**]

- 11-22. Hu, M.C., Griesler, P., Schaffran, C., & Kandel, D. (2011). Risk and protective factors for nicotine dependence in adolescence. *Journal of Child Psychology and Psychiatry*, 52, 1063-1072.

Background: We investigated the role of psychosocial and proximal contextual factors on nicotine dependence in adolescence. Methods: Data on a multiethnic cohort of 6th to 10th graders from the Chicago public schools were obtained from four household interviews conducted with adolescents over two years and one interview with mothers. Structural equation models were estimated on 660 youths who had smoked cigarettes by the first interview. Results: Pleasant initial sensitivity to tobacco use, parental nicotine dependence (ND), adolescent ND and extensiveness of smoking at the initial interview had the strongest total effects on adolescent ND two years later. Perceived peer smoking and adolescent conduct problems were of lesser importance. Parental ND directly impacted adolescent ND two years later and had indirect effects through pleasant initial sensitivity and initial extensiveness of smoking. Parental depression affected initial adolescent dependence and depression but adolescent depression had no effect on ND. The model had greater explanatory power for males than females due partly to the stronger effect of conduct problems on dependence for males than females. Conclusions: The findings underscore the importance of the initial drug experience and familial factors on adolescent nicotine dependence and highlight the factors to be the focus of efforts targeted toward preventing ND among adolescents. [**Youth (Self Report) Inventory-4**]

- 11-23. Hummer, T. A., Kronenberger, W. G., Wang, Y., Dunn, D.W., Mosier, K.M., Kalnin, A.J., & Mathews, V.P. (2011). Executive functioning characteristics associated with ADHD comorbidity in adolescents with disruptive behavior disorders. *Journal of Abnormal Child Psychology*, 39, 11-19.

The nature of executive dysfunction in youth with disruptive behavior disorders (DBD) remains unclear, despite extensive research in samples of children with attention-deficit hyperactivity disorder (ADHD). To determine the relationship between DBD, ADHD, and executive function deficits in aggressive teens, adolescents with DBD and comorbid ADHD (DBD + ADHD; n = 25), DBD without ADHD (DBD-ADHD; n = 23), and healthy controls (HC; n = 25) were compared on neurocognitive tests and questionnaires measuring executive functioning. Teens with DBD + ADHD performed worse on both neurocognitive and questionnaire measures of executive function than the DBD-ADHD and HC groups. Results suggest that subgroups of DBD may exist depending on the presence or absence of comorbid ADHD, which may have implications for the selection and efficacy of treatment strategies. [**Adolescent Symptom Inventory-4**]

- 11-24. Jack, A., Mikami, A.Y., & Calhoun, C.D. (2011). The moderating role of verbal aggression on the relationship between parental feedback and peer status among children with ADHD. *Journal of Abnormal Child Psychology*, 39, 1059-1071.

We examined associations between children's sociometric status and (a) observed parental feedback as well as (b) child aggression. Participants were 94 children ages 6-10 (64 male; 44 with ADHD) and their parents. Children's peer status, parental feedback to their children, and child aggression were all assessed during lab-based playgroups of four children and their parents. Parent criticism in front of the child's peers was associated with the child receiving more negative ("disliked") and fewer positive ("liked") nominations, but only for children who displayed aggression; this interaction applied almost exclusively to children with ADHD. Parent praise in front of peers was associated with fewer negative nominations when children displayed low levels of aggression, but



more at higher levels. Additional analyses revealed that relationships did not exist in the full sample between privately-given parental feedback and children's peer status. Processes by which peers use overheard adult feedback to inform their assessments of children are discussed. [**Child Symptom Inventory-4**]

- 11-25. Kaiser, N.M., McBurnett, K., & Pfiffner, L.J. (2011). Child ADHD severity and positive and negative parenting as predictors of child social functioning: evaluation of three theoretical models. *Journal of Attention Disorders*, 15, 193-203.

Objective: Prior research has established links between child social functioning and both parenting and child ADHD severity; however, research examining the way that these variables work together is lacking. The current article aims to test three possible models (main effects, mediation, and moderation) by which ADHD severity and positive and negative parenting on the part of both mothers and fathers may work together to predict child social functioning. Method: In a combined sample of children ages 5 to 11 with and without ADHD (N = 143), multiple regression was used to assess: (a) the main effects of ADHD severity and of positive and negative parenting by both mothers and fathers on child social skill and aggressive behavior; (b) parenting as a potential mediator of the relation between ADHD severity and child social skill and aggressive behavior; and (c) ADHD severity as a potential moderator of the relation between parenting and child social skill and aggressive behavior dependent variables. Results: Significant main effects of both ADHD severity and parenting on child social skill and aggression were found. There was some evidence to support parenting (particularly negative parenting) as a mediator of the relation between ADHD severity and child social skill and aggression. There was no evidence of significant moderational effects. Conclusion: Parenting and ADHD severity are independently associated with child social skill and aggressive behavior. To the extent that these associations are causal, multimodal treatment targeting both symptom reduction and improved parenting may be especially effective for the treatment of social problems related to childhood ADHD. Furthermore, evidence for parenting as a mediator of the relation between ADHD severity and child outcomes suggests that changes in child symptoms may also improve parenting practices, thus leading to improved child outcomes. [**Child Symptom Inventory-4**]

- 11-26. Kofler, M.J., Rapport, M.D., Bolden, J., Sarver, D.E., Raiker, J.S., & Alderson, R.M. (2011). Working memory deficits and social problems in children with ADHD. *Journal of Abnormal Child Psychology*, 39, 805-817.

Social problems are a prevalent feature of ADHD and reflect a major source of functional impairment for these children. The current study examined the impact of working memory deficits on parent-and teacher-reported social problems in a sample of children with ADHD and typically developing boys (N=39). Bootstrapped, bias-corrected mediation analyses revealed that the impact of working memory deficits on social problems is primarily indirect. That is, impaired social interactions in children with ADHD reflect, to a significant extent, the behavioral outcome of being unable to maintain a focus of attention on information within working memory while simultaneously dividing attention among multiple, on-going events and social cues occurring within the environment. Central executive deficits impacted social problems through both inattentive and impulsive-hyperactive symptoms, whereas the subsidiary phonological and visuospatial storage/rehearsal systems demonstrated a more limited yet distinct relationship with children's social problems. [**Child Symptom Inventory-4**]

- 11-27. Kroneman, L.M., Hipwell, A.E., Loeber, R., Koot, H.M., & Pardini, D.A. (2011). Contextual risk factors as predictors of disruptive behavior disorder trajectories in girls: the moderating effect of callous-unemotional features. *Journal of Child Psychology and Psychiatry*, 52, 167-175.

Background: The presence of callous-unemotional (CU) features may delineate a severe and persistent form of conduct problems in children with unique developmental origins. Contextual risk factors such as poor parenting, delinquent peers, or neighborhood risk are believed to influence the development of conduct problems primarily in children with low levels of CU features. However, longitudinal studies examining the moderating effect of CU features on the relation between contextual risk factors and conduct problems trajectories in girls are rare. Methods: Growth curve analysis was conducted using five annual measurements of oppositional defiant disorder/conduct disorder (ODD/CD) behaviors in a community sample of 1,233 girls aged 7-8 at study onset. The relation between contextual risk factors in multiple domains (i.e., family, peer, community) and trajectories of ODD/CD behaviors across time were examined for girls with differing levels of CU features. Results: Growth curve analysis indicated that CU features were associated with chronically high levels of ODD/CD symptoms over time. Low levels of parental warmth were also associated with chronically high levels of ODD/CD, and this effect was

particularly pronounced for girls with high CU features. Exposure to harsh parenting was associated with higher ODD/CD behaviors for girls in childhood regardless of their level of CU features, but this effect dissipated over time. [*Child Symptom Inventory-4*]

- 11-28. Lanza, H. I., & Drabick, D. A. G. (2011) Family routine moderates the relation between child impulsivity and oppositional defiant disorder symptoms. *Journal of Abnormal Child Psychology*, 39, 83-94.

Although child impulsivity is associated with oppositional defiant disorder (ODD) symptoms, few studies have examined whether family processes moderate this association. To address this gap, we tested whether child-reported family routine moderated the relation between child hyperactivity/impulsivity (HI) and ODD symptoms among a sample of low-income, urban, ethnic-minority children (N = 87, 51% male). Child HI and ODD symptoms were assessed using parent and teacher reports. HI also was indexed by a laboratory task. Family routine was assessed using child self-report. Hierarchical regression analyses indicated that family routine moderated child HI. Among children with higher levels of teacher-reported HI symptoms, lower levels of family routine were associated with higher levels of teacher-reported ODD symptoms compared to children with lower levels of teacher-reported HI symptoms. Children who self-reported higher levels of family routine were rated as low on teacher-reported ODD symptoms, regardless of teacher-reported HI levels. Parent report and laboratory measures of child HI did not produce significant interactions. Lower levels of family routine may confer risk for ODD symptoms among low-income, urban, ethnic-minority children experiencing higher levels of HI. [*Child Symptom Inventory-4*]

- 11-29. Lavigne, J.V., Hopkins, J., Gouze, K.R., Bryant, F.B., LeBailly, S.A., Binns, H.J., & Lavigne, P.M. (2011). Is smoking during pregnancy a risk factor for psychopathology in young children? a methodological caveat and report on preschoolers. *Journal of Pediatric Psychology*, 36, 10-24.

**Objective** While studies of the effects of prenatal smoking on child psychopathology have found positive relationships, most studies (1) failed to control for a range of correlates of maternal smoking that could affect children's behavior; (2) have been conducted with school-age rather than younger children, so it is not clear when such problems emerge; and (3) have not examined the effects on internalizing problems. **Method** This study examined the effects of prenatal smoke exposure on behaviors associated with externalizing and internalizing behavior problems and negative temperament in a diverse community sample of 679 4-year-olds. **Results** After controlling for correlates that include socioeconomic status, life stress, family conflict, maternal depression, maternal scaffolding skills, mother-child attachment, child negative affect and effortful control, smoking during pregnancy was no longer associated with child behavior or emotional problems. **Conclusions** Future studies need to control for a wide range of covariates of maternal smoking. [*Early Childhood Inventory-4*]

- 11-30. Lecavalier, L., Gadow, K.D., Devincent, C.J., Houts, C.R., & Edwards, M.C. (2011). Validity of DSM-IV syndromes in preschoolers with autism spectrum disorders. *Autism*, 15, 527-543.

Behavior and emotional problems are often present in very young children with autism spectrum disorders (ASDs) but their nosology has been the object of scant empirical attention. The objective of this study was to assess the construct validity of select Diagnostic and Statistical Manual of Mental Disorders (DSM)-defined syndromes (ADHD, ODD, Mood disorder) in preschoolers with ASD (N = 229). Parents and teachers completed the *Early Childhood Inventory-4*, a behavior rating scale based on the DSM-IV, and ratings were submitted to confirmatory factor analysis. Results generally supported the DSM nosology in this population. There was some evidence that parent ratings were associated with better fit indices (e.g. RSMEA = .062) than teachers (e.g. RMSEA = .083). For both raters, fit indices appeared to improve when the ADHD factor was broken into its constituent parts. However, hyperactivity symptoms accounted for little unique additional variance in the model. Findings lend support to the DSM as a conceptual model for behavioral syndromes in preschoolers with ASDs and also reinforce the importance of source-specificity when considering psychiatric disorders in children with ASDs.

- 11-31. Lerner, M.D., Mikami, A.Y., & McLeod, B.D. (2011). The alliance in a friendship coaching intervention for parents of children with ADHD. *Behavior Therapy*, 42, 449-461.

The alliance between parent and therapist was observed in a group-based parent-training intervention to improve social competency among children with attention-deficit/hyperactivity disorder (ADHD). The intervention, called Parental Friendship Coaching (PFC), was delivered to 32 parents in small groups as part of a randomized clinical

trial. PFC was delivered in eight, 90-minute sessions to parents; there was no child treatment component. Observed parent-therapist alliance recorded among 27 of the parents was measured using the Therapy Process Observational Coding System- Alliance scale (TPOCS-A; McLeod, 2005). Early alliance and change in alliance over time predicted improvements in several parenting behaviors and child outcomes, including peer sociometrics in a lab-based playgroup. These preliminary findings lend support to the importance of examining the parent-therapist alliance in parent-training groups for youth social and behavioral problems. [**Child Symptom Inventory-4**]

- 11-32. Mikami, A.Y., & Lorenzi, J. (2011). Gender and conduct problems predict peer functioning among children with attention-deficit/hyperactivity disorder. *Journal of Clinical Child and Adolescent Psychology*, 40, 777-786.

Children with attention-deficit/hyperactivity disorder (ADHD) often have poor relationships with peers. However, research on this topic has predominantly focused on boys. This study considered child gender, ADHD status, and dimensionally assessed conduct problems as predictors of peer relationship difficulties. Participants were 125 children (ages 6-10; 67% male), 63 with clinical diagnoses of ADHD and 62 non-ADHD comparison youth. Conduct problems were reported by teachers and observed in a lab playgroup. Peer relationships were assessed by parent report, teacher report, and peer sociometric nominations in the playgroup. Results suggested that children with ADHD, as well as those with high conduct problems, displayed more impaired peer relationships than did comparison children and those with low conduct problems, but overall there were no gender differences in social functioning. However, statistical interactions appeared such that the negative impact of conduct problems on peer relationships was stronger for girls than for boys. [**Child Symptom Inventory-4**]

- 11-33. Mikami, A.Y., Ransone, M.L., & Calhoun, C.D. (2011). influence of anxiety on the social functioning of children with and without ADHD. *Journal of Attention Disorders*, 15, 473-484.

Objective: This investigation examined the contribution of anxiety to the social functioning of children with and without ADHD. Method: Participants were 62 children with ADHD (ages 6-10 years and 68% boys) and 62 age- and sex-matched comparison children. Children's social functioning was measured through parent and teacher reports, observations of social behaviors during a lab-based playgroup with previously unacquainted peers, and peer nominations during that lab-based playgroup. Results: Anxiety symptoms incrementally predicted adult-informant reports of poorer social functioning after controlling for demographic covariates, ADHD status, and oppositional-defiant disorder (ODD) status. However, anxiety was not associated with peer nominations received at the playgroup. There were some indications that anxiety may have greater influence on the functioning of comparison children relative to children with ADHD or ODD. Conclusion: Anxiety may contribute to the peer problems of children both with and without ADHD. [**Child Symptom Inventory-4**]

- 11-34. Molinuevo, B., Pardo, Y., & Torrubia, R. (2011). Psychometric analysis of the Catalan version of the Alabama Parenting Questionnaire (APQ) in a community sample. *Spanish Journal of Psychology*, 14, 944-955.

The aim of this study was to adapt to Catalan the parents' and children's global report forms of the Alabama Parenting Questionnaire (APQ), using a community sample of 364 children between 10 and 15 years old and their families. Sociodemographic information (from parents) and the presence of externalizing problems (from parents and teachers) were collected. The results suggest a 3-factor structure corresponding to the scales of Positive Parenting Practices (PPP), Inconsistent and Negative Discipline (IND) and Poor Monitoring/Supervision (PMS). The internal consistency is acceptable in all the scales, except for the IND in the children's format. The scales also present good convergent and discriminant validity, and the relations with the external variable studied pointed in the expected direction: inefficient parenting practices are related to the presence of more behavior problems in children. To sum up, the Catalan version of the parents' and children's global report forms of the APQ are considered suitable for use in the area of children's and adolescents' behavior problems. [**Child Symptom Inventory-4**]

- 11-35. Numis, A.L., Major, P., Montenegro, M.A., Muzykewicz, D.A., Pulsifer, M.B., & Thiele, E.A. (2011). Identification of risk factors for autism spectrum disorders in tuberous sclerosis complex. *Neurology*, 76, 981-987.

Objective: The purpose of this study was to assess the prevalence of and to identify epidemiologic, genetic, electrophysiologic, and neuroanatomic risk factors for autism spectrum disorders (ASD) in a cohort of patients with

tuberous sclerosis complex (TSC). Methods: A total of 103 patients with TSC were evaluated for ASD. A retrospective review of patients' records was performed, including mutational analysis. EEG reports were analyzed for the presence of ictal and interictal epileptiform features. Brain MRI scans were evaluated for TSC neuropathology, including tuber burden. Results: Of the 103 patients with TSC, 40% were diagnosed with an ASD. On univariate analysis, patients with ASD were less likely to have mutations in the TSC1 gene. Patients with ASD also had an earlier age at seizure onset and more frequent seizures. On EEG, those with ASD had a significantly greater amount of interictal epileptiform features in the left temporal lobe only. On MRI, there were no differences in the regional distribution of tuber burden, although those with TSC2 and ASD had a higher prevalence of cyst-like tubers. Conclusions: The development of ASD in TSC is not well understood. Given our findings, ASD may be associated with persistent seizure activity early in development in particular brain regions, such as those responsible for social perception and communication in the left temporal lobe. The presence of cyst-like tubers on MRI could provide a structural basis or marker for ASD pathology in TSC, although studies assessing their effect on cortical function are needed. [*Child Symptom Inventory-4*]

- 11-36. Schlund, M.W., Cataldo, M.F., Siegle, G.J., Ladouceur, C.D., Silk, J.S., Forbes, E.E., McFarland, A., Iyengar, S., Dahl, R.E., & Ryan, N.D. (2011). Pediatric functional magnetic resonance neuroimaging: tactics for encouraging task compliance. *Behavioral and Brain Functions*, 7, 10.

Background: Neuroimaging technology has afforded advances in our understanding of normal and pathological brain function and development in children and adolescents. However, noncompliance involving the inability to remain in the magnetic resonance imaging (MRI) scanner to complete tasks is one common and significant problem. Task noncompliance is an especially significant problem in pediatric functional magnetic resonance imaging (fMRI) research because increases in noncompliance produces a greater risk that a study sample will not be representative of the study population. Method: In this preliminary investigation, we describe the development and application of an approach for increasing the number of fMRI tasks children complete during neuroimaging. Twenty-eight healthy children ages 9-13 years participated. Generalization of the approach was examined in additional fMRI and event-related potential investigations with children at risk for depression, children with anxiety and children with depression (N = 120). Essential features of the approach include a preference assessment for identifying multiple individualized rewards, increasing reinforcement rates during imaging by pairing tasks with chosen rewards and presenting a visual 'road map' listing tasks, rewards and current progress. Results: Our results showing a higher percentage of fMRI task completion by healthy children provides proof of concept data for the recommended tactics. Additional support was provided by results showing our approach generalized to several additional fMRI and event-related potential investigations and clinical populations. Discussion: We proposed that some forms of task noncompliance may emerge from less than optimal reward protocols. While our findings may not directly support the effectiveness of the multiple reward compliance protocol, increased attention to how rewards are selected and delivered may aid cooperation with completing fMRI tasks. Conclusion: The proposed approach contributes to the pediatric neuroimaging literature by providing a useful way to conceptualize and measure task noncompliance and by providing simple cost effective tactics for improving the effectiveness of common reward-based protocols. [*Child and Adolescent Symptom Inventory-4*]

- 11-37. Sprafkin, J., Mattison, R.E., Gadow, K.D., Schneider, J., & Lavigne, J.V. (2011). A brief DSM-IV-referenced teacher rating scale for monitoring behavioral improvement in ADHD and co-occurring symptoms. *Journal of Attention Disorders*, 15, 235-245.

Objective: To examine the psychometric properties of the 30-item teacher's version of the *Child and Adolescent Symptom Inventory Progress Monitor* (CASI-PM-T), a DSM-IV-referenced rating scale for monitoring change in ADHD and co-occurring symptoms in youths receiving behavioral or pharmacological interventions. Method: Three separate studies were conducted to determine (a) which items from longer diagnostic instruments were most representative of ADHD and commonly occurring psychiatric syndromes in clinic-referred samples (N = 406) aged between 3 and 18 years, (b) the reliability and validity of the CASI-PM-T in students enrolled in full-time special education programs at the elementary and middle school levels (N = 169), and (c) the clinical utility of measuring behavioral change in a sample of outpatient ADHD children beginning treatment with stimulant medication. Results: Internal consistency reliabilities (.71-.94), 2-week test-retest reliabilities ( $r = .70-.90$ ), and interrater agreement ( $r = .44-.78$ ) for the CASI-PM-T symptom categories were comparable to the full-length CASI-4. Convergence was also found between corresponding CASI-PM-T categories and consultant diagnoses of ADHD and ODD as well as school functioning measures of grade-point average and suspensions. The CASI-PM-T also

demonstrated sensitivity to stimulant medication treatment effects. Conclusion: Findings provide preliminary support for the reliability, validity, and clinical utility of the CASI-PM-T.

- 11-38. Strickland, J., Keller, J., Lavigne, J.V., Gouze, K., Hopkins, J., & LeBailly, S. (2011). The structure of psychopathology in a community sample of preschoolers. *Journal of Abnormal Child Psychology*, 39, 601-610.

Despite growing interest in the development of alternative diagnostic classification systems for psychopathology in young children, little is known about the adequacy of the DSM symptom structure for describing psychopathology in this population. This paper examines the fit of the DSM-IV emotional (ED) and disruptive behavior disorder (DD) symptom structure in a community sample of 796 4-year-old children. Using the parent-report **Child Symptom Inventory-4** (CSI-4), the best model fit for ED included separate factors for Social Phobia, Separation Anxiety Disorder, Generalized Anxiety Disorder, and Major Depressive Disorder. For DD, the best model included separate Attention Deficit Hyperactivity Disorder-Inattentive type (ADHD-I), Attention Deficit Hyperactivity Disorder-Hyperactive/Impulsive type (ADHD-HI), and Oppositional Defiant Disorder diagnoses. These findings support using DSM-IV nosology to classify EDs in a community sample of preschool children and suggest differentiation of ADHD into ADHD-I and ADHD-HI.

- 11-39. Underwood, M.K., Beron, K.J., & Rosen, L.H. (2011). Joint trajectories for social and physical aggression as predictors of adolescent maladjustment: Internalizing symptoms, rule-breaking behaviors, and borderline and narcissistic personality features. *Development and Psychopathology*, 23, 659-678.

This investigation examined the relation between developmental trajectories jointly estimated for social and physical aggression and adjustment problems at age 14. Teachers provided ratings of children's social and physical aggression in Grades 3, 4, 5, 6, and 7 for a sample of 255 children (131 girls, 21% African American, 52% European American, 21% Mexican American). Participants, parents, and teachers completed measures of the adolescent's adjustment to assess internalizing symptoms, rule-breaking behaviors, and borderline and narcissistic personality features. Results showed that membership in a high and rising trajectory group predicted rule-breaking behaviors and borderline personality features. Membership in a high desister group predicted internalizing symptoms, rule-breaking behaviors, and borderline and narcissistic personality features. The findings suggest that although low levels of social and physical aggression may not bode poorly for adjustment, individuals engaging in high levels of social and physical aggression in middle childhood may be at greatest risk for adolescent psychopathology, whether they increase or desist in their aggression through early adolescence. [**Adolescent Symptom Inventory-4, Youth (Self Report) Inventory-4**]

- 11-40. van der Molen, E., Hipwell, A.E., Vermeiren, R., & Loeber, R. (2011). Maternal characteristics predicting young girls' disruptive behavior. *Journal of Clinical Child and Adolescent Psychology*, 40, 179-190.

Little is known about the relative predictive utility of maternal characteristics and parenting skills on the development of girls' disruptive behavior. The current study used five waves of parent- and child-report data from the ongoing Pittsburgh Girls Study to examine these relationships in a sample of 1,942 girls from age 7 to 12 years. Multivariate generalized estimating equation analyses indicated that European American race, mother's prenatal nicotine use, maternal depression, maternal conduct problems prior to age 15, and low maternal warmth explained unique variance. Maladaptive parenting partly mediated the effects of maternal depression and maternal conduct problems. Both current and early maternal risk factors have an impact on young girls' disruptive behavior, providing support for the timing and focus of the prevention of girls' disruptive behavior. [**Child Symptom Inventory-4**]

- 11-41. Villalobos, J. A. L., Pintado, I.S., Sanchez-Mateos, J.D., de Llano, J.M.A., Azon, M.I.S., & Lopez, S.A. (2011). Utility of a statistical model of cognitive styles in attention deficit hyperactivity disorder. *PSICOTHEMA*, 23, 818-823.

Utility of a statistical model of cognitive styles in attention deficit hyperactivity disorder. The purpose of this study was to determine the best statistical model of cognitive styles, based on the MFFT-20, CEFT and Stroop tests to predict attention deficit hyperactivity disorder (ADHD), analyzing the validity of the model for the diagnosis of the disease. We studied 100 ADHD cases (DSM-IV criteria) and 100 controls, age ranging between 7 and 11 years. Controls were randomly recruited and matched in age, gender and sociodemographic area with ADHD cases. On

average, ADHD cases showed more impulsiveness ( $d: 1.28$ ), less cognitive flexibility ( $d: 0.91$ ) and more field dependence ( $d: 1.62$ ) than controls. The logistic regression model that predicts ADHD best is made up of age, CEFT, MFFT-20 and Stroop tests and the formula derived from the model shows 85% sensitivity and 85% specificity for ADHD, regarding the DSM-IV criteria as the standard. The statistical model of cognitive styles presents valid indicators to diagnose ADHD, contributing to an increase in the objectivity of its analysis. [**Child Symptom Inventory-4**]

- 11-42. Webster-Stratton, C.H, Reid, M. J., & Beauchaine, T. (2011). Combining parent and child training for young children with ADHD. *Journal of Clinical Child and Adolescent Psychology*, 40, 191-203.

The efficacy of the Incredible Years parent and child training programs is established in children diagnosed with oppositional defiant disorder but not among young children whose primary diagnosis is attention-deficit/hyperactivity disorder (ADHD). We conducted a randomized control trial evaluating the combined parent and child program interventions among 99 children diagnosed with ADHD (ages 4-6). Mother reported significant treatment effects for appropriate and harsh discipline, use of physical punishment, and monitoring, whereas fathers reported no significant parenting changes. Independent observations revealed treatment effects for mothers' praise and coaching, mothers' critical statements, and child total deviant behaviors. Both mothers and fathers reported treatment effects for children's externalizing, hyperactivity, inattentive and oppositional behaviors, and emotion regulation and social competence. There were also significant treatment effects for children's emotion vocabulary and problem-solving ability. At school teachers reported treatment effects for externalizing behaviors and peer observations indicated improvements in treated children's social competence. [**Child Symptom Inventory-4**]

- 11-43. Weiss, M.D., Wasdell, M., Gadow, K.D., Greenfield, B., Hechtman, L., & Gibbins, C. (2011). Clinical correlates of oppositional defiant disorder and attention-deficit/hyperactivity disorder in adults. *Postgraduate Medicine*, 123, 177-184.

Objective: Oppositional defiant disorder (ODD) is a common comorbidity of attention-deficit/hyperactivity disorder (ADHD) in both children and adolescents. Although there is research demonstrating that ADHD persists into adulthood, less is known about the frequency of its persistence, clinical characteristics, and impairment when associated with comorbid ODD in adults with ADHD. Method: Data from a randomized clinical trial of adults with ADHD were analyzed to determine the prevalence and clinical correlates of comorbid ODD. As per the Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition criteria, patients who reported having  $\geq 4$  symptoms "often" or "very often" were classified as meeting the symptom criteria for the disorder. Results: Forty percent of this sample met symptom criteria for ODD. Subjects with ODD were more likely to have other comorbid disorders, lower investigator ratings of overall functioning, and lower patient life satisfaction ( $P < 0.05$ ). A regression analysis using these variables predicted 40% of the variance of ODD as a comorbid condition in addition to ADHD. Although the presence or absence of ODD at baseline does not moderate response of ADHD symptoms with treatment, improvement in ODD symptoms was mediated by improvement in ADHD symptoms ( $P < 0.0001$ ). Oppositional defiant disorder treatment was more responsive to dextroamphetamine than paroxetine, despite the contribution of irritability and reactive tantrums, as symptoms of the disorder. Conclusion: Oppositional defiant disorder is a valid and impairing disorder requiring evaluation and treatment in adults. [**Adult Self Report Inventory-4**]

- 11-44. Willcutt, E.G., Boada, R., Riddle, M.W., Chhabildas, N., DeFries, J.C., & Pennington, Bruce F. (2011). Colorado Learning Difficulties Questionnaire: Validation of a parent-report screening measure. *Psychological Assessment*, 23, 778-791.

This study evaluated the internal structure and convergent and discriminant evidence for the Colorado Learning Difficulties Questionnaire (CLDQ), a 20-item parent-report rating scale that was developed to provide a brief screening measure for learning difficulties. CLDQ ratings were obtained from parents of children in 2 large community samples and 2 samples from clinics that specialize in the assessment of learning disabilities and related disorders (total  $N = 8,004$ ). Exploratory and confirmatory factor analyses revealed 5 correlated but separable dimensions that were labeled reading, math, social cognition, social anxiety, and spatial difficulties. Results revealed strong convergent and discriminant evidence for the CLDQ Reading scale, suggesting that this scale may provide a useful method to screen for reading difficulties in both research studies and clinical settings.

Results are also promising for the other 4 CLDQ scales, but additional research is needed to refine each of these measures. [**Child Symptom Inventory-4, Adolescent Symptom Inventory-4**]

## YEAR: 2010

- 10-1. Alderson, R. M., Rapport, M.D., Hudec, K.L., Sarver, D.E., & Kofler, M.J. (2010). Competing core processes in attention-deficit/hyperactivity disorder (ADHD): do working memory deficiencies underlie behavioral inhibition deficits? *Journal of Abnormal Child Psychology*, 38, 497-507.

The current study examined competing predictions of the working memory and behavioral inhibition models of ADHD. Behavioral inhibition was measured using a conventional stop-signal task, and central executive, phonological, and visuospatial working memory components (Baddeley 2007) were assessed in 14 children with ADHD and 13 typically developing (TD) children. [**Child Symptom Inventory-4 was one of several diagnostic instruments.**] Bootstrapped mediation analyses revealed that the visuospatial working memory system and central executive both mediated the relationship between group membership (ADHD, TD) and stop-signal task performance. Conversely, stop-signal task performance mediated the relationship between group membership and central executive processes, but was unable to account for the phonological and visuospatial storage/rehearsal deficits consistently found in children with ADHD. Comparison of effect size estimates for both models suggested that working memory deficits may underlie impaired stop-signal task performance in children with ADHD. The current findings therefore challenge existing models of ADHD that describe behavioral inhibition as a core deficit of the disorder.

- 10-2. Andreias, L., Borawski, E., Schluchter, M., Taylor, G., Klein, N., & Hack, M. (2010). Neighborhood influences on the academic achievement of extremely low birth weight children. *Journal of Pediatric Psychology*, 35, 275-283.

Objective: To examine neighborhood effects on academic achievement of children with extremely low birth weight (ELBW < 1000 g) and normal birth weight (NBW) controls. Methods: The study included 183 8-year-old children with ELBW born during 1992-1995 and 176 sociodemographically similar NBW controls. Academic achievement was measured via The Woodcock-Johnson III Academic Skills Cluster. Results: Children with ELBW had significantly lower achievement scores (89 +/- 16 vs. 97 +/- 13). A multilevel estimation of predictors of academic achievement revealed that neighborhood poverty was significantly associated with lower achievement (beta = -.17; 95% CI -.3, -.05; p < .01). Additional correlates included birth weight status, male sex, and parent ratings of attention deficit hyperactivity disorder symptoms [**Child Symptom Inventory-4**]. Family characteristics included maternal education and parent protection. Conclusions: Neighborhood characteristics affect academic achievement of both children with ELBW and NBW controls, over and above individual and family influences. Interventions designed to address family and neighborhood factors may potentially improve these outcomes.

- 10-3. Borelli, J.L., David, D.H., Crowley, M.J., & Mayes, L.C. (2010). Links between disorganized attachment classification and clinical symptoms in school-aged children. *Journal of Child and Family Studies*, 19, 243-256.

Research examining the links between disorganized attachment and clinical symptoms largely has neglected middle childhood due to lack of available measurement tools. The few studies that have examined these links in other developmental phases have found higher clinical symptoms in disorganized individuals. Our study extended this research by using a recently-developed attachment interview measure ideally suited to evaluate disorganized attachment in middle childhood. We examined concurrent associations among disorganized attachment in 8-12 year old children and symptoms of psychopathology theoretically hypothesized for their links with disorganized attachment. Using child- and parent-reports, we measured symptoms of depression [**Child Symptom Inventory-4**], social anxiety [**Child Symptom Inventory-4**], shyness, inattention, and thought problems. During our two-session study, 97 children completed the Child Attachment Interview, and children and parents completed clinical questionnaires. Results suggested that disorganized attachment was associated with higher child reports of depressive symptoms and shyness, and with parent-reports of social anxiety, inattention, and thought problems, and that disorganized children are more likely to have symptoms that meet clinical criteria. Implications for the relation of attachment to psychopathology are discussed.

- 10-4. Burke, J.D., Hipwell, A.E., & Loeber, R. (2010). Dimensions of oppositional defiant disorder as predictors of

depression and conduct disorder in preadolescent girls. *Journal of the American Academy of Child and Adolescent Psychiatry*, 49, 484-492.

Objective: To examine whether oppositional defiant disorder (ODD) rather than conduct disorder (CD) may explain the comorbidity between behavioral disorders and depression; to test whether distinct affective and behavioral dimensions can be discerned within the symptoms of ODD; and to determine whether an affective dimension of ODD symptoms is specifically predictive of later depression. Method: The dimensions of ODD and their prediction to later CD and depression were examined in a community sample of 2,451 girls between the ages of 5 and 8 years, followed up annually over a 5-year period, using parent, child, and teacher questionnaire ratings of the severity of symptoms of psychopathology. [**Child Symptom Inventory-4 was used to as measure of conduct disorder, oppositional defiant disorder, depression, ADHD, anxiety.**] Results: Dimensions of negative affect, oppositional behavior, and antagonistic behavior were found within ODD symptoms. Negative affect predicted later depression. Oppositional and antagonistic behavior predicted CD overall, and for Caucasian girls, negative affect also predicted later CD. CD was not predictive of later depression, controlling for comorbid conditions. Conclusions: ODD plays a key role in the early development of psychopathology. It is central in the comorbidity between internalizing and externalizing psychopathology, which may be caused by a dimension of negative affective symptoms within ODD. How this dimension relates to later CD appears to vary by race.

- 10-5. Chowdhury, M., Aman, M. G., Scahill, L., Swiezy, N., Arnold, L. E., Lecavalier, L., Johnson, C., Handen, B., Stigler, K., Bearss, K., Sukhodolsky, D., & McDougle, C. J. (2010). The Home Situations Questionnaire-PDD version: Factor structure and psychometric properties. *Journal of Intellectual Disability Research*, 54, 281-291.

Background: The Home Situations Questionnaire (HSQ) is a caregiver-rated scale designed to assess behavioural non-compliance in everyday settings that has been used in several studies in typically developing children. Currently there is no accepted measure of behavioural non-compliance in children with pervasive developmental disorders (PDDs). Methods: Investigators of the Research Units on Pediatric Psychopharmacology Autism Network modified the HSQ for children with PDDs by adding five items (making 25 total items), and used it as the primary outcome measure in a clinical trial. In the current investigation, we examined the factor structure and psychometric properties of the modified scale, the HSQ-PDD. Results: An exploratory factor analysis with oblique rotations yielded two factors: 'Socially Inflexible' (14 items) and 'Demand-Specific' (six items). Item content of both factors appeared to fit well with the rubric of PDDs. Internal consistency, using Cronbach's alpha statistic, was 0.90 for 'Socially Inflexible', and 0.80 for 'Demand-Specific.' The obtained sub-scales and HSQ-PDD Total score showed moderate correlations with selected sub-scales of the Aberrant Behavior Checklist, **Child and Adolescent Symptom Inventory-4**, and Children's Yale-Brown Obsessive Compulsive Scale, and low correlations with the Vineland Adaptive Behavior sub-scales. Conclusions: The HSQ-PDD appears to be well suited for children with PDDs, although the Demand-Specific sub-scale may benefit from addition of more items. We provided sub-scale means and standard deviations for this relatively severe group of children with PDDs, and discussed the factor structure with respect to previous research

- 10-6. Connor, D.F., Steeber, J., & McBurnett, K. (2010). A review of attention-deficit/hyperactivity disorder complicated by symptoms of oppositional defiant disorder or conduct disorder. *Journal of Developmental and Behavioral Pediatrics*, 31, 427-440.

Background: Attention-deficit/hyperactivity disorder (ADHD) is a highly prevalent disorder with significant functional impairment. ADHD is frequently complicated by oppositional symptoms, which are difficult to separate from comorbidity with oppositional defiant disorder, conduct disorder, and aggressive symptoms. This review addresses the impact of oppositional symptoms on ADHD, disease course, functional impairment, clinical management, and treatment response. Review of clinical evidence: Oppositional defiant disorder or conduct disorder may be comorbid in more than half of ADHD cases and are more common with the combined than with the inattentive ADHD subtype. Comorbid symptoms of oppositional defiant disorder and conduct disorder in patients with ADHD can have a significant impact on the course and prognosis for these patients and may lead to differential treatment response to both behavioral and pharmacologic treatments. Impact on clinical management: Assessment of oppositional symptoms is an essential part of ADHD screening and diagnosis and should include parental, as well as educator, input. [**Describes several ODD measures including the ODD subscale of the Child Symptom Inventory-4.**] Although clinical evidence remains limited, some stimulant and nonstimulant medications have shown effectiveness in treating both core ADHD symptoms and oppositional symptoms. Conclusions: Oppositional



symptoms are a key consideration in ADHD management, although the optimum approach to treating ADHD complicated by such symptoms remains unclear. Future research should focus on the efficacy and safety of various behavioral and medication regimens, as well as longitudinal studies to further clarify the relationships between ADHD, oppositional defiant disorder, and conduct disorder.

- 10-7. Dougherty, L.R., Klein, D.N., Durbin, C.E., Hayden, E.P., & Olino, T.M. (2010). Temperamental positive and negative emotionality and children's depressive symptoms: a longitudinal prospective study from age three to age ten. *Journal of Social and Clinical Psychology*, 29, 462-488.

This study examined associations between temperament at age 3 and maternal reports of youths' depressive symptoms at ages 7 and 10. Fifty-three preschool aged children were assessed for positive emotionality (PE) and negative emotionality (NE) using maternal reports of temperament and laboratory and naturalistic home observations. Neither PE nor NE at age 3 predicted depressive symptoms [**Child Symptom Inventory-4**] at age 7 after controlling for children's anxious/depressive symptoms at age 3. However, both observational and parent-report measures indicated that lower PE at age 3 predicted greater depressive symptoms at age 10 after controlling for NE and anxious/depressive symptoms at age 3. Moreover, mothers' reports indicated that children with both lower PE and higher NE at age 3 exhibited the greatest increase in depressive symptoms at age 10. Our findings are consistent with models asserting that low PE and/or low PE in conjunction with high NE is a temperamental risk factor for depressive symptoms.

- 10-8. Freeman, R.D., Soltanifar, A., & Baer, S. (2010). Stereotypic movement disorder: easily missed. *Developmental Medicine and Child Neurology*, 52, 733-738.

**Aim:** To expand the understanding of stereotypic movement disorder (SMD) and its differentiation from tics and autistic stereotypies. **Method:** Forty-two children (31 males, mean age 6y 3mo, SD 2y 8mo; 11 females, mean age 6y 7mo, SD 1y 9mo) consecutively diagnosed with SMD, without self-injurious behavior, intellectual disability, sensory impairment, or an autistic spectrum disorder (ASD), were assessed in a neuropsychiatry clinic. A list of probe questions on the nature of the stereotypy was administered to parents (and to children if developmentally ready). Questionnaires administered included the Stereotypy Severity Scale, Short Sensory Profile, Strengths and Difficulties Questionnaire, Repetitive Behavior Scale - Revised, and the Developmental Coordination Disorder Questionnaire. The stereotyped movement patterns were directly observed and in some cases further documented by video recordings made by parents. The probe questions were used again on follow-up at a mean age of 10 years 7 months (SD 4y 4mo). [**Child Symptom Inventory-4 was used to assess co-morbidities.**] **Results:** Mean age at onset was 17 months. Males exceeded females by 3:1. Family history of a pattern of SMD was reported in 13 and neuropsychiatric comorbidity in 30 (attention-deficit-hyperactivity disorder in 16, tics in 18, and developmental coordination disorder in 16). Obsessive-compulsive disorder occurred in only two. The Short Sensory Profile correlated with comorbidity ( $p < 0.001$ ), the Stereotypy Severity Scale ( $p = 0.009$ ), and the Repetitive Behavior Scale ( $p < 0.001$ ); the last correlated with the Stereotypy Severity Scale ( $p = 0.001$ ). Children (but not their parents) liked their movements, which were usually associated with excitement or imaginative play. Mean length of follow-up was 4 years 8 months (SD 2y 10mo). Of the 39 children followed for longer than 6 months, the behavior stopped or was gradually shaped so as to occur primarily privately in 25. Misdiagnosis was common: 26 were initially referred as tics, 10 as ASD, five as compulsions, and one as epilepsy. Co-occurring facial grimacing in 15 children and vocalization in 22 contributed to diagnostic confusion. **Interpretation:** SMD occurs in children without ASD or intellectual disability. The generally favorable clinical course is largely due to a gradual increase in private expression of the movements. Severity of the stereotypy is associated with sensory differences and psychopathology. Differentiation of SMD from tics and ASD is important to avoid misdiagnosis and unnecessary treatment.

- 10-9. Gadow, K.D., Chernoff, M., Williams, P.L., Brouwers, P., Morse, E., Heston, J., Hodge, J., Di Poalo, V., Deygoo, N.S., Nachman, S. (2010). Co-occurring psychiatric symptoms in children perinatally infected with HIV and peer comparison sample. *Journal of Developmental and Behavioral Pediatrics*, 31, 116-128.

**Objective:** To compare the rates of psychopathology in youths perinatally infected with HIV (N = 319) with a comparison sample of peers (N=256) either HIV-exposed or living in households with HIV-infected family members. **Method:** Participants were randomly recruited from 29 sites in the United States and Puerto Rico and completed an extensive battery of measures including standardized DSM-IV-referenced ratings scales [**Child and**

**Adolescent Symptom Inventory-4R; Youth (Self Report) Inventory-4R, Child Self Report Inventory-4, Adult Self Report Inventory-4].** Results: The HIV+ group was relatively healthy (73% with CD4% >25%), and 92% were actively receiving antiretroviral therapy. Youths with HIV (17%) met symptom and impairment criteria for the following disorders: attention-deficit/hyperactivity disorder (12%), oppositional defiant disorder (5%), conduct disorder (1%), generalized anxiety disorder (2%), separation anxiety disorder (1%), depressive disorder (2%), or manic episode (1%). Many youths with HIV (27%) and peers (26%) were rated (either self-or caregiver report) as having psychiatric problems that interfered with academic or social functioning. With the exception of somatization disorder, the HIV+ group did not evidence higher rates or severity of psychopathology than peers, although rates for both groups were higher than the general population. Nevertheless, self-awareness of HIV infection in younger children was associated with more severe symptomatology, and youths with HIV had higher lifetime rates of special education (44 vs 32%), psychopharmacological (23 vs 12%), or behavioral (27 vs 17%) interventions. Youth-caregiver agreement was modest, and youths reported more impairment. Conclusion: HIV infection was not associated with differentially greater levels of current psychopathology; nevertheless, investigation of relations with developmental changes and specific illness parameters and treatments are ongoing.

- 10-10. Gadow, K.D., DeVincent, C.J., Olvet, D.M., Pisarevskaya, V., & Hatchwell, E. (2010). Association of *DRD4* polymorphism with severity of oppositional defiant disorder, separation anxiety disorder, and repetitive behaviors in children with autism spectrum disorder. *European Journal of Neuroscience*, 32, 1058-1065.

The objective was to examine whether a common polymorphism in the dopamine D4 receptor gene (*DRD4*) might be a potential biomarker for behavioral variation within the autism spectrum disorder clinical phenotype. Children ( $N = 66$ ) were evaluated with a validated mother- and teacher-completed DSM-IV-referenced rating scale [**Child Symptom Inventory-4**]. Partial eta-squared ( $\eta^2$ ) was used to gauge the magnitude of group differences: 0.01–0.06 = small, 0.06–0.14 = moderate and  $> 0.14$  = large. Children who were 7-repeat allele carriers had more severe oppositional defiant disorder behaviors according to mothers' ( $\eta^2 = 0.10$ ) and teachers' ( $\eta^2 = 0.06$ ) ratings than noncarriers, but the latter was marginally significant ( $P = 0.07$ ). Children who were 7-repeat allele carriers also obtained more severe maternal ratings of tics ( $\eta^2 = 0.07$ ) and obsessions–compulsions ( $\eta^2 = 0.08$ ). Findings for maternal ratings of separation anxiety were marginally significant ( $P = 0.08$ ,  $\eta^2 = 0.05$ ). Analyses of combined *DRD4* and dopamine transporter gene (*DAT1*) genotypes approached significance ( $P = 0.05$ ) for teachers' ratings of oppositional behavior and mothers' ratings of tics. *DRD4* allelic variation may be a prognostic biomarker for challenging behaviors in children with autism spectrum disorder, but these exploratory findings remain tentative pending replication with larger independent samples.

- 10-11. Gadow, K.D., DeVincent, C.J., Pisarevskaya, V., Olvet, D.M., Xu, W., Mendell, N., Finch, S.J., & Hatchwell, E. (2010). Parent-child *DRD4* genotype as a potential biomarker for oppositional, anxiety, and repetitive behaviors in children with autism spectrum disorder. *Progress in Neuro-Psychopharmacology & Biological Psychiatry*, 34, 1208-1214.

The primary objective of the present study was to examine whether a combination of parent-child *DRD4* genotypes results in more informative prognostic biomarkers of oppositional, separation anxiety, and repetitive behaviors in children with autism spectrum disorder (ASD). Based on prior research indicating the 7-repeat allele as a potential risk variant, participants were sorted into one of four combinations of parent-child genotypes. Owing to the possibility of parent-of-origin effects, analyses were conducted separately for mother-child (MC) and father-child (FC) dyads. Mothers completed a validated DSM-IV-referenced rating scale [**Child Symptom Inventory-4**]. Partial eta-squared ( $\eta^2$ ) was used to determine the magnitude of group differences: 0.01–0.06=small, 0.06–0.14=moderate, and  $>0.14$ =large. Analyses indicated that children in MC dyads with matched genotypes had the least (7-/7-) and most (7+/7+) severe mother-rated oppositional-defiant ( $\eta^2=0.11$ ) and separation anxiety ( $\eta^2=0.19$ ) symptoms. Conversely, youths in FC dyads with matched genotypes had the least (7-/7-) and most (7+/7+) severe obsessive-compulsive behaviors ( $\eta^2=0.19$ ) and tics ( $\eta^2=0.18$ ). Youths whose parents were both noncarriers had less severe tics than peers with at least one parental carrier, and the effect size was large ( $\eta^2=0.16$ ). There was little evidence that noncarrier children were rated more severely by mothers who were carriers versus noncarriers. Transmission Disequilibrium Test analyses provided preliminary evidence for undertransmission of the 2-repeat allele in youths with more severe tics ( $p=0.02$ ). Parent genotype may be helpful in constructing prognostic biomarkers for behavioral disturbances in ASD; however, findings are tentative pending replication with larger, independent samples.

- 10-12. Gadow, K.D., & Nolan, E.E. (2010). Methylphenidate and co-morbid anxiety disorder in children with both chronic multiple tic disorder and ADHD. *Journal of Attention Disorders*, doi: 10.1177/1087054709356405

Objective: To determine if comorbid anxiety disorder is associated with differential response to immediate release methylphenidate (MPH-IR) in children with both ADHD and chronic multiple tic disorder (CMTD). Method: Children with (n = 17) and without (n = 37) diagnosed anxiety disorder (ANX) were evaluated in an 8-week, placebo-controlled trial with rating scales and laboratory measures [including **Child Symptom Inventory**]. Results: The +ANX group obtained more severe parent, teacher, and child ratings of anxiety and more severe parent ratings of depression, tics, oppositional defiant disorder (ODD), and peer aggression than the -ANX group. Treatment with short-term MPH-IR was associated with improvement in ADHD, ODD, and peer aggression in the +ANX group. When controlling for ODD severity, there were no apparent group differences in therapeutic response to MPH-IR in children +/-ANX. There was little evidence that MPH-IR contributed to improvement in anxiety or depression symptoms in the +ANX group. There was some indication that children with comorbid anxiety may differentially experience greater increase in systolic blood pressure (0.5 mg/kg of MPH-IR > placebo). Conclusion: Findings suggest that the co-occurrence of diagnosed CMTD+ADHD+ANX represents a particularly troublesome clinical phenotype, at least in the home setting. Comorbid anxiety disorder was not associated with a less favorable response to MPH-IR in children with ADHD+CMTD, but replication with larger samples is warranted before firm conclusions can be drawn about potential group differences.

- 10-13. Gadow, K.D., Roohi, J., DeVincent, C.J., Kirsch, S., & Hatchwell, E. (2010). Brief Report: Glutamate transporter gene (SLC1A1) single nucleotide polymorphism (rs301430) and repetitive behaviors and anxiety in children with autism spectrum disorder. *Journal of Autism and Developmental Disorders*, 40, 1139-1145.

Investigated association of single nucleotide polymorphism (SNP) rs301430 in glutamate transporter gene (SLC1A1) with severity of repetitive behaviors (obsessive-compulsive behaviors, tics) and anxiety in children with autism spectrum disorder (ASD). Mothers and/or teachers completed a validated DSM-IV-referenced rating scale [**Child Symptom Inventory-4**] for 67 children with autism spectrum disorder. Although analyses were not significant for repetitive behaviors, youths homozygous for the high expressing C allele had more severe anxiety than carriers of the T allele. Allelic variation in SLC1A1 may be a biomarker for or modifier of anxiety symptom severity in children with ASD, but study findings are best conceptualized as tentative pending replication with larger independent samples.

- 10-14. Guttmann-Steinmetz, S., Gadow, K.D., DeVincent, C.J., & Crowell, J. (2010). Anxiety symptoms in boys with autism spectrum disorder, attention-deficit hyperactivity disorder, or chronic multiple tic disorder and community controls. *Journal of Autism and Developmental Disorders*, 40, 1006-1016.

We compared symptoms of generalized anxiety disorder (GAD) and separation anxiety disorder (SAD) in 5 groups of boys with neurobehavioral syndromes: attention-deficit/hyperactivity disorder (ADHD) plus autism spectrum disorder (ASD), ADHD plus chronic multiple tic disorder (CMTD), ASD only, ADHD only, and community Controls. Anxiety symptoms were assessed using parent and teacher versions of a DSM-IV-referenced rating scale [**Child Symptom Inventory-4**]. All three groups of boys with co-morbid ADHD evidenced more severe anxiety than Controls. Group differences in anxiety varied as a function of symptom, disorder, informant, and co-morbidity supporting the notion that co-morbid neurobehavioral syndromes differentially impact clinical features of co-occurring anxiety symptoms. Findings also suggest that GAD and SAD are phenomenologically unique, even in children with ASD. Implications for nosology are discussed.

- 10-15. Hayashida, K., Anderson, B., Paparella, T., Freeman, S.F.N., & Forness, S.R. (2010). Comorbid psychiatric diagnoses in preschoolers with autism spectrum disorders. *Behavioral Disorders*, 35, 243-254.

Although comorbid or co-occurring psychiatric diagnoses such as attention deficit hyperactivity disorder, anxiety disorders, depression, and oppositional defiant or conduct disorders have been well studied in children or adolescents with autism spectrum disorders (ASDs), very little research is available on preschool samples. The current study involves 175 preschoolers with ASDs attending a day-treatment preschool for interdisciplinary services in a clinical psychiatric hospital. Two different diagnostic instruments [one of which was the **Early Childhood Inventory-4**] were used not only to determine clinical cutoffs for the previously mentioned disorders but also to confirm ASDs diagnoses. Although most comorbid diagnoses were found at rates comparable to those

found in previous studies, depression or dysthymia tended to be prevalent at much higher levels than expected. Practical implications of these findings are discussed.

- 10-16. Hummer, T.A., Wang, Y., Kronenberger, W.G., Mosier, K.M., Kalnin, A.J., Dunn, D.W., & Mathews, V.P. (2010). Short-term violent video game play by adolescents alters prefrontal activity during cognitive inhibition. *Media Psychology*, 13, 136-154.

Prior research has indicated an association between exposure to violent media and aggressive thoughts, feelings, and behavior, potentially as a result of effects on inhibitory mechanisms. However, the role of violence in video games in modulating subsequent neural activity related to cognitive inhibition has received little attention. To examine short-term effects of playing a violent video game, 45 adolescents were randomly assigned to play either a violent or a nonviolent video game for 30 minutes immediately prior to functional magnetic resonance imaging (fMRI). **[The Adolescent Symptom Inventory-4 was used to screen out psychopathology.]** During the fMRI procedure, participants performed a go/no-go task that required them to press a button for each target stimulus and withhold the response for non-target stimuli. Participants who played the violent game demonstrated a lower BOLD response in right dorsolateral prefrontal cortex (DLPFC) when responses were appropriately inhibited. The DLPFC is involved with executive functioning, including suppression of unwanted thoughts and behaviors. In addition, responses in the DLPFC demonstrated stronger inverse connectivity with precuneus in the nonviolent game players. These results provide evidence that playing a violent video game can modulate prefrontal activity during cognitive inhibition.

- 10-17. Jones, A.P., Happe, F.G.E., Gilbert, F., Burnett, S., & Viding, E. (2010). Feeling, caring, knowing: different types of empathy deficit in boys with psychopathic tendencies and autism spectrum disorder. *Journal of Child Psychology and Psychiatry*, 51, 1188-1197.

Background: Empathy dysfunction is one of the hallmarks of psychopathy, but it is also sometimes thought to characterise autism spectrum disorders (ASD). Individuals with either condition can appear uncaring towards others. This study set out to compare and contrast directly boys with psychopathic tendencies and boys with ASD on tasks assessing aspects of affective empathy and cognitive perspective taking. The main aim of the study was to assess whether a distinct profile of empathy deficits would emerge for boys with psychopathic tendencies and ASD, and whether empathy deficits would be associated with conduct problems in general, rather than psychopathic tendencies or ASD specifically. Methods: Four groups of boys aged between 9 and 16 years (N = 96) were compared: 1) psychopathic tendencies, 2) ASD, 3) conduct problems **[assessed with the Child Symptom Inventory-4 and Adolescent Symptom Inventory-4]** and 4) comparison. Tasks were included to probe attribution of emotions to self, empathy for victims of aggression and cognitive perspective-taking ability. Results: Boys with psychopathic tendencies had a profile consistent with dysfunctional affective empathy. They reported experiencing less fear and less empathy for victims of aggression than comparison boys. Their cognitive perspective-taking abilities were not statistically significantly different from those of comparison boys. In contrast, boys with ASD had difficulties with tasks requiring cognitive perspective taking, but reported emotional experiences and victim empathy that were in line with comparison boys. Boys with conduct problems did not differ from comparison boys, suggesting that the affective empathy deficit seen in boys with psychopathic tendencies was specific to that group, rather than common to all boys with conduct problems. Conclusions: Although both groups can appear uncaring, our findings suggest that the affective/information processing correlates of psychopathic tendencies and ASD are quite different. Psychopathic tendencies are associated with difficulties in resonating with other people's distress, whereas ASD is characterised by difficulties in knowing what other people think.

- 10-18. Klein, J.B., Lavigne, J.V., & Seshadri, R. (2010). Clinician-assigned and parent-report questionnaire-derived child psychiatric diagnoses: Correlates and consequences of disagreement. *American Journal of Orthopsychiatry*, 80, 375-385.

The objectives of this study were to determine (a) if child characteristics relate to disagreement between clinician-assigned diagnoses and diagnoses derived from parent-report questionnaire, which were available to clinicians, and (b) if disagreement predicts subsequent number of clinic visits attended. This study evaluated the odds of agreement versus disagreement for internalizing and externalizing problems as a function of child age, gender, race, public-aid status, symptom severity, and impairment among 900 children (3-19 years) in a large, urban, child psychiatry clinic. A mixed-effects regression approach was used to evaluate the relationship between

disagreement and visit attendance. Internalizing problem disagreement was more likely for children who were males, older, less symptomatic, and receiving Medicaid. Externalizing problem disagreement was more likely for children who were female, older, less impaired, and less symptomatic. Internalizing disagreement predicted significantly fewer visits; externalizing disagreement did not. Clinician-parent disagreement about the nature of child problems may have clinical consequences, especially for internalizing disorders. Attention to child characteristics that predict agreement may diminish discrepancies and reduce attrition from treatment.

- 10-19. Kochanska, G., Koenig, J.L., Barry, R.A., Kim, S., & Yoon, J.E. (2010). Children's conscience during toddler and preschool years, moral self, and a competent, adaptive developmental trajectory. *Developmental Psychology*, 46, 1320-1332.

We investigated whether children's robust conscience, formed during early family socialization, promotes their future adaptive and competent functioning in expanded ecologies. We assessed two dimensions of conscience in young children (N=100) at 25, 38, and 52 months in scripted laboratory contexts: internalization of their mothers' and fathers' rules, observed when the child was alone, and empathic concern toward each parent, observed in simulated distress paradigms. We also assessed the child's self-perception on moral dimensions (the moral self), using a puppet interview at 67 months. At 80 months, parents and teachers produced an overall measure of competent, adaptive functioning by rating children on multiple scales of competent, prosocial, rule-abiding behavior and antisocial behavior. **[Child Symptom Inventory-4 was used to assess symptoms of conduct disorder and oppositional defiant disorder.]** As expected, children with histories of a stronger internalization of both parents' rules were more competent and better socialized; for maternal rules, that link was mediated by the child's moral self. The link between the child's history of empathy toward the mother and future socialization was also significant, but it was not mediated by the moral self. This study elucidates the roles of classic components of morality-moral conduct, affect, and self-as antecedents of an adaptive developmental trajectory from toddler to early school age.

- 10-20. Kochanska, G., Woodard, J., Kim, S., Koenig, J.L., Yoon, J.E., & Barry, R.A. (2010). Positive socialization mechanisms in secure and insecure parent-child dyads: two longitudinal studies. *Journal of Child Psychology and Psychiatry*, 51, 998-1009.

Background: Implications of early attachment have been extensively studied, but little is known about its long-term indirect sequelae, where early security organization moderates future parent-child relationships, serving as a catalyst for adaptive and maladaptive processes. Two longitudinal multi-trait multi-method studies examined whether early security amplified beneficial effects of children's willing, receptive stance toward the parent on socialization outcomes. Methods: We examined parent-child early attachment organization, assessed in the Strange Situation at 14-15 months, as moderating links between children's willing stance toward parents and socialization outcomes in Study 1 (108 mothers and children, followed to 73 months) and Study 2 (101 mothers, fathers, and children, followed to 80 months). Children's willing stance was observed as committed compliance at 14 and 22 months in Study 1, and as responsiveness to the parent in naturalistic interactions and teaching contexts at 25 and 67 months in Study 2. Socialization outcomes included children's internalization of maternal prohibition, observed at 33, 45, and 56 months, and maternal ratings of children's externalizing problems at 73 months in Study 1, and mothers' and fathers' ratings of children's oppositional defiant disorder and conduct disorder symptoms at 80 months in Study 2. **[Child Symptom Inventory-4 was used to assess conduct disorder and oppositional defiant disorder symptoms.]** Results: Indirect effects of attachment were replicated across both studies and diverse measures: Attachment security significantly amplified the links between children's willing stance to mothers and all outcomes. Secure children's willing, cooperative stance to mothers predicted future successful socialization outcomes. Insecure children's willing stance conferred no beneficial effects. Conclusions: Implications of early attachment extend to long-term, indirect developmental sequelae. Security in the first year serves as a catalyst for future positive socialization processes.

- 10-21. Koenig, K., White, S.W., Pachler, M., Lau, M., Lewis, M., Klin, A., & Scahill, L. (2010). Promoting social skill development in children with pervasive developmental disorders: A feasibility and efficacy study. *Journal of Autism and Developmental Disorders*, 40, 1209-1218.

A randomized controlled design was employed to evaluate a social skills intervention for children with pervasive developmental disorders. Aims included evaluating the acceptability of the program and gathering preliminary

evidence on efficacy. Forty-four children, ages 8-11 years, were randomly assigned to treatment or wait list. **[The Child Symptom Inventory-4 was used as a screen for psychiatric problems.]** Treatment consisted of a 16-week group intervention designed to teach appropriate social behavior. Between group comparisons showed that children in treatment were rated as improved on the primary outcome measure, (unblinded parent report), but not on the secondary outcome measure, a parent questionnaire. Parents reported a high level of satisfaction with the intervention. The study supports the feasibility of this intervention to families and highlights challenges for future research in social skills intervention.

- 10-22. Kofler, M.J., Rapport, M.D., Bolden, J., Sarver, D.E., & Raiker, J.S. (2010). ADHD and working memory: the impact of central executive deficits and exceeding storage/rehearsal capacity on observed inattentive behavior. *Journal of Abnormal Child Psychology*, 38, 149-161.

Inattentive behavior is considered a core and pervasive feature of ADHD; however, an alternative model challenges this premise and hypothesizes a functional relationship between working memory deficits and inattentive behavior. The current study investigated whether inattentive behavior in children with ADHD is functionally related to the domain-general central executive and/or subsidiary storage/rehearsal components of working memory. **[Child Symptom Inventory-4 was one of several diagnostic instruments.]** Objective observations of children's attentive behavior by independent observers were conducted while children with ADHD ( $n = 15$ ) and typically developing children ( $n = 14$ ) completed counterbalanced tasks that differentially manipulated central executive, phonological storage/rehearsal, and visuospatial storage/rehearsal demands. Results of latent variable and effect size confidence interval analyses revealed two conditions that completely accounted for the attentive behavior deficits in children with ADHD: (a) placing demands on central executive processing, the effect of which is evident under even low cognitive loads, and (b) exceeding storage/rehearsal capacity, which has similar effects on children with ADHD and typically developing children but occurs at lower cognitive loads for children with ADHD.

- 10-23. Lai, M.C., Chiu, Y.N., Gadow, K.D., Gau, S.S., & Hwu, H.G. (2010). Correlates of gender dysphoria in Taiwanese university students. *Archives of Sexual Behavior*, 39, 1415-1428.

There have been no published reports regarding the epidemiological and psychiatric features of gender dysphoria in non-clinical young adults. The current study aimed to investigate the demographics, co-occurring psychiatric symptoms, and perceived parenting style and family support in Taiwanese young adults with gender dysphoria. The sample consisted of 5010 university freshmen (male, 51.6%) with a mean age of 19.6 years ( $SD = 2.7$ ) from a national university in Taiwan. The questionnaires used for this university-based survey included the **Adult Self Report Inventory-4** for psychopathology (including gender dysphoria), the Parental Bonding Instrument for parenting style, and the Family APGAR for perceived family support. Results showed that gender dysphoria was more prevalent in females (7.3%) than males (1.9%). Young adults with gender dysphoria were more likely to meet a wide but specific range of co-occurring psychiatric symptoms. The most significantly associated symptoms for males were agoraphobia, hypochondriasis, manic episode, and pathological gambling, and for females dissociative disorder, hypochondriasis, and body dysmorphic disorder. Both males and females with gender dysphoria perceived significantly less support from their families and less affection/care from both parents. Findings suggest that gender dysphoria, associated with a specific range of psychopathology and family/parenting dissatisfaction (with both similar and dissimilar patterns between sexes), is not uncommon in Taiwanese university students, particularly in females. This implies the importance of attention and specific measures to offset psychiatric conditions and to promote mental well-being of this population.

- 10-24. Leathers, S.J., Falconnier, L., & Spielfogel, J. E. (2010). Predicting family reunification, adoption, and subsidized guardianship among adolescents in foster care. *American Journal of Orthopsychiatry*, 80, 422-431.

Although national legislation has attempted to decrease the length of time that children spend in foster care, these policies have been less effective with adolescents than with children, raising questions about how best to promote permanency for adolescents. This study examined factors that predict adolescent adoption, subsidized guardianship, and reunification. The caseworkers and foster parents of 203 randomly selected 12- to 13-year-olds placed in traditional or specialized foster care were interviewed. Permanency outcomes were prospectively tracked for 8 years. By the end of the study, over 40% of the adolescents were placed in permanent homes. As hypothesized, a strong relationship with a biological mother predicted successful reunification, and a high degree

of integration into a foster home predicted adoption. Additionally, when compared with adoption, subsidized guardianship with foster parents occurred more frequently for youth with strong relationships with their biological mothers and weaker relationships with their foster families. Unexpectedly, behavior problems were not related to any permanency outcomes. Results suggest that promotion of strong relationships with adults is the key in efforts to find permanent families for foster children. Furthermore, efforts to attain permanency should not cease during adolescence.

- 10-25. Loeber, R., Stepp, S.D., Chung, T., Hipwell, A.E., & White, H.R. (2010). Time-varying associations between conduct problems and alcohol use in adolescent girls: The moderating role of race. *Journal of Studies on Alcohol and Drugs*, 71, 544-553.

Objective: The aims of this study were to examine the time-varying developmental associations between conduct problems and early alcohol use in girls between ages 11 and 15 and to test the moderating role of race. Method: The study is based on annual, longitudinal data from oldest cohort in the Pittsburgh Girls Study (n = 566; 56% African American, 44% White). Two models of the association between conduct problems [**assessed with the Child Symptom Inventory-4 and the Adolescent Symptom Inventory-4**] and alcohol use were tested using latent growth curve analyses: conduct-problem-effect (conduct problems predict time-specific variation in alcohol use trajectory) and alcohol-effect (alcohol use predicts time-specific variation in conduct problem trajectory) models. Results: Girls' conduct problems and alcohol use increased over ages 11-15. Results provided support for a conduct-problem-effect model, although the timing of the associations between conduct problems and alcohol use differed by ethnicity. Among White girls, conduct problems prospectively predicted alcohol use at ages 11-13 but not later, whereas among African American girls, prospective prediction was observed at ages 13-14 but not earlier. Conclusions: Study findings indicate developmental differences in the time-varying association of conduct problems and alcohol use during early adolescence for African American and White girls. Ethnic differences in the development of alcohol use warrant further study, and have potential implications for culture-specific early screening and preventive interventions.

- 10-26. Lopez-Villalobos, A., Serrano-Pintado, J., Andres-De Llano, J.M., Sanchez-Mateos, J.D., Alberola-Lopez, S., & Sanchez-Azon, M.I. (2010). Usefulness of the Stroop test in attention deficit hyperactivity disorder. *Revista de Neurologia*, 50, 333-340.

Aims. The aim of this study is to analyse the differences in the Stroop effect between cases with attention deficit hyperactivity disorder (ADHD) and controls. It also seeks to find the best model based on the third task of the colours and words test (Stroop-CW) for predicting ADHD and to analyse the validity of the Stroop-CW test for diagnosing the disorder. Subjects and methods. The sample studied consisted of 100 cases of ADHD according to Diagnostic and Statistical Manual of Mental Disorders (DSM-IV) criteria [**Child Symptom Inventory-4**] and 100 controls, between 7 and 11 years of age, who were evaluated using the Stroop test. The controls were recruited at random and paired by age, sex and sociodemographic area with the cases. Results. The cases present a mean cognitive style that is significantly less flexible (d = -1.06) and they also display a lower capacity to inhibit or control automatic responses than the controls at all ages (7 years: d = 1.67; 8 years: d = 1.02; 9 years: d = 1.32; 10 years: d = 2.04; 11 years: d = 0.89). The model of logistic regression analysis that best predicts ADHD is made up of age and Stroop-CW. The formulation derived from the model offers a sensitivity of 81% and a specificity of 72%, taking the criteria of the DSM-IV for ADHD as the reference test. Conclusions. The Stroop-CW test presents usefulness and complementary criteria validity for the diagnosis of ADHD.

- 10-27. Lopez-Villalobos, J.A., Serrano-Pintado, I., Delgado-Sanchez-Mateos, J., de Llano, J.M.A., Alberola-Lopez, S., Sacristan-Martin, Perez-Garcia, I., & Camina-Gutierrez, A.B. (2010). Use of Matching Familiar Figures Test 20 in the diagnosis of children with attention deficit hyperactivity disorder. *International Journal of Clinical and Health Psychology*, 10, 499-517.

The descriptive study focused on the differences among patients with Attention Deficit Hyperactivity Disorder (ADHD) and controls, in relation to cognitive impulsivity and to find the best model based in Matching Familiar Figures Test 20 (MFFT-20) which permits to predict and to diagnose ADHD, analyzing the validity of the test for the diagnostic of the disease. Ex post facto study. We study 100 ADHD cases (DSM-IV criteria) and 100 controls, ranging between 7 and 11 years of age, analyzed with MFFT-20. Controls were randomly recruited and matched by age, gender and sociodemography area with cases. Cases show an average cognitive style significantly more

impulsive (effect size  $d = 1.29$ ) with a smaller sum of latencies (effect size  $d = .71$ ) and a bigger sum of errors (effect size  $d = 2.20$ ). The logistic regression model that best predicts ADHD is constituted by age and errors score of MFFT-20. The derived formula from the model shows a 80% of sensitivity and a 80% of specificity for ADHD, regarding as gold standard the DSM-IV criteria. MFFT-20 test shows indicators of appropriate validity for diagnosis in ADHD, contributing to increase the objectivity in his analysis.

- 10-28. Marmorstein, N.R., White, H., Chung, T., Hipwell, A., Stouthamer-Loeber, M. & Loeber, R. (2010). Associations between first use of substances and change in internalizing symptoms among girls: differences by symptom trajectory and substance use. *Journal of Clinical Child and Adolescent Psychology*, 39, 545-558.

Abstract: This study examined how girls' initial use of alcohol, cigarettes, and marijuana related to changes in depressive [assessed with the **Child Symptom Inventory-4**], generalized anxiety, and social anxiety symptoms, and whether these changes varied based on which internalizing symptom trajectories the girls were on. Data came from the Pittsburgh Girls Study, a community-based study of girls assessed at ages 5 to 8 and followed for 6 years. Growth mixture modeling was used to identify trajectory groups. The results indicated that for girls on a high depressive symptom trajectory, initial use of marijuana was related to further increases in depressive symptoms. Initial uses of alcohol and cigarettes were associated with overall increases in depressive symptoms, and the initial use of cigarettes was associated with an overall increase in generalized anxiety symptoms. Initial use of all substances was related to change in social anxiety, but the direction of change varied by trajectory group and substance. Links between initial use and internalizing symptoms depended on the type of substance, type of internalizing symptom, and trajectory group.

- 10-29. Mikami, A.Y., Jack, A., Emeh, C.C., & Stephens, H.F. (2010). Parental influence on children with attention-deficit/hyperactivity disorder: I. Relationships between parent behaviors and child peer status. *Journal of Abnormal Child Psychology*, 38, 721-736.

We examined associations between children's peer relationships and (a) their parents' social competence as well as (b) their parents' behaviors during the children's peer interactions. Participants were families of 124 children ages 6-10 (68% male), 62 with ADHD and 62 age- and sex-matched comparison youth. [**Child Symptom Inventory-4 was used to help identify children with ADHD.**] Children's peer relationships were assessed via parent and teacher report, and sociometric nominations in a lab-based playgroup. Parental characteristics were assessed via parent self-report and observations of behavior during their child's playgroup. After statistical control of relevant covariates, parents of children with ADHD reported poorer social skills of their own, arranged fewer playdates for their children, and displayed more criticism during their child's peer interaction than did parents of comparison youth. Parents' socialization with other parents and facilitation of the child's peer interactions predicted their children having good peer relationships as reported by teachers and peers, whereas parental corrective feedback to the child and praise predicted poor peer relationships. Parents' ratings of their child's social skills were positively associated with ratings of their own social skills, but negatively associated with criticism and facilitation of the child's peer interactions. Relationships between parental behaviors and peer relationships were stronger for youth with ADHD than for comparison youth. The relevance of findings to interventions is discussed.

- 10-30. Mikami, A.Y., Lerner, M.D., Griggs, M.S., McGrath, A., & Calhoun, C.D. (2010). Parental influence on children with attention-deficit/hyperactivity disorder: II. Results of a pilot intervention training parents as friendship coaches for children. *Journal of Abnormal Child Psychology*, 38, 737-749.

We report findings from a pilot intervention that trained parents to be "friendship coaches" for their children with Attention-Deficit/Hyperactivity Disorder (ADHD). Parents of 62 children with ADHD (ages 6-10; 68% male) were randomly assigned to receive the parental friendship coaching (PFC) intervention, or to be in a no-treatment control group. [**Child Symptom Inventory-4 was used to help identify children with ADHD.**] Families of 62 children without ADHD were included as normative comparisons. PFC was administered in eight, 90-minute sessions to parents; there was no child treatment component. Parents were taught to arrange a social context in which their children were optimally likely to develop good peer relationships. Receipt of PFC predicted improvements in children's social skills and friendship quality on playdates as reported by parents, and peer acceptance and rejection as reported by teachers unaware of treatment status. PFC also predicted increases in observed parental facilitation and corrective feedback, and reductions in criticism during the child's peer interaction, which mediated the improvements in children's peer relationships. However, no effects for PFC were



found on the number of playdates hosted or on teacher report of child social skills. Findings lend initial support to a treatment model that targets parental behaviors to address children's peer problems.

- 10-31. Molfese, V.J., Molfese, P.J., Molfese, D.L., Rudasill, K.M., Armstrong, N., & Starkey, G. (2010). Executive function skills of 6-8 year olds: Brain and behavioral evidence and implications for school achievement. *Contemporary Educational Psychology*, 35, 116-125.

Academic and social success in school has been linked to children's self-regulation. This study investigated the assessment of the executive function (EF) component of self-regulation using a low-cost, easily administered measure to determine whether scores obtained from the behavioral task would agree with those obtained using a laboratory-based neuropsychological measure of EF skills. The sample included 74 children (37 females; M = 86.2 months) who participated in two assessments of working memory and inhibitory control: Knock-Tap (NEPSY: Korkman, Kirk, & Kemp, 1998), and participated in event-related potential (ERP) testing that included the directional stroop test (DST, Davidson, Cruess, Diamond, O'Craven, and Savoy (1999)). **[The Child Symptom Inventory-4 was used to screen out psychopathology.]** Three main findings emerged. First, children grouped as high vs. low performing on the NEPSY Knock-Tap Task were found to perform differently on the more difficult conditions of the DST (the Incongruent and Mixed Conditions), suggesting that the Knock-Tap Task as a low-cost and easy to administer assessment of EF skills may be one way for teachers to identify students with poor inhibitory control skills. Second, children's performance on the DST was strongly related to their ERP responses, adding to evidence that differences in behavioral performance on the DST as a measure of EF skills reflect corresponding differences in brain processing. Finally, differences in brain processing on the DST task also were found when the children were grouped based on Knock-Tap performance. Simple screening procedures can enable teachers to identify children whose distractibility, inattentiveness, or poor attention spans may interfere with classroom learning.

- 10-32. New, J.J., Schultz, R.T., Wolf, J., Niehaus, J.L., Klin, A., German, T.C., & Scholl, B.J. (2010). The scope of social attention deficits in autism: Prioritized orienting to people and animals in static natural scenes. *Neuropsychologia*, 48, 51-59.

A central feature of autism spectrum disorder (ASD) is an impairment in 'social attention'-the prioritized processing of socially relevant information, e.g. the eyes and face. Socially relevant stimuli are also preferentially attended in a broader categorical sense, however: observers orient preferentially to people and animals (compared to inanimate objects) in complex natural scenes. To measure the scope of social attention deficits in autism, observers viewed alternating versions of a natural scene on each trial, and had to 'spot the difference' between them-where the difference involved either an animate or inanimate object. Change detection performance was measured as an index of attentional prioritization. Individuals with ASD showed the same prioritized social attention for animate categories as did control **[screened with the Child Symptom Inventory-4]** participants. This could not be explained by lower level visual factors, since the effects disappeared when using blurred or inverted images. These results suggest that social attention - and its impairment in autism - may not be a unitary phenomenon: impairments in visual processing of specific social cues may occur despite intact categorical prioritization of social agents.

- 10-33. Obradovic, J., & Hipwell, A. (2010). Psychopathology and social competence during the transition to adolescence: The role of family adversity and pubertal development. *Development and Psychopathology*, 22, 621-634

This study examined developmental processes linking competence and psychopathology in an urban sample of girls during their transition to adolescence. Longitudinal associations among indices of externalizing symptom, social competence, and internalizing symptoms were also tested within contexts of family adversity and girls' pubertal status. Child, parent, and teacher report were employed to assess core constructs across six annual assessment waves, starting at age 9. Results revealed the significant effect of prior levels of externalizing symptoms **[conduct disorder and oppositional defiant disorder assessed with the Child Symptom Inventory-4]** on changes in social competence and internalizing symptoms, as well as reciprocal relations between social competence and internalizing symptoms. In addition, girl's maladaptive functioning predicted increases in family adversity exposure over time. Last, more mature pubertal status in early assessment waves was linked to an increase in internalizing symptoms; however, this association was reversed by the last

assessment, when most girls had reached advance stages of puberty. The timing of these effects reveals important targets for future interventions aimed at promoting the successful adaptation of girls in adolescence.

- 10-34. Ondrejka, I., Abali, O., Paclt, I., Gacser, M., Iftene, F., Walton, R., Harrison, G., Treuer, T., & Martenyi, F. (2010). A prospective observational study of attention-deficit/hyperactivity disorder in Central and Eastern Europe and Turkey: Symptom severity and treatment options in a paediatric population. *International Journal of Psychiatry in Clinical Practice*, 14, 116-126.

Objective. This study investigates the relationship between treatment regimen, symptom severity, comorbidities and health outcomes of paediatric patients with attention-deficit/hyperactivity disorder (ADHD) in Central and Eastern Europe (CEE). Methods. Males and females aged 6-17 years with ADHD symptoms participated in this 12-month, prospective, observational, non-randomised study. Symptoms and comorbidities were assessed using the **Child and Adolescent Symptom Inventory-4** Parent Checklists (CSI-4; ASI-4, categories L/O), and the Clinical Global Impressions-ADHD-Severity scale (CGI-ADHD-S). Baseline data are presented. Results. The study included 566 patients from Czech Republic, Hungary, Romania, Slovakia and Turkey. Psychiatrists made all diagnoses using The American Psychiatric Association Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition, Text Revision (DSM-IV), World Health Organization International Statistical Classification of Diseases and Related Health Problems, 10th Revision (ICD-10), and "other" criteria (73, 27 and 0.4%, respectively). Patients were grouped into two cohorts based on whether they were prescribed psycho- and/or pharmacotherapy (n=443) or not (n=123). Patients receiving prescribed treatment were older and demonstrated higher symptom severity scores than those receiving no or "other" treatment. Most patients were prescribed conventional treatment for ADHD at baseline. Conclusions. Continued assessment of this population may aid the treatment and outcomes of ADHD in CEE. [Czech, Hungarian, Romanian, Slovakian, Korean, Chinese, Mandarin, Turkish]

- 10-35. Pears, K.C., Bruce, J., Fisher, P. A., Kim, H.K. (2010). Indiscriminate friendliness in maltreated foster children. *Child Maltreatment*, 15, 64-75.

Indiscriminate friendliness is well documented in children adopted internationally following institutional rearing but is less studied in maltreated foster children. Precursors and correlates of indiscriminate friendliness were examined in 93 preschool-aged maltreated children residing in foster care and 60 age-matched, nonmaltreated children living with their biological parents. Measures included parent reports, official case record data, and standardized laboratory assessments. Foster children exhibited higher levels of indiscriminate friendliness than nonmaltreated children. Inhibitory control [assessed in part with the **Early Childhood Inventory-4**] was negatively associated with indiscriminate friendliness even after controlling for age and general cognitive ability. Additionally, the foster children who had experienced a greater number of foster caregivers had poorer inhibitory control, which was in turn associated with greater indiscriminate friendliness. The results indicate a greater prevalence of indiscriminate friendliness among foster children and suggest that indiscriminate friendliness is part of a larger pattern of dysregulation associated with inconsistency in caregiving.

- 10-36. Rincon, R.A., Ballabriga, M.C.J., Martin, A.B., Poch, F.V., Corcoll-Champredonde, A., Rodriguez, G.G., Burgos, R.M.Z., Perez, N.C.D., & Carbones, J. (2010). Evaluation of oppositional defiant symptoms in six to eight year-old children: Agreement between parents and teachers *Psicothema*, 22, 455-459.

Evaluation of oppositional defiant symptoms in 6- to 8 year-old Children: Agreement between parents and teachers. The main goal of this study is to determine the degree of agreement between the reports provided by parents and teachers about oppositional defiant symptoms in school children between the ages of 6 and 8 years. In addition, it attempts to determine whether children's age and sex affect the level of agreement between informants. Parents and teachers assessed 702 girls and boys at 25 schools in the Region of Osona, Barcelona (Spain) with the **Child Symptom Inventory-4** (parents. and teachers' version). The results indicate a very low agreement practically null between the valuations of both informants: furthermore, no significant difference (Inc to the variables age and sex of the children was observed in the above-mentioned valuations. The parents tended to appraise most of the symptoms of the Oppositional Defiant Disorder as present and to evaluate their severity as being more intense.

- 10-37. Ruggero, C.J., Carlson, G.A., Kotov, R., & Bromet, E.J. (2010). Ten-year diagnostic consistency of bipolar disorder in a first-admission sample. *Bipolar Disorders*, 12, 21-31.

**Objectives:** A number of reports have examined the stability of the diagnosis of schizophrenia, but fewer studies have considered the long-term consistency of a bipolar diagnosis or factors that influence the likelihood of a diagnostic change. The present study sought to estimate how consistently a bipolar diagnosis was made across a 10-year period and factors associated with consistency, particularly demographic and clinical characteristics, childhood-related factors, and illness course. **Methods:** The sample included 195 first-admission patients presenting with psychosis who were assessed soon after hospitalization and at 6-month, 2-year, and 10-year follow-up and diagnosed with bipolar disorder on at least one of these assessments. Diagnoses were made using best-estimate procedures and were blind to all previous consensus diagnoses. Respondents who were consistently diagnosed with bipolar disorder were compared to those whose diagnosis shifted across assessments. **Results:** Overall, 50.3% ( $n = 98$ ) of the 195 respondents were diagnosed with bipolar disorder at every available assessment, but 49.7% ( $n = 97$ ) had a diagnostic shift to a non-bipolar disorder at least once over the course of the 10-year study. Childhood psychopathology **[assessed in part with the *Child Symptom Inventory-4*]** and poorer illness course were among the few variables associated with increased odds of a change in diagnosis. **Conclusions:** Even with optimal assessment practices, misdiagnosis of bipolar disorder is common, with complex clinical presentations often making it difficult to consistently diagnose the disorder over the long term.

- 10-38. Schlund, M.W., Siegle, G.J., Ladouceur, C.D., Silk, J.S., Cataldo, M.F., Forbes, E.E., Dahl, R.E., & Ryan, N.D. (2010). Nothing to fear? Neural systems supporting avoidance behavior in healthy youths. *Neuroimage*, 52, 710-719.

Active avoidance involving controlling and modifying threatening situations characterizes many forms of clinical pathology, particularly childhood anxiety. Presently our understanding of the neural systems supporting human avoidance is largely based on nonhuman research. Establishing the generality of nonhuman findings to healthy children is a needed first step towards advancing developmental affective neuroscience research on avoidance in childhood anxiety. Accordingly, this investigation examined brain activation patterns to threatening cues that prompted avoidance in healthy youths. **[The *Child Symptom Inventory-4* was used to screen out psychopathology.]** During functional magnetic resonance imaging, fifteen youths (ages 9-13) completed a task that alternately required approach or avoidance behaviors. On each trial either a threatening 'Snake' cue or a 'Reward' cue advanced towards a bank containing earned points. Directional buttons enabled subjects to move cues away from (Avoidance) or towards the bank (Approach). Avoidance cues elicited activation in regions hypothesized to support avoidance in nonhumans (amygdala, insula, striatum and thalamus). Results also highlighted that avoidance response rates were positively correlated with amygdala activation and negatively correlated with insula and anterior cingulate activation. Moreover, increased amygdala activity was associated with decreased insula and anterior cingulate activity. Our results suggest that nonhuman neurophysiological research findings on avoidance may generalize to neural systems associated with avoidance in childhood. Perhaps most importantly, the amygdala/insula activation observed suggests that threat-related responses can be maintained even when aversive events are consistently avoided, which may account for the persistence of avoidance-coping in childhood anxiety. The present approach may offer developmental affective neuroscience a conceptual and methodological framework for investigating avoidance in childhood anxiety.

- 10-39. Serchuck, L.K., Williams, P.L., Nachman, S., Gadow, K.D., Chernoff, M., & Schwartz, L. (2010). Prevalence of pain and association with psychiatric symptom severity in perinatally HIV-infected children as compared to controls living in HIV-affected households. *AIDS Care*, 22, 640-648.

This cross-sectional study evaluated the prevalence of pain and psychiatric symptoms in perinatally HIV-infected children at entry into P1055, a multicenter investigation of the prevalence and severity of psychiatric symptoms in HIV-infected children. Subjects 6-17 years of age and their primary caregivers were recruited from 29 International Maternal Pediatric Adolescent AIDS Clinical Trials sites in the USA and Puerto Rico. A total of 576 children (320 HIV+ and 256 HIV- children) were enrolled from June 2005 to September 2006. Subject self-reports of pain were measured by the Wong-Baker visual analog scale and Short-Form McGill Pain Questionnaire. Symptomatology for anxiety, depression, and dysthymia was assessed through Symptom Inventory instruments **[assessed with the *Child and Adolescent Symptom Inventory-4R*]**. Caregiver's assessment of their child's pain and psychiatric symptomatology was similarly measured. Logistic regression models were used to evaluate predictors of pain. We found that a higher proportion of HIV-infected than uninfected subjects reported pain in the last two months (41% vs 32%,  $p=0.04$ ), last two weeks (28% vs 19%,  $p=0.02$ ), and lasting more than one week (20% vs 11%,  $p=0.03$ ).

Among HIV-infected youth, females (OR=1.53,  $p=0.09$ ), White race (OR=2.15,  $p=0.04$ ), and Centers for Disease Control (CDC) class C (OR=1.83,  $p=0.04$ ) were significantly more likely to report pain. For all subjects, only 52% of caregivers recognized their child's pain and just 22% were aware that pain affected their child's daily activities. The odds of reported pain in HIV+ increased with higher symptom severity for generalized anxiety (OR=1.14,  $p=0.03$ ), major depression (OR=1.15,  $p=0.03$ ), and dysthymia (OR=1.18,  $p=0.01$ ). This study underscores the importance of queries concerning pain and emotional stressors in the care of HIV+ and uninfected children exposed to HIV+ individuals. The discordance between patient and caregiver reports of pain and its impact on activities of daily living highlights that pain in children is under-recognized and therefore potentially under-treated.

- 10-40. Sismanlar, S.G., Anik, Y., Coskun, A., Agaoglu, B., Karakaya, I., & Yavuz, C.I. (2010). The volumetric differences of the fronto-temporal region in young offspring of schizophrenic patients. *European Child & Adolescent Psychiatry*, 19, 151-157.

The aim of this study is to examine the volumetric differences of the fronto-temporal region in the offspring of schizophrenic patients in comparison to normal. Twenty-six offspring of chronic schizophrenic patients aged between 8 and 15 years and 23 control children [evaluated with the **Child Symptom Inventory-4**] were matched with respect to cranial MRI. Chronic schizophrenic patients were reevaluated with SCID-I to confirm their diagnosis. Parents of children in the control group completed SCL-90-R and were evaluated by clinical interview to exclude any psychotic disorder. The diagnoses of psychiatric disorders in all of the children were established by DSM-IV-based clinical interviews with children and parents. They underwent IQ evaluation by WISC-R and evaluated with cranial MRI. Hippocampus, thalamus, amygdala, corpus callosum, frontal, and temporal lobe volumes were measured and compared by using MANCOVA. After covarying whole brain volume, age and gender, statistically significant decrease in the measurements of corpus callosum and hippocampi, and a non-significant trend toward smaller temporal lobes were observed in the high-risk children. The structure of hippocampal formation and corpus callosum were impaired in the children of the schizophrenic patients which suggests a neurodevelopmental abnormality in subjects with genetic high risk for schizophrenia.

- 10-41. Stepp, S.D., Pilkonis, P.A., Hipwell, A.E., Loeber, R., & Stouthamer-Loeber, M. (2010). Stability of borderline personality disorder features in girls. *Journal of Personality Disorders*, 24, 460-472.

Little empirical evidence exists regarding developmental antecedents of borderline personality disorder (BPD) features in children and adolescents. As a first step in addressing this gap in our knowledge, this study examined the factor structure and stability of putative underlying BPD features, specifically impulsivity, negative affectivity, and interpersonal aggression, in 6-12-year-old girls. We report on results from exploratory and confirmatory factor analyses of underlying BPD dimensions as rated by parents and teachers over six successive data waves in a large, community sample of girls ( $N = 2,451$ ). [**Child Symptom Inventory-4 was used to assess ADHD, oppositional defiant disorder, conduct disorder, and major depressive episode symptoms.**] Six factors were derived from parent ratings (i.e., Cognitive Dyscontrol, (Lack of) Self-Control, Hostility, Depression/Anxiety, Hyperactivity, and Relational Aggression) and five factors were derived from teacher reports (i.e., Cognitive Dyscontrol, Hyperactivity, (Lack of) Self-Control, Relational Aggression, and Depression). The item composition of similar parent and teacher factors was highly consistent. The year-to-year stability from ages 6 to 12 was high for parent factor scores ( $r$  ranging from .71-.85) and moderately high for teacher factor scores ( $r$  ranging from .49-.77). These findings suggest that underlying dimensions of BPD features can be reliably measured and are stable in 6-12-year-old girls.

- 10-42. Volpe, R.J., & Gadow, K.D. (2010). Creating abbreviated rating scales to monitor classroom inattention-overactivity, aggression, and peer conflict: Reliability, validity, and treatment sensitivity. *School Psychology Review*, 39, 350-363.

Rating scales developed to measure child emotional and behavioral problems typically are so long as to make their use in progress monitoring impractical in typical school settings. This study examined two methods of selecting items from existing rating scales to create shorter instruments for use in assessing response to intervention. The psychometric properties of two sets of abbreviated rating scales derived from the *IOWA Conners Teacher Rating Scale* and the teacher-completed **Peer Conflict Scale** were examined and compared to the longer original versions of these scales. The rating scales were evaluated using data from a randomized, placebo-controlled, crossover trial of immediate release methylphenidate involving a sample 65 children between 6 and 12

years old who met research diagnostic criteria for attention deficit hyperactivity disorder and either chronic motor tic disorder or Tourette's disorder. Specifically, the abbreviated and original versions of the rating scales were examined for internal consistency, temporal stability, concurrent validity, and treatment sensitivity. Results indicate that there were few significant differences between versions of the scales, which support the use of abbreviated rating scales for use in progress monitoring. Implications for practice and future research are discussed.

- 10-43. Weisbrot, D.M., Ettinger, A.B., Gadow, K.D., Belman, A., MacAllister, W.S., Milazzo, M., Reed, M.L., Serrano, D., & Krupp, L.B. (2010). Psychiatric comorbidity in pediatric patients with demyelinating disorders. *Journal of Child Neurology*, 25, 192-202.

Little is known about psychiatric aspects of pediatric demyelinating conditions. A total of 23 youths (6-17 years) with demyelinating conditions underwent semistructured psychiatric interviews using the Schedule for Affective Disorders and Schizophrenia for School-Age Children-Present and Lifetime Version. Adolescents and parents completed the **Child Symptom Inventory-4** and the **Youth's Inventory-4**. Fears and conceptions of their neurological problems were elicited. In all, 48% (n=11) met criteria for current psychiatric diagnoses, including 27% (n = 3) with depressive disorders and 64% (n=7) with anxiety disorders. Fears and conceptions of the illness were severe and diverse. Depressive and anxiety disorders are common in pediatric demyelinating disease. Clinicians should therefore screen for psychiatric comorbidity symptoms as part of the routine evaluation of such patients.

- 10-44. Williams, P.L., Leister, E., Chernoff, M., Nachman, S., Morse, E., Di Poalo, V., & Gadow, K.D. (2010). Substance use and its association with psychiatric symptoms in perinatally HIV-infected and HIV-affected adolescents. *AIDS and Behavior*, 14, 1072-1082.

Drug use in combination with psychiatric illness may lead to unsafe sexual risk behavior and increased risk for secondary HIV transmission among adolescents with HIV infection. We compared the prevalence of substance use for perinatally HIV-infected youth to uninfected adolescents living in families affected by HIV infection, and evaluated the association of psychiatric symptoms [assessed with the **Child and Adolescent Symptom Inventory-4R**] with risk of substance use. Among 299 adolescents (196 HIV+, 103 HIV-) aged 12-18 years enrolled in IMPAACT P1055, a multisite US cohort study, 14% reported substance use at enrollment (HIV+: 13%, HIV-: 16%). In adjusted logistic regression models, adolescents had significantly higher odds of substance use if they met symptom criteria for ADHD [adjusted odds ratio (aOR) = 2.7, Wald  $\chi^2$  = 5.18, P = 0.02], major depression or dysthymia (aOR = 4.0, Wald  $\chi^2$  = 7.36, P = 0.01), oppositional defiant disorder (aOR = 4.8, Wald  $\chi^2$  = 12.7, P = 0.001), or conduct disorder (aOR = 15.4, Wald  $\chi^2$  = 28.12, P = 0.001). Among HIV-infected youth, those with lower CD4 lymphocyte percentage (CD4% < 25%) had significantly increased risk of substance use (aOR=2.7, Wald  $\chi^2$  = 4.79, P = 0.03). However, there was no overall association of substance use with HIV infection status, and the association between psychiatric symptoms and substance use did not differ by HIV status. Programs to prevent substance use should target both HIV-infected and uninfected adolescents living in families affected by HIV infection, particularly those with psychiatric symptoms.

## YEAR: 2009

- 09-1. Babio, N., Canals, J., Pietrobelli, A., Perez, S., & Arija, V. (2009). A two-phase population study: relationships between overweight, body composition and risk of eating disorders. *Nutricion Hospitalaria*, 24, 485-491.

Background: Overweight and eating disorder (ED) are major public health problems in adolescents. Aims: To assess the association of overweight, body composition and anthropometric characteristics with the probability being at risk of ED. Methods: A two-phase study was used. 329 girls and 96 boys (aged 12-18 years) from an initial sample of 2967 adolescents were studied. The BMI, percentage of fat mass estimated by bioimpedance (FM(BIA)), waist circumference, waist-to-height ratio, and waist-to-hip ratio (WHipr) were calculated. The Eating Attitudes Test, **Youth's Inventory-4** and a questionnaire to evaluate social influences were administered. Results: A total of 34.7% of girls and 53.6% of boys at risk of ED were overweight (including obesity). For girls, overweight frequency was significantly higher in risk ED group than in control group. Increases of one point in the BMI or FM(BIA) increased the probability of being at risk of ED by 12% (3.0-19.0) and 4% (0.0-8.0), respectively. An increase in WHipr was negatively associated with ED risk. Smoking and symptoms of dysthymia and generalized anxiety disorder also increase the probability of being at risk of ED in adolescent girls. In adolescent boys, these relations were not observed. Conclusions: The higher BMI and the percentage of FM(BIA) are associated with

greater risk of ED in adolescent girls, when psychological factors are present. Increases in the WHipr, characteristic of childhood body is negatively associated with that risk.

- 09-2. Barnes, M.E., Huss, E.A., Garrod, K.N., Van Raay, E., Dayyat, E., Gozal, D., & Molfese, D.L. (2009). Impairments in attention in occasionally snoring children: an event-related potential study. *Developmental Neuropsychology*, 34, 629-649.

To determine whether minimal snoring is benign in children. PROCEDURE: 22 rarely snoring children (mean age = 6.9 years, 11 females) and age- and sex-matched controls participated in an auditory oddball task wearing 128-electrode nets. Parents completed the Conners Parent Rating Scales-Revised Long (CPRS-R:L). **[The *Child Symptom Inventory-4* was used to screen children for significant behavioral disorders.]** RESULTS: Snorers scored significantly higher on four CPRS-R:L subscales. Stepwise regression indicated that two ERP variables from a region of the ERP that peaked at 844 msec post-stimulus onset predicted CPRS-R:L Attention Deficit Hyperactivity Disorder (ADHD) Index scores. CONCLUSIONS: Occasional snorers, according to parental report, do exhibit ADHD-like behaviors. Basic sensory processing is longer than in controls, suggesting that delayed frontal activation requires more effort in snorers.

- 09-3. Bartgis, J., Lefler, E., Hartung, C.M., & Thomas, D.G. (2009). Contrast sensitivity in children with and without attention deficit hyperactivity disorder symptoms. *Developmental Neuropsychology*, 34, 663-682.

Dopamine regulation may play a role in attention-deficit hyperactivity disorder (ADHD). Visual contrast sensitivity has been proposed as a measure of retinal dopamine that may predict frontal lobe dopamine levels. Individuals with disorders involving dopamine dysregulation (e.g., Parkinson's disease, Phenylketonuria) have shown poor contrast sensitivity. In this study, 110 6- to 13-year-old children with and without ADHD completed a task measuring visual contrast sensitivity. **[ADHD was assessed with the *Child Symptom Inventory-4*.]** As predicted, contrast sensitivity was significantly worse in children with ADHD-Combined Type than controls. Contrast sensitivity was significantly correlated with inattention and hyperactivity. However, unlike many neuropsychological studies of ADHD, only hyperactivity accounted for unique variance.

- 09-4. Bastiaens, L. (2009). A non-randomized, open study with Aripiprazole and Ziprasidone for the treatment of aggressive behavior in youth in a community clinic. *Community Mental Health Journal*, 45, 73-77.

Forty-six patients (36 male, mean age 11.9 +/- 2.6) with a variety of diagnoses and with significant aggressive behavior were treated in an open, non-randomized fashion with Aripiprazole or Ziprasidone. Patients were diagnosed with the Mini International Neuropsychiatric Interview and the ***Child/Adolescent Symptom Inventory-4***. The primary outcome measure was the Overt Aggression Scale (OAS). After 2 months, 34 patients were still in treatment. The average improvement of the OAS in these 34 patients was 63%. Clinical Global Impression-Improvement Scale was 2.1 +/- 1.2. Neither at baseline, nor at 2 months, were there any statistically significant differences between the Aripiprazole and Ziprasidone groups. Sedation was the most common side effect.

- 09-5. Birmaher, B., Ehmann, M., Axelson, D.A., Goldstein, B.L., Monk, K., Kalas, C., Kupfer, D., Gill, M.K., Leibenluft, E., Bridge, J., Guyer, A., Egger, H.L., & Brent, D.A. (2009). Schedule for affective disorders and schizophrenia for school-age children (K-SADS-PL) for the assessment of preschool children - A preliminary psychometric study. *Journal of Psychiatric Research*, 43, 680-686.

Objective: To assess the psychometrics of the schedule for affective disorders and schizophrenia for school-age children present and lifetime version (K-SADS-PL) in diagnosing DSM-IV psychiatric disorders and subsyndromal symptomatology in preschool children. Method: Parents were interviewed about their children using the K-SADS-PL, and they completed the ***Early Childhood Inventory-4*** (ECI-4) and child behavior checklist for ages 11/2-5 years (CBCL). Discriminant, divergent, and convergent validity of the K-SADS-PL were evaluated in 204 offspring ages 2-5 years old of parents from an ongoing study. Inter-rater reliability as well as predictive validity of intake diagnoses at second assessment approximately two years after intake were evaluated. Fourteen children were also assessed by the preschool age psychiatric assessment (PAPA). Results: Children who were diagnosed with oppositional defiant disorder, attention deficit hyperactivity disorder, anxiety, mood, or elimination disorders had significantly higher scores on the ECI-4 than children without these disorders. Significant correlations were found for all convergent CBCL scales. Divergent validity was acceptable for emotional disorders. Inter-rater kappa

coefficients for all diagnoses were good. Above noted results were similar for children with at least one positive K-SADS-PL key screen symptom. A significantly higher percentage of children with an intake diagnosis had a diagnosis approximately two years after intake compared to those without an intake disorder. Overall, there was consistency between the PAPA and the K-SADS-PL. Conclusions: Pending further testing, the K-SADS-PL may prove useful for the assessment of psychopathology in preschoolers.

- 09-6. Boles, D.B., Adair, L.P., & Joubert, A.-M. (2009). A preliminary study of lateralized processing in attention-deficit/hyperactivity disorder. *Journal of General Psychology*, 136, 243-258.

Attention-deficit/hyperactivity disorder (ADHD) is associated with deficits in spatial and sustained attention processes normally linked to the right parietal and frontal lobes. However, data on lateralization changes in attention processes are sparse. Little research has addressed whether the problems may reflect a more widespread lateralization disorder or whether there are lateralization changes over time. To address these issues, the authors examined several tasks, each using a lateralized process largely localized to a particular lobe and 2 age ranges (11-14 and 18-26 years) of unmedicated ADHD participants and control participants. **[Diagnoses were based on part on the *Child Symptom Inventory-4* and the *Adult Self Report Inventory-4*.]** ADHD children bisected lines significantly more rightward compared with control children, indicating an altered spatial attention process normally localized to the right parietal lobe. This problem was absent in young adults, suggesting a developmental resolution. The authors observed sustained attention decrements at both ages appearing earlier in the left hemisphere during a vigil. Finally, in these preliminary data, ADHD-related problems appeared specific to attention processes.

- 09-7. Bubier, J.L., Drabick, D.A.G., & Breiner, T. (2009). Autonomic functioning moderates the relations between contextual factors and externalizing behaviors among inner-city children. *Journal of Family Psychology*, 23, 500-510.

Although previous research has identified various child-specific and contextual risk factors associated with externalizing behaviors, there is a dearth of literature examining child X context interactions in the prospective prediction of externalizing behaviors. To address this gap, we examined autonomic functioning as a moderator of the relation between contextual factors (i.e., neighborhood cohesion and harsh parental behaviors) and externalizing behaviors **[measured with the *Child Symptom Inventory-4*]**. Participants were an ethnic minority, inner-city sample of first through fourth grade children (N = 57, 50% male) and their primary caregivers who participated in two assessments approximately 1 year apart. Results indicated that baseline sympathetic functioning moderated the relation between (a) neighborhood cohesion and externalizing behaviors and (b) harsh parental behaviors and externalizing behaviors. Post-hoc probing of these interactions revealed that higher levels of neighborhood cohesion prospectively predicted (a) higher levels of externalizing behaviors among children with heightened baseline sympathetic functioning, and (b) lower levels of externalizing behaviors among children with attenuated baseline sympathetic functioning. In addition, among children with heightened baseline sympathetic functioning, higher levels of harsh parental behaviors prospectively predicted higher levels of externalizing behaviors.

- 09-8. Chen, E.Y., McCloskey, M.S., & Keenan, K.E. (2009). Subtyping dietary restraint and negative affect in a longitudinal community sample of girls. *International Journal of Eating Disorders*, 42, 275-283.

Objective: This Study tests the validity of the "dietary-depressive" Subtype (typified by greater negative affect) and a "dietary" subtype (typified by dietary restraint only) using a diverse longitudinal community sample. Method: Girls at ages 10, 12, and 14 completed the Child Eating Attitudes Test, the ***Child Symptom Inventory-4***, and Body Image Measure. Body Mass Index was assessed at each age. Results: Unlike previous studies, cluster analysis revealed an at-risk "dietary-depressive" (R+) subtype (18.7%, 100/534) and a not at-risk (R-) subtype, distinguished by few depressive symptoms and little dietary restraint (81.31%, 434/534), but no "dietary" subtype. When compared with the R- subtype, the R+ subtype had significantly greater eating disordered behavior and attitudes. The R+ subtype at age 10 was a risk factor for binge-eating but not obesity at ages 12 and 14. Discussion: Dietary restraint and depressive symptoms combined predict binge-eating. longitudinally in a diverse community sample of girls.

- 09-9. Chernoff, M., Nachman, S., Williams, P., Brouwers, P., Heston, J., Hodge, J., Di Poalo, V., Deygoo, N.S.,

Gadow, K.D., and the IMPAACT P1055 Study Team. (2009). Mental health treatment patterns in perinatally HIV-Infected youth and controls. *Pediatrics*, 124, 627-636.

Background: Youths perinatally infected with HIV (HIV+) often receive psychotropic medication and behavioral treatment for emotional and behavioral symptoms. We describe patterns of intervention for HIV+ and controls in the United States. Methods: 319 HIV+ and 256 Controls, aged 6-17 years, enrolled in IMPAACT 1055, a prospective, 2 year observational study of psychiatric symptoms. 174 of Controls were perinatally HIV-exposed and 82 were uninfected children living in households with HIV+ members. Youths and their primary caregivers completed **Youth's (Self-Report) Inventory-4R** and the **Child and Adolescent Symptom Inventory-4R** (CASI-4R), respectively. Children's medication and behavioral psychiatric intervention histories were collected at entry. We evaluated the association of past or current psychiatric treatment with HIV-status, baseline symptoms and impairment using multiple logistic regression, controlling for potential confounders. Results: HIV+ and controls had similar prevalence of psychiatric symptoms (61%) and impairment (14-15%). 104 (18%) participants received psychotropic medications: stimulants (14%), antidepressants (6%) and neuroleptics (4%) and 127 (22%) received behavioral treatment. More HIV+ than Controls received psychotropic medication (23% vs. 12%,  $p<0.001$ ) and behavioral treatment (27% vs. 17%,  $p=0.01$ ). After adjusting for symptom class and confounders, HIV+ children had twice the odds of controls to have received stimulants and over 4 times the odds to have received antidepressants. Caregiver-reported symptoms or impairment were associated with higher odds of intervention than reports by children alone. Conclusions: HIV+ children are more likely to receive mental health interventions than controls. Pediatricians and caregivers should consider available mental health treatment options for all children living in families affected by HIV.

- 09-10. De Los Reyes, A., Henry, D.B., Tolan, P.H., & Wakschlag, L.S. (2009). Linking informant discrepancies to observed variations in young children's disruptive behavior. *Journal of Abnormal Child Psychology*, 37, 637-652.

Prior work has not tested the basic theoretical notion that informant discrepancies in reports of children's behavior exist, in part, because different informants observe children's behavior in different settings. We examined patterns of observed preschool disruptive behavior across varying social contexts in the laboratory and whether they related to parent-teacher rating discrepancies of disruptive behavior in a sample of 327 preschoolers. **[Teacher ratings were obtained with the Early Childhood Inventory-4.]** Observed disruptive behavior was assessed with a lab-based developmentally sensitive diagnostic observation paradigm that assesses disruptive behavior across three interactions with the child with parent and examiner. Latent class analysis identified four patterns of disruptive behavior: (a) low across parent and examiner contexts, (b) high with parent only, (c) high with examiner only, and (d) high with parent and examiner. Observed disruptive behavior specific to the parent and examiner contexts were uniquely related to parent-identified and teacher-identified disruptive behavior, respectively. Further, observed disruptive behavior across both parent and examiner contexts was associated with disruptive behavior as identified by both informants. Links between observed behavior and informant discrepancies were not explained by child impairment or observed problematic parenting. Findings provide the first laboratory-based support for the Attribution Bias Context Model (De Los Reyes and Kazdin *Psychological Bulletin* 131:483-509, 2005), which posits that informant discrepancies are indicative of cross-contextual variability in children's behavior and informants' perspectives on this behavior. These findings have important implications for clinical assessment, treatment outcomes, and developmental psychopathology research.

- 09-11. DeVincent, C.J., & Gadow, K.D. (2009). Relative clinical utility of three Child Symptom Inventory-4 scoring algorithms for differentiating children with autism spectrum disorder vs. attention-deficit hyperactivity disorder. *Autism Research*, 2, 312-321.

Objective: The present study compared three separate **Child Symptom Inventory-4** (CSI-4) scoring algorithms for differentiating children with autism spectrum disorder (ASD) from youngsters with attention-deficit/hyperactivity disorder (ADHD). Method: Parents/teachers completed the CSI-4, a DSM-IV-referenced rating scale, for 6 to 12-year-old clinical referrals with ASD ( $N=186$ ) and ADHD ( $N=251$ ). Algorithms were based on either all CSI-4 items (forward logistic regressions) or the 12 DSM-IV symptoms of pervasive developmental disorder (PDD) included in the CSI-4. Results: ROC analyses indicated generally good to excellent values for area under the curve, sensitivity, specificity, and positive predictive power. Algorithms for parent ratings were superior to teacher ratings. The algorithm based solely on PDD symptoms evidenced the greatest generalizability. Conclusion: Although



algorithms generated from regression analyses produced greater clinical utility for specific samples, the PDD-based algorithm resulted in greater stability across samples.

- 09-12. Domenech-Llaberia, E., Vinas, F., Pla, E., Claustre J.M., Mitjavila, M., Corbella, T., Canals, J. (2009). Prevalence of major depression in preschool children. *European Child & Adolescent Psychiatry*, 18, 597-604.

The prevalence of preschool major depressive disorder (MDD) was studied in the community. The whole population of children between 3 and 6 years attending preschool nurseries in three areas (one urban, one rural and one suburban) in Spain ( $n = 1,427$ ) were contacted. Selection was by a two-stage procedure. At stage I, the ESDM 3-6, a screening measure for preschool depression, was used to identify a sample for more intensive interviewing. Sensitivity and specificity of the cut-off point of the ESDM 3-6 had been previously tested in a pilot study ( $n = 229$ ). **[One of the assessment instruments was the *Early Childhood Inventory-4*.]** During the first stage, 222 preschool children (15.6%) were found to be probable depressives, because they scored 27 or more, the cut-off used. At stage II, the children were interviewed and diagnosed by the consensus of two clinicians, blind to the ESDM 3-6 results. DSM-IV diagnostic criteria were used to define caseness. A total of 16 children (1.12%) met the MDD criteria. The prevalence by areas was urban 0.87%, rural 0.88%, suburban 1.43%. Sex distribution prevalence was 1:1. This study is a contribution to the scarce epidemiology of preschool depression in the community.

- 09-13. Dunn, D. W., Austin, J. K., & Perkins, S.M. (2009). Prevalence of psychopathology in childhood epilepsy: categorical and dimensional measures. *Developmental Medicine and Child Neurology*, 51, 364-372.

Objective: Few studies have utilized both categorical and dimensional measures of psychopathology in children with epilepsy. Method: We evaluated 173 children (88 males, 85 females; mean age 11.7y [SD 1.8]; range 9-14y) who had epilepsy (generalized 36%, partial 61%) for at least 6 months. The primary caregiver completed a dimensional measure, the Child Behavior Checklist (CBCL), and a categorical measure, either the ***Child Symptom Inventory-4*** (CSI-4) or the ***Adolescent Symptom Inventory-4*** (ASI-4). Correlation coefficients were computed between the CBCL scores and CSI/ASI symptom scores. Results: For all children, diagnostic risk was higher than norms on CSI/ASI for attention-deficit-hyperactivity disorder (ADHD) inattentive type, ADHD combined type, oppositional defiant disorder, and dysthymic disorder. For children between 9 and 12 years, elevated scores were found on CBCL, total, internalizing, and attention problems, and on CSI, diagnostic risk for conduct disorder and Asperger syndrome. For children of 13 and 14 years, ASI diagnostic risk was higher for specific phobia, obsessions, posttraumatic stress disorder, motor tics, antisocial personality, panic attack, somatization disorder, and enuresis. CBCL and symptom scores on the CSI/ASI were significantly correlated. Conclusion: The conclusion was that children with epilepsy have high rates of behavioral difficulties on both dimensional and categorical measures. Concurrent validity for the CSI/ASI was supported.

- 09-14. Feng, X., Keenan, K., Hipwell, A.E., Henneberger, A.K., Rischall, M.S., Butch, J., Coyne, C., Boeldt, D., Hinze, A.K., & Babiniski, D.E. (2009). Longitudinal associations between emotion regulation and depression in preadolescent girls: Moderation by the caregiving environment. *Developmental Psychology*, 45, 798-808.

Identifying childhood precursors for depression has been challenging and yet important for understanding the rapid increase in the rate of depression among adolescent girls. This study examined the prospective relations of preadolescent girls' emotion regulation and parenting style with depressive symptoms. Participants were 225 children and their biological mothers recruited from a larger longitudinal community study. **[The *Child Symptom Inventory-4* was used as a screening tool for depressive symptoms.]** Girls' observed positive and negative emotion during a conflict resolution task with mothers, their ability to regulate sadness and anger, and their perception of parental acceptance and psychological control were assessed at age 9. Depressive symptoms were assessed by self-report at ages 9 and 10. The results indicated interactions between child emotion characteristics and parenting in predicting later depression. Specifically, low levels of positive emotion expression predicted higher levels of depressive symptoms in the context of moderate to high parental psychological control. Low levels of sadness regulation were predictive of high levels of depressive symptoms in the context of low to moderate parental acceptance. Findings from this study support the hypothesis that the prospective association between vulnerabilities in emotion regulation and depression are moderated by the caregiving environment.

- 09-15. Gadow, K.D., DeVincent, C.J., & Schneider, J. (2009). Comparative study of children with ADHD Only, autism

spectrum disorder+ADHD, and chronic multiple tic disorder+ADHD. *Journal of Attention Disorders*, 12, 474-485.

Objective: Children with diagnosed autism spectrum disorder (ASD) and chronic multiple tic disorder (CMTD) typically meet criteria for attention deficit/hyperactivity disorder (ADHD). The identification of similarities and differences in co-occurring psychiatric symptoms and mental health risk/protective factors among groups of children with ADHD only, ASD+ADHD, and CMTD+ADHD may eventually lead to a better understanding of these clinical phenotypes. Method: Children with ASD+ADHD ( $n=88$ ), CMTD+ADHD ( $n=66$ ), and ADHD Only ( $n=66$ ) were evaluated using the parent- and teacher-completed **Child Symptom Inventory-4**, and a parent-completed questionnaire about medical, treatment, and family history. Results: All three groups were highly similar in severity of oppositional defiant disorder and conduct disorder symptoms. With regard to the various types of anxiety examined in this study, the ASD+ADHD group generally exhibited the most severe symptoms, although the CMTD+ADHD group was rated as having the most generalized anxiety. The two co-morbid groups had the most involved medical histories and greatest likelihood of a family history of psychopathology. Conclusion: The three ADHD groups differed in clinically meaningful ways, and the apparent association between tics and anxiety may explain in part the elevated levels of anxiety in both ASD and CMTD groups.

- 09-16. Gadow, K.D., Roohi, J., DeVincent, C.J., & Kirsch, S., & Hatchwell, E. (2009). Association of COMT (Val158Met) and BDNF (Val66Met) gene polymorphisms with anxiety, ADHD and tics in children with autism spectrum disorder. *Journal of Autism and Developmental Disorders*, 39, 1542-1551. DOI 10.1007/s10803-009-0794-4

Background: To examine rs4680 (COMT) and rs6265 (BDNF) as genetic markers of anxiety, ADHD, and tics. Methods: Parents and teachers completed a DSM-IV-referenced rating scale [**Child Symptom Inventory-4**] for a total sample of 67 children with autism spectrum disorder (ASD) Results: Both COMT ( $p=.06$ ) and BDNF ( $p=.07$ ) genotypes were marginally significant for teacher ratings of social anxiety ( $\eta^2=.06$ ). Analyses also indicated associations of BDNF genotype with parent-rated ADHD ( $p=.01$ ;  $\eta^2=.10$ ) and teacher-rated tics ( $p=.04$ ;  $\eta^2=.07$ ). There was also evidence of a possible interaction ( $p=.02$ ,  $\eta^2=.09$ ) of BDNF genotype with DAT1 3' VNTR with tic severity. Conclusion: BDNF and COMT may be biomarkers for phenotypic variation in ASD, but these preliminary findings remain tentative pending replication with larger, independent samples.

- 09-17. Gatzke-Kopp, L.M., Beauchaine, T.P., Shannon, K.E., Chipman, J., Fleming, A.P., Crowell, S., Liang, O., Johnson, L. C., & Aylward, E. (2009). neurological correlates of reward responding in adolescents with and without externalizing behavior disorders. *Journal of Abnormal Psychology*, 118, 203-213.

Opposing theories of striatal hyper- and hypodopaminergic functioning have been suggested in the pathophysiology of externalizing behavior disorders. **[Potential participants were initially screened with the Adolescent Symptom Inventory-4.]** To test these competing theories, the authors used functional MRI to evaluate neural activity during a simple reward task in 12- to 16-year-old boys with attention-deficit/hyperactivity disorder and/or conduct disorder ( $n = 19$ ) and in controls with no psychiatric condition ( $n = 11$ ). The task proceeded in blocks during which participants received either (a) monetary incentives for correct responses or (b) no rewards for correct responses. Controls exhibited striatal activation only during reward, shifting to anterior cingulate activation during nonreward. In contrast, externalizing adolescents exhibited striatal activation during both reward and nonreward. Externalizing psychopathology appears to be characterized by deficits in processing the omission of predicted reward, which may render behaviors that are acquired through environmental contingencies difficult to extinguish when those contingencies change.

- 09-18. Guttman-Steinmetz, S., Gadow, K.D., & DeVincent, C.J. (2009). Oppositional defiant and conduct disorder behaviors in boys with autism spectrum disorder with and without attention-deficit hyperactivity disorder versus several comparison samples. *Journal of Autism and Developmental Disorders*, 39, 976-985.

We compared disruptive behaviors in boys with either autism spectrum disorder (ASD) plus ADHD ( $n=74$ ), ADHD plus chronic tic disorder (CMTD) ( $n=47$ ), ADHD Only ( $n=59$ ), or ASD Only ( $n=107$ ). Children were evaluated with parent and teacher versions of the **Child Symptom Inventory-4** (CSI-4) including parent- ( $n=168$ ) and teacher-rated ( $n=173$ ) community Controls. Parents rated children in the three ADHD groups comparably for each symptom of oppositional defiant disorder (ODD) and conduct disorder (CD). Teacher ratings indicated that the

ASD+ADHD group evidenced a unique pattern of ODD symptom severity, differentiating them from the other ADHD groups, and from the ASD Only group. The clinical features of ASD appear to influence co-morbid, DSM-IV-defined ODD, with implications for nosology.

- 09-19. Hack, M., Taylor, H.G., Schluchter, M., Andreias, L., Drotar, D., & Klein, N. (2009). Behavioral outcomes of extremely low birth weight children at age 8 years. *Journal of Developmental and Behavioral Pediatrics*, 30, 122-130.

Objective: To describe the prevalence of behavioral problems and symptomatology suggestive of Autism and Asperger's disorders at age 8 years among extremely low birth weight (ELBW, < 1 kg) children, born 1992 through 1995. Method: Parent reports of the behavior of 219 ELBW (mean birth weight, 810 g; gestational age 26 weeks) were compared with 176 normal birth weight children of similar maternal socio-demographic status, sex, and age. Behavior was assessed via the **Child Symptom Inventory-4** that includes both Symptom Severity Scores and scores meeting DSM-IV criteria for disorders. Results: ELBW compared with normal birth weight children had significantly higher mean Symptom Severity Scores for the inattentive, hyperactive, and combined types of attention-deficit hyperactivity disorder (all  $p < .001$ ) as well as higher scores for Generalized Anxiety ( $p < .01$ ) and Autistic ( $p < .001$ ) and Asperger's ( $p < .01$ ) disorders. When DSM-IV criteria were considered, ELBW children also had significantly higher rates of attention-deficit hyperactivity disorder of the inattentive (100% vs 3%,  $p < .01$ ) and combined (5% vs 0.6%,  $p < .05$ ) types. Conclusions: Attention-deficit hyperactivity disorder, mainly the inattentive type is prevalent among ELBW children. Our findings of an increase in symptoms pertaining to Autistic and Asperger's disorders at school age agree with recent reports of others during early childhood. Early identification and intervention for these problems might improve child functioning and ameliorate parent and child distress.

- 09-20. Huang-Pollock, C. L., Mikami, A.Y., Pfiffner, L., & McBurnett, K. (2009). Can executive functions explain the relationship between attention deficit hyperactivity disorder and social adjustment? *Journal of Abnormal Child Psychology*, 37, 679-691.

This study examined the ability of executive functions (EF) to account for the relationship between Attention Deficit Hyperactivity Disorder (ADHD) status and social adjustment as indexed by parent and teacher report and by performance on a standardized observational "chat room" task. Children with the Combined subtype (ADHD-C;  $n=23$ ), the Primarily Inattentive Subtype (ADHD-I;  $n=33$ ), and non-ADHD controls ( $n=36$ ) participated. **[Potential participants were initially screened with the Child Symptom Inventory-4.]** EF did not mediate the relationship between ADHD status and parent or teacher report of social adjustment. EF accounted for about 40-50% of the variance between ADHD status and the ability of children to detect subtle verbal cues as well as memory for the conversation in the chat room task, but did not mediate the relationship between ADHD and the number of prosocial, hostile, or on-topic statements that were made. Results are consistent with other recent reports, and suggest that the role of EF deficits in the production of social skill deficits in ADHD may not be as prominent as is typically assumed. The implications for the development of intervention programs designed to target core cognitive etiologic factors are discussed.

- 09-21. Keenan, K., Feng, X., Hipwell, A., & Klostermann, S. (2009). Depression begets depression: Comparing the predictive utility of depression and anxiety symptoms to later depression. *Journal of Child Psychology and Psychiatry*, 50, 1167-1175.

Background: The high comorbidity between depressive and anxiety disorders, especially among females, has called into question the independence of these two symptom groups. It is possible that childhood anxiety typically precedes depression in girls. Comparing of the predictive utility of symptoms of anxiety with the predictive utility of symptoms of depression from early childhood to early adolescence is needed to test this hypothesis. Methods: Data from a population-based sample of 2,451 girls were used to examine age-related changes and year-to-year stability within and across symptoms of major depression **[assessed with the Child Symptom Inventory-4]**, separation anxiety, and generalized/social anxiety by maternal report from ages 6 to 12. In addition, the predictive utility of symptoms of major depression, separation anxiety, and generalized/social anxiety at ages 7-10 years of age to depressive disorders at ages 11-13 was tested. Results: Symptoms of separation anxiety demonstrated a linear decrease, depression symptoms a linear increase and symptoms of generalized/social anxiety an increase from 6-8, a plateau 8-10, followed by a decrease from 10-12 years. Year-to-year changes in symptoms of major depression were best predicted by depressive symptoms in the previous year, although a small amount of

additional variance was accounted for by separation anxiety symptoms in early childhood and generalized/social anxiety symptoms in mid to later childhood. Age 8 was the earliest age from which depressive disorders in early adolescence could be predicted from symptoms of depression and generalized social anxiety. Conclusions: Homotypic continuity of depression and anxiety symptoms from early childhood to early adolescence is more common in girls than heterotypic continuity. Some additional information about year-to-year changes in depression symptoms and later depressive disorder is gained by assessing anxiety symptoms. Depressive symptoms themselves, however, appear to be the strongest and most reliable predictor of later depression.

- 09-22. Keenan, K., Hipwell, A.E., Hinze, A.E., & Babinski, D.E. (2009). The association of pain and depression in preadolescent girls: Moderation by race and pubertal stage. *Journal of Pediatric Psychology*, 34, 727-737.

**Objective:** To test whether an association between pain response and depression in females is present during preadolescence using a controlled pain stimulus and a clinically relevant assessment of depressive symptoms.

**Method:** In a sample of 232 girls, pain threshold and tolerance were assessed at age 10 years using the cold pressor task, and a diagnostic interview was used to assess depression symptoms at 10 and 11 years of age.

**[The *Child Symptom Inventory-4* was used as an initial screen for depression symptoms.] Results:**

Response to pain at age 10 was associated with depressive symptoms at ages 10 and 11; race and pubertal stage moderated the association. Pain response and depression were more strongly associated among girls who had reached advanced stages of pubertal development and among European American girls. **Conclusions:** The results add to the existing literature on the co-occurrence of depression and pain by demonstrating modest but consistent concurrent and prospective associations between response to pain and depression among girls during preadolescence.

- 09-23. Keenan, K., Hipwell, A., Hinze, A., & Babinski, D. (2009). Equanimity to Excess: Inhibiting the Expression of Negative Emotion is Associated with Depression Symptoms in Girls. *Journal of Abnormal Child Psychology*, 37, 739-747.

Emotion dysregulation is often invoked as an important construct for understanding risk for psychopathology, but specificity of domains of emotion regulation in clinically relevant research is often lacking. In the present study Gross' (2001) model of emotion regulation is used to generate hypotheses regarding the relative contribution of two specific types of deficits in emotion regulation, inhibited and disinhibited expression of negative emotion, to individual differences in depressive symptoms in preadolescent girls. A sample of 232 9-year-old girls was recruited from a community based study. **[The *Child Symptom Inventory-4* was used as an initial screen for depression symptoms.]** Depression symptoms were assessed via diagnostic interview. The mother and interviewer rated the girl's level of impairment. Questionnaires and observations were used to assess inhibited and disinhibited expression of negative emotion. Differences in inhibited expression of negative emotion typically explained more variance in depressive symptoms and impairment across informants than did disinhibited expression of negative emotion. Although disinhibited expression of negative emotion is associated with depression and impairment, inhibited expression appeared to be a necessary ingredient, suggesting that inhibited expression may be a particularly relevant deficit in emotion regulation in the development of depression in females.

- 09-24. Kochanska, G., Barry, R.A., Jimenez, N.B., Hollatz, A., & Woodard, J. (2009). Guilt and effortful control: Two mechanisms that prevent disruptive developmental trajectories. *Journal of Personality and Social Psychology*, 97, 322-333.

Children's guilt associated with transgressions and their capacity for effortful control are both powerful forces that inhibit disruptive conduct. The authors examined how guilt and effortful control, repeatedly observed from toddlerhood to preschool age, jointly predicted children's disruptive outcomes in 2 multimethod, multitrait longitudinal studies (Ns = 57 and 99). Disruptive outcomes were rated by mothers at 73 months (Study 1) and mothers, fathers, and teachers at 52 and 67 months (Study 2). **[Disruptive behaviors were assessed in part with the *Child Symptom Inventory-4*.]** In both studies, guilt moderated effects of effortful control: For highly guilt-prone children, variations in effortful control were unrelated to future disruptive outcomes. but for children who were less guilt prone, effortful control predicted such outcomes. Guilt may inhibit transgressions through an automatic response due to negative arousal triggered by memories of past wrongdoing, regardless of child capacity for deliberate inhibition. Effortful control that engages a deliberate restraint may offset risk for disruptive conduct conferred by low guilt.

- 09-25. Kochanska, G., Barry, R.A., Stellern, S.A., & O'Bleness, J.J. (2009). Early attachment organization moderates the parent-child mutually coercive pathway to children's antisocial conduct. *Child Development*, 80, 1288-1300.

This multimethod study of 101 mothers, fathers, and children elucidates poorly understood role of children's attachment security as moderating a common maladaptive trajectory: from parental power assertion, to child resentful opposition, to child antisocial conduct. **[Disruptive behaviors were assessed in part with the *Child Symptom Inventory-4*.]** Children's security was assessed at 15 months, parents' power assertion observed at 25 and 38 months, children's resentful opposition to parents observed at 52 months, and antisocial conduct rated by parents at 67 months. Moderated mediation analyses indicated that in insecure dyads, parental power assertion predicted children's resentful opposition, which then predicted antisocial conduct. This mechanism was absent in secure dyads. Early insecurity acts as a catalyst for a dyad embarking on mutually adversarial path toward antisocial outcomes, whereas early security defuses this maladaptive trajectory.

- 09-26. Lavigne, J.V., Cromley, T., Sprafkin, J., & Gadow, K.D. (2009). The *Child and Adolescent Symptom Inventory Progress Monitor*: A brief DSM-IV-referenced parent-report scale for children and adolescents. *Journal of Child and Adolescent Psychopharmacology*, 19, 241-252.

Because clinics generally serve children with a wide range of co-morbid disorders, and time constraints limit data collection needed to monitor symptom change, there is a strong need to develop assessment instruments that are brief but comprehensive, and can be administered repeatedly during clinical management. The ***Child and Adolescent Symptom Inventory-Progress Monitor-Parent Form (CASI-PM-P)*** is a 29-item rating scale designed to evaluate symptom change for commonly-referred child and adolescent disorders. Its intended applications include monitoring longer-term changes in clinical status and assessing intervention responsiveness. To enhance practicality, there is one version of the CASI-PM-P for all age groups with a common set of norms for both genders. Scoring procedures allow clinicians to assess whether observed symptom changes exceeded chance fluctuations. Using a clinical sample of 2,693 children ages 3-17 years, the 29 symptom-related items were identified that had the best item-to-total minus item correlations on the three age-appropriate scales of the Symptom Inventories. Item-to-total minus item correlations of similar magnitude were also obtained for those items with the standardization sample. In clinical samples, the CASI-PM-P scores had both high levels of internal consistency and test-retest reliability, and were sensitive to change in a treated sample. Collectively, the findings support the reliability and validity of the CASI-PM-P as a measure of behavioral change in clinical settings, while continued research will be necessary to improve clinical utility and provide better documentation of the scale's strengths and weaknesses.

- 09-27. Lavigne, J.V., LeBailly, S.A., Hopkins, J., Gouze, K.R., & Binns, H. (2009). The prevalence of ADHD, ODD, depression, and anxiety in a community sample of 4-year-olds. *Journal of Clinical Child and Adolescent Psychology*, 38, 315-328.

Few studies have examined the epidemiology of preschoolers' psychopathology. This study included 796 4-year-old children recruited from schools and pediatric practices in a diverse, urban area. Psychiatric disorder was assessed by a structured interview adapted for preschool children and by questionnaire **[including the *Early Childhood Inventory-4*]**. The most common disorders were oppositional defiant disorder (ODD) and attention deficit hyperactivity disorder (ADHD). Generalized anxiety disorder (GAD) and depressive disorders were reported in less than 1% of the sample. Race/ethnicity differences were not significant. Gender differences showed ADHD-inattentive type more common among boys, with no gender differences for GAD, major depressive disorder, dysthymia, separation anxiety disorder, or ODD at any level of impairment. The overall comorbidity rate was 6.4%. Approximately 3% of individuals receiving a diagnosis had received mental health services.

- 09-28. Ladouceur, C.D., Silk, J.S., Dahl, R.E., Ostapenko, L., Kronhaus, D.M., & Phillips, M.L. (2009). Fearful faces influence attentional control processes in anxious youth and adults. *Emotion*, 9, 855-864.

This study examined the effects of trait anxiety and age on performance on an emotional working memory task designed to investigate attentional control processes in the context of emotion. Participants included children, adolescents, and adults (8-30 years old). **[Participants were evaluated with *Adolescent Symptom Inventory-4***

and the **Child Symptom Inventory-4**.] They performed the Emotional Face N-Back (EFNBACK) task, a modified n-back working memory task with four emotional distracter types (no picture, neutral, fearful, and happy) and two memory-load conditions (0-back and 2-back), and completed self-report trait anxiety measures. Results indicated that participants high in trait anxiety had slower reaction times on the fearful 2-back memory-load condition. A significant interaction with age indicated that this effect was greater in the younger participants. These findings suggest that anxious individuals, particularly younger ones, exhibit difficulty resisting interference from threat-related stimuli when greater attentional resources are being recruited.

- 09-29. Lecavalier, L., Gadow, K.D., DeVinent, C.J., & Edwards, M.C. (2009). Validation of DSM-IV model of psychiatric syndromes in children with autism spectrum disorders. *Journal of Autism and Developmental Disorders*, 39, 278-289.

The objective of this study was to assess the internal construct validity of the DSM-IV as a conceptual model for characterizing behavioral syndromes in children with ASD. Parent and teachers completed the **Child Symptom Inventory-4**, a DSM-IV-referenced rating scale, for 6-to-12 year old clinic referrals with an ASD ( $N=498$ ). Ratings were submitted to confirmatory factor analysis and models were assessed for fit. Results were also compared to those obtained for a sample of non-ASD psychiatric outpatient school-age children. Fit indices ranged from acceptable to good for the ASD samples and compared well to those obtained in typically-developing children. Findings lend support to the notion that DSM-IV syndromes may be an appropriate conceptual model for characterizing behavioral phenotypes in ASD.

- 09-30. Lecavalier, L., Gadow, K.D., DeVinent, C.J., Houts, C., & Edwards, M.C. (2009). Deconstructing the PDD clinical phenotype: internal validity of the DSM-IV. *Journal of Child Psychology and Psychiatry*, 50, 1246-1254.

**Background:** Empirical studies of the structure of autism symptoms have challenged the three-domain model of impairment currently characterizing pervasive developmental disorders (PDD). The objective of this study was to assess the internal validity of the DSM as a conceptual model for describing PDD, while paying particular attention to certain subject characteristics. **Methods:** Parents and teachers completed a DSM-IV-referenced rating scale [**Early Childhood Inventory-4, Child Symptom Inventory-4**] for 3- to 12-year-old clinic referrals with a PDD ( $n=730$ ). Ratings were submitted to confirmatory factor analysis and different models were assessed for fit. **Results:** Measures of fit indicated that the three-factor solution based on the DSM was superior to other models. Most indices of fit were acceptable, but showed room for improvement. Fit indices varied according to the rater (parent or teacher), child's age (preschool versus school aged), PDD subtype (autism, Asperger's, pervasive developmental disorder not otherwise specified (PDDNOS)), and IQ. **Conclusions:** More research needs to be done before discarding current classification systems. Subject characteristics, modality of assessment, and procedural variations in statistical analyses impact conclusions about the structure of PDD symptoms.

- 09-31. Loeber, R., Hipwell, A., Battista, D., Sembover, M., & Stouthamer-Loeber, M. (2009). Intergenerational transmission of multiple problem behaviors: Prospective relationships between mothers and daughters. *Journal of Abnormal Child Psychology*, 37, 1035-1048.

Much of the research examining intergenerational continuity of problems from mother to offspring has focused on homotypic continuity (e. g., depression), despite the fact that different types of mental health problems tend to cluster in both adults and children. It remains unclear whether mothers with multiple mental health problems compared to mothers with fewer or no problems are more likely to have daughters with multiple mental health problems during middle childhood (ages 7 to 11). Six waves of maternal and child data from the Pittsburgh Girls Study ( $n = 2,451$ ) were used to examine the specificity of effects of maternal psychopathology on child adjustment. Child multiple mental health problems comprised disruptive behavior, ADHD symptoms [**assessed with the Child Symptom Inventory-4**], depressed mood, anxiety symptoms and somatic complaints, while maternal multiple mental health problems consisted of depression, prior conduct problems and somatic complaints. Generalized Estimating Equations (GEE) was used to examine the prospective relationships between mother's single and multiple mental health problems and their daughter's single and multiple mental health problems across the elementary school-aged period (ages 7-11 years). The results show that multiple mental health problems in the mothers predicted multiple mental health problems in the daughters even when earlier mental health problem of the daughters, demographic factors, and childrearing practices were controlled. Maternal low parental warmth and harsh punishment independently contributed to the prediction of multiple mental health problems in their daughter,

but mediation analyses showed that the contribution of parenting behaviors to the explanation of girls' mental health problems was small.

- 09-32. Loeber, R., Pardini, D., Hipwell, A., Stouthamer-Loeber, M., Keenan, K., Sembower, M.A. (2009). Are there stable factors in preadolescent girls' externalizing behaviors? *Journal of Abnormal Child Psychology*, 37, 777-791.

Relatively little is known about the factor structure of disruptive behavior among preadolescent girls. The present study reports on exploratory and confirmatory factor analyses of disruptive girl behavior over four successive data waves as rated by parents and teachers in a large, representative community sample of girls (N = 2,451). Five factors were identified from parent ratings (oppositional behavior/conduct problems, inattention, hyperactivity/impulsivity, relational aggression, and callous-unemotional behaviors), and four factors were identified derived from teacher ratings (oppositional behavior/conduct problems/callous-unemotional behaviors, inattention, hyperactivity/impulsivity, and relational aggression). **[Disruptive behaviors were assessed in part with the *Child Symptom Inventory-4*.]** There was a high degree of consistency of items loading on equivalent factors across parent and teacher ratings. Year-to-year stability of factors between ages five and 12 was high for parent ratings (ICC = 0.70 to 0.88), and slightly lower for teacher ratings (ICC = 0.56 to 0.83). These findings are discussed in terms of possible adjustment to the criteria for children's disruptive behavior disorders found in the Diagnostic and Statistical Manual for Mental Disorders.

- 09-33. Martényi, F., Treuer, T., Gau, S. S.-F., Hong, S.D., Palaczky, M., Šuba, J., Tiberiu, M., Uhlíková, P., Xu, T., Zoroğlu, S., Gadow, K.D., Walton, R., & Harrison, G. (2009). Attention-deficit/hyperactivity disorder diagnosis, co-morbidities, treatment patterns and quality of life in a paediatric population in Central and Eastern Europe and Asia. *Journal of Child and Adolescent Psychopharmacology*, 19, 363-376.

Attention deficit/hyperactivity disorder (ADHD) is often poorly understood, and treatment practices are variable. This 12-month, prospective, observational study provides information about the diagnosis, co-morbidities, treatment patterns, and quality of life (QOL) of patients aged 6-17 years with ADHD symptoms from eastern Asia and central and eastern Europe. Here, we present baseline data for the 1068 enrolled and eligible patients in the study (median age 8 years, 82.2% male). Patients were grouped into two cohorts based on whether they were prescribed psycho-and/or pharmacotherapy (n = 794) or not (n = 274) at study entry. On average, patients receiving treatment were significantly older (9.1 vs. 8.4 years,  $p < 0.001$ ), more severely ill (Clinical Global Impressions [CGI]-ADHD-S, 4.6 vs. 4.2,  $p < 0.001$ ; ***Child Symptom Inventory-4 Parent Checklist* (CSI-4) ADHD: C**, 35.2 vs. 31.9,  $p < 0.001$ ), and had significantly higher CSI-4 symptom severity scores relating to various co-morbidities than patients not receiving treatment. At study initiation, patient's health-related QOL was significantly impaired as measured on the Child Health and Illness Profile-Child Edition (CHIP-CE) rating scale, with significantly more impairment in the treated group of patients for the Comfort, Risks Avoidance, and Achievement domains. These results provide a description of ADHD and treatment practices in these regions and establish a baseline for gauging changes over time in the study sample.

- 09-34. Mattison, R.E., & Schneider, J. (2009). First-year effectiveness on school functioning of a self-contained ED middle school. *Behavioral Disorders*, 34, 60-71.

Students new to a self-contained middle school for students with emotional disturbance (ED) were followed during their first year to assess the effectiveness of the program on school functioning and psychopathology. Measures for academic functioning (grade point average and subject failures), attendance (absenteeism and lateness), and disciplinary referrals (with and without out-of-school suspension) were obtained for the year prior to enrollment as well as at the completion of the first year in the program. Pre and post psychopathology were also rated for the students through the teacher version of the *Adolescent Symptom Inventory* (ASI-4T). Significant improvement with an average effect size of .61 was found for 5 of the 6 functional measures, as well as for the conduct disorder and attention-deficit hyperactivity disorder (inattentive type) categories of the ASI-4T. Thus, first-year effectiveness was found for the ED program, although the levels of absenteeism, disciplinary referrals, and psychopathology remained of concern.

- 09-35. McCabe, K., & Yeh, M. (2009). Parent-child interaction therapy for Mexican Americans: A randomized clinical trial. *Journal of Clinical Child and Adolescent Psychology*, 38, 753-759.

This study compared the effectiveness of a culturally modified version of Parent-Child Interaction Therapy (PCIT), called *Guiando a Niños Activos* (GANA), to the effectiveness of standard PCIT and Treatment as Usual (TAU) for young Mexican American children with behavior problems. Fifty-eight Mexican American families whose 3- to 7-year-old child had a clinically significant behavior problems [assessed in part with the *Early Childhood Inventory-4*] were randomly assigned to GANA, standard PCIT, or TAU. All three treatment approaches produced significant pre-post improvement in conduct problems across a wide variety of parent-report measures. GANA produced results that were significantly superior to TAU across a wide variety of both parent report and observational indices; however, GANA and PCIT did not differ significantly from one another. PCIT was superior to TAU on two of the parent report indices and almost all of the observational indices. There were no significant differences between the three groups on treatment dropout, and families were more satisfied with both GANA and PCIT than with TAU.

- 09-36. Miranda, A., Grau, D., Rosel, J., & Melia, A. (2009). Understanding discipline in families of children with attention-deficit/hyperactivity disorder: a structural equation model. *Spanish Journal of Psychology*, 12, 496-505.

One hundred and fifty-five mothers of children with attention deficit/hyperactivity disorder (ADHD) completed a semi-structured interview, the Parenting Stress Index Questionnaire (Abidin, 1990), to evaluate parenting stress. The Parenting Scale (Arnold, O'Leary, Wolff & Acker, 1993) was also administered to measure dysfunctional discipline strategies. Structural equation modeling was used to test a model in which the independent variables were the Child's Characteristics and the Socio-Educational Status of his or her family; intermediate variables were Parenting Stress concerning the Child Domain and concerning the Parent Domain; and the dependent variable was Parental Discipline. The results confirm our hypotheses. Interventions in these families should therefore incorporate a component focused on Parenting Stress (in both the Child Domain and the Parent Domain), as a determinant of Parental Discipline.

- 09-37. Pakalnis, A., Splaingard, M., Splaingard, D., Kring, D., & Colvin, A. (2009). Serotonin effects on sleep and emotional disorders in adolescent migraine source. *Headache*, 49, 1486-1492.

Objectives: To determine frequency of emotional disorders and sleep disturbances in adolescent migraineurs with episodic and chronic headaches. To determine the relationship of whole blood serotonin, caffeine consumption, and frequency of sleep and mood disorders. Background: The neurotransmitter serotonin has been implicated to play a role in the initiation and maintenance of sleep and in modulating mood. A putative role in migraine pathophysiology is also known. Methods: Adolescents from 13 to 17 years of age were identified from our headache clinic with episodic or chronic migraine (according to International Classification of Headache Disorders-Second Edition criteria) and healthy controls enrolled. Psychological rating scales were completed, including *Adolescent Symptom Inventory-4* and Child Depression Inventory. Sleep questionnaires (Pediatric Sleep Questionnaire and Child Sleep Habit Questionnaire) were completed by the teenager's parents/guardian. Whole blood serotonin levels were drawn and analyzed and caffeine consumption obtained by history. Results: A total of 18 controls (8 girls) and 15 patients each with episodic migraines (9 girls) and chronic migraine (10 girls) were studied. Patients with headache had significantly more sleep problems than controls. Patients with chronic migraines had increased daytime sleepiness and dysthymia compared with teenagers with episodic migraines. Serotonin levels were not significantly different, and no association was noted between serotonin levels and sleep abnormalities or emotional rating scales. Increased caffeine intake was related to sleep and depressive complaints. Conclusions: Sleep and emotional disorders were common in adolescents with migraine. Sleep disorders and dysthymia were more prevalent with increased headache frequency. No correlation was noted with whole blood serotonin levels.

- 09-38. Rapport, M.D., Bolden, J., Kofler, M. J., Sarver, D.E., Raiker, J.S., & Alderson, R. M. (2009). Hyperactivity in boys with attention-deficit/hyperactivity disorder (ADHD): A ubiquitous core symptom or manifestation of working memory deficits? *Journal of Abnormal Child Psychology*, 37, 521-534.

Hyperactivity is currently considered a core and ubiquitous feature of attention-deficit/hyperactivity disorder (ADHD); however, an alternative model challenges this premise and hypothesizes a functional relationship between working memory (WM) and activity level. The current study investigated whether children's activity level is



functionally related to WM demands associated with the domain-general central executive and subsidiary storage/rehearsal components using tasks based on Baddeley's (Working memory, thought, and action. New York: Oxford University Press 2007) WM model. Activity level was objectively measured 16 times per second using wrist- and ankle-worn actigraphs while 23 boys between 8 and 12 years of age completed control tasks and visuospatial/phonological WM tasks of increasing memory demands. **[Assessment instruments included the Child Symptom Inventory-4.]** All children exhibited significantly higher activity rates under all WM relative to control conditions, and children with ADHD ( $n = 12$ ) moved significantly more than typically developing children ( $n=11$ ) under all conditions. Activity level in all children was associated with central executive but not storage/rehearsal functioning, and higher activity rates exhibited by children with ADHD under control conditions were fully attenuated by removing variance directly related to central executive processes.

- 09-39. Roohi, J., DeVincent, C.J., Hatchwell, E., & Gadow, K.D. (2009). Association of a monoamine oxidase-A gene promoter polymorphism with ADHD and anxiety in boys with autism spectrum disorder. *Journal of Autism and Developmental Disorders*, 39, 67-74.

The aim of the present study was to examine the association between a variable number tandem repeat (VNTR) functional polymorphism in the promoter region of the MAO-A gene and severity of ADHD and anxiety in boys with ASD. Parents and teachers completed a DSM-IV-referenced rating scale **[Child Symptom Inventory-4]** for 5 -to- 14 year old boys with ASD ( $n=43$ ). Planned comparisons indicated that children with the 4- versus 3-repeat allele had significantly ( $p<.05$ ) more severe parent-rated ADHD inattention and impulsivity, and more severe teacher-rated symptoms of generalized anxiety. Our results support a growing body of research indicating that concomitant behavioral disturbances in children with ASD warrant consideration as clinical phenotypes, but replication with independent samples is necessary to confirm this preliminary finding.

- 09-40. Schneider, J., Gadow, K.D., Crowell, J.A., et al. (2009). Anxiety in boys with attention-deficit/hyperactivity disorder with and without chronic multiple tic disorder. *Journal of Child and Adolescent Psychopharmacology*, 19, 737-748.

Objective: This study examined the psychosocial and behavioral concomitants of anxiety in clinic-referred boys with attention-deficit/hyperactivity disorder (ADHD) with and without chronic multiple tic disorder (CMTD). Method: ADHD boys with ( $n=65$ ) and without ( $n=94$ ) CMTD were evaluated with measures of psychiatric symptoms **[including the Child Symptom Inventory-4]**, mental health risk factors, and academic and social performance. Results: Boys with CMTD evidenced more severe anxiety and less social competence and were more likely to be living with only one biological parent than the ADHD Only group, but the magnitude of group differences was generally small. The severity of generalized anxiety, separation anxiety, social phobia, and obsessive-compulsive symptoms were uniquely associated with a different pattern of risk factors, and there was some evidence that these patterns differed for the two groups of boys. Conclusion: Boys with CMTD had a relatively more severe and complex pattern of anxiety that was associated with different clinical features, all of which suggests that ADHD plus CMTD might better be conceptualized as a distinct clinical entity from ADHD Only. However, findings from the extant literature are mixed, and therefore this remains a topic for further study.

- 09-41. Schoenfeld, N.A., & Mathur, S.R. (2009). Effects of cognitive-behavioral Intervention on the school performance of students with emotional or behavioral disorders and anxiety. *Behavioral Disorders*, 34, 184-195.

Despite widespread treatment success in clinical settings, anxiety disorders are rarely targeted for intervention in students with emotional or behavioral disorders (EBD) who exhibit them. This study examined the effects of a school-based anxiety intervention on the performance of 3 students attending school in a self-contained EBD setting. Using a single-subject, multiple-baseline design across students, this study examined changes in anxiety, maladaptive behavior, and academic engagement as functions of participation in the cognitive-behavioral anxiety intervention, FRIENDS for Life. **[Child Symptom Inventory-4 was used to assess symptoms of generalized anxiety disorder.]** All 3 participants showed improvement across all measures. Implications for the implementation of a school-based intervention for EBD students who experience high degrees of anxiety, as well as study limitations and directions for future research, are discussed.

- 09-42. Shannon, K.E., Sauder, C., Beauchaine, T.P., & Gatzke-Kopp, L.M. (2009). Disrupted effective connectivity between the medial frontal cortex and the caudate in adolescent boys with externalizing behavior disorders.

*Criminal Justice and Behavior*, 36, 1141-1157.

Studies addressing the neural correlates of criminal behavior have focused primarily on the prefrontal cortex and the amygdala. However, few studies have examined dopaminergic inputs to these or other brain regions, despite the fact that central dopamine (DA) dysfunction is associated with both trait impulsivity and novelty seeking. Given long-standing associations between both of these personality traits and externalizing psychopathology, the authors examined effective connectivity between the caudate nucleus and the anterior cingulate cortex, two areas that rely on DA input to facilitate associative learning and goal directed behavior. **[Potential participants were initially evaluated with the *Child Symptom Inventory-4* or the *Adolescent Symptom Inventory-4*.]** Dysfunction in top-down and bottom-up processing within this dopaminergically mediated frontostriatal circuit may be an important biological vulnerability that increases one's likelihood of engaging in delinquent and criminal behavior. When compared with controls, reduced effective connectivity between these regions among adolescents with externalizing psychopathology was found, suggesting deficiencies in frontostriatal circuitry.

- 09-43 Silk, J.S., Siegle, G.J., Whalen, D.J., Ostapenko, L.J., Ladouceur, C.D., & Dahl, R.E. (2009). Pubertal changes in emotional information processing: Pupillary, behavioral, and subjective evidence during emotional word verification. *Development and Psychopathology*, 21, 7-26.

This study investigated pupillary and behavioral responses to an emotional word valence identification paradigm among 32 pre-/early pubertal and 34 mid-/late pubertal typically developing children and adolescents **[pre-screened on either the *Child Symptom Inventory-4* or *Adolescent Symptom Inventory-4*]**. Participants were asked to identify the valence of positive, negative, and neutral words while pupil dilation was assessed using an eyetracker. Mid-/late pubertal children showed greater peak pupillary reactivity to words presented during the emotional word identification task than pre-/early pubertal children, regardless of word valence. Mid-/late pubertal children also showed smaller sustained pupil dilation than pre-/early pubertal children after the word was no longer on screen. These findings were replicated controlling for participants' age. In addition, mid-/late pubertal children had faster reaction times to all words, and rated themselves as more emotional during their laboratory visit compared to pre-/early pubertal children. Greater recall of emotional words following the task was associated with mid-/late pubertal Status, and greater recall of emotional words was also associated with higher peak pupil dilation. These results provide physiological, behavioral, and subjective evidence consistent with a model of puberty-specific changes in neurobehavioral systems underpinning emotional reactivity.

- 09-44. Volpe, R. J., Gadow, K.D., Blom-Hoffman, J., & Feinberg, A.B. (2009). Factor-analytic and individualized approaches to constructing brief measures of ADHD behaviors. *Journal of Emotional and Behavioral Disorders*, 17, 118-128.

Two studies were performed to examine a factor-analytic and an individualized approach to creating short progress-monitoring measures from the longer ***ADHD-Symptom Checklist-4*** (ADHD-SC4). In study 1, teacher ratings on items of the ADHD: Inattentive (IA) and ADHD:Hyperactive-Impulsive (HI) scales of the ADHD-SC4 were factor analyzed in a normative data sample of 493 students aged 5 to 12 years. Items with the highest factor loadings were then selected to create abbreviated IA and HI scales for study 2. In study 2, the psychometric characteristics of two shortened progress-monitoring measures (factor derived and individualized) and the original IA and HI scales of the ADHD-SC4 were examined in a sample of 26 students aged 4 to 17 years in a medication titration study involving baseline and three doses of methylphenidate. The results indicated comparable psychometric properties across the original and abbreviated versions of the IA and HI scales.

- 09-45. Wang, Y., Mathews, V.P., Kalnin, A.J., Mosier, K.M., Dunn, D.W., Saykin, A.J., & Kronenberger, W.G. (2009). Short term exposure to a violent video game induces changes in frontolimbic circuitry in adolescents. *Brain Imaging and Behavior*, 3, 38-50.

Despite evidence of effects of violent video game play on behavior, the underlying neuronal mechanisms involved in these effects remain poorly understood. We report a functional MRI (fMRI) study during two modified Stroop tasks performed immediately after playing a violent or nonviolent video game. **[Youths were screened for psychopathology with the *Adolescent Symptoms Inventory-4*.]** Compared with the violent video game group, the nonviolent video game group demonstrated more activation in some regions of the prefrontal cortex during the Counting Stroop task. In contrast to the violent video game group, significantly stronger functional connectivity

between left dorsolateral prefrontal cortex (DLPFC) and anterior cingulate cortex (ACC) was identified in the nonviolent video game group. During an Emotional Stroop task, the violent video game group showed more activity in the right amygdala and less activation in regions of the medial prefrontal cortex (MPFC). Furthermore, functional connectivity analysis revealed the negative coupling between right amygdala and MPFC in the nonviolent video game group. By contrast, no significant functional connectivity between right amygdala and MPFC was found in the violent video game group. These results suggest differential engagement of neural circuitry in response to short term exposure to a violent video game as compared to a nonviolent video game.

- 09-46. White, S.W., Ollendick, T., Scahill, L., Oswald, D., & Albano, A.M. (2009). Preliminary efficacy of a cognitive-behavioral treatment program for anxious youth with autism spectrum disorders. *Journal of Autism and Developmental Disorders*, 39, 1652-1662.

Anxiety is a commonly occurring psychiatric concern in adolescents with autism spectrum disorders (ASD). This pilot study examined the preliminary efficacy of a manual-based intervention targeting anxiety and social competence in four adolescents with high-functioning ASD. Anxiety and social functioning were assessed at baseline, midpoint, endpoint, and 6 months following treatment. **[Anxiety was assessed with the 20-item *Child and Adolescent Symptom Inventory-4 Autism Spectrum Disorder Anxiety Scale (CASI-Anx)*.]** Treatment consisted of cognitive-behavioral therapy, supplemented with parent education and group social skills training. The treatment program was effective in reducing anxiety in three of the four subjects and improving the social skills in all four subjects. Recommendations for the assessment and treatment of anxiety youth with ASD such as use of self-report measures to complement clinician and parent-reports and adaptations to traditional child-based CBT, are offered.

## YEAR: 2008

- 08-1. Abikoff, H.B., Vitiello, B., Riddle, M.A., Cunningham, C., Greenhill, L.L., Swanson, J.M., Chuang, S.Z., Davies, M., Kastelic, E., Wigal, S.B., Evans, L., Ghuman, J.K., Kollins, S.H., McCracken, J.T., McGough, J.J., Murray, D.W., Posner, K., Skrobala, A.M., & Wigal, T. (2008). Methylphenidate effects on functional outcomes in the preschoolers with attention-deficit/hyperactivity disorder treatment study (PATS). *Journal of Child and Adolescent Psychopharmacology*, 17, 581-592.

Objective: The purpose of this study was to examine the effects of methylphenidate (MPH) on functional outcomes, including children's social skills, classroom behavior, emotional status, and parenting stress, during the 4-week, double-blind placebo controlled phase of the Preschoolers with Attention Deficit/ Hyperactivity Disorder (ADHD) Treatment Study (PATS). Methods: A total of 114 preschoolers who had improved with acute MPH treatment, were randomized to their best MPH dose ( $M=4.22$  mg/day;  $n=63$ ) or placebo (PL;  $n=51$ ). Assessments included the Clinical Global Impression-Severity (CGI-S), parent and teacher versions of the Strengths and Weaknesses of ADHD-Symptoms and Normal Behaviors (SWAN), Social Competence Scale (SCS), Social Skills Rating System (SSRS), and ***Early Childhood Inventory-4*** (ECI-4), and Parenting Stress Index (PSI). Results: Medication effects varied by informant and outcome measure. Parent measures and teacher SWAN scores did not differentially improve with MPH. Parent-rated depression ( $p=0.02$ ) and dysthymia ( $p=0.001$ ) on the ECI worsened with MPH, but scores were not in the clinical range. Significant medication effects were found on clinician CGI-S ( $p=0.0001$ ) and teacher social competence ratings (SCS,  $p=0.03$ ). Conclusions: Preschoolers with ADHD treated with MPH for 4 weeks improve in some aspects of functioning. Additional improvements might require longer treatment, higher doses, and/or intensive behavioral treatment in combination with medication.

- 08-2. Alderson, R.M., Rapport, M.D., Sarver, D.E., & Kofler, M.J. (2008). ADHD and behavioral inhibition: A re-examination of the stop-signal task. *Journal of Abnormal Child Psychology*, 36, 989-998.

The current study investigates two recently identified threats to the construct validity of behavioral inhibition as a core deficit of attention-deficit/hyperactivity disorder (ADHD) based on the stop-signal task: calculation of mean reaction time from go-trials presented adjacent to intermittent stop-trials, and non-reporting of the stop-signal delay metric. **[One of the diagnostic measures was the *Child Symptom Inventory-4*.]** Children with ADHD ( $n = 12$ ) and typically developing (TD) children ( $n = 11$ ) were administered the standard stop-signal task and three variant stop-signal conditions. These included a no-tone condition administered without the presentation of an auditory tone; an ignore-tone condition that presented a neutral (i.e., not associated with stopping) auditory tone; and a

second ignore-tone condition that presented a neutral auditory tone after the tone had been previously paired with stopping. Children with ADHD exhibited significantly slower and more variable reaction times to go-stimuli, and slower stop-signal reaction times relative to TD controls. Stop-signal delay was not significantly different between groups, and both groups' go-trial reaction times slowed following meaningful tones. Collectively, these findings corroborate recent meta-analyses and indicate that previous findings of stop-signal performance deficits in ADHD reflect slower and more variable responding to visually presented stimuli and concurrent processing of a second stimulus, rather than deficits of motor behavioral inhibition.

- 08-3. Barry, J.J., Ettinger, A.B., Friel, P., Gilliam, F.G., Harden, C.L., Hermann, B., Kanner, A.M., Caplan, R., Plioplys, S., Salpekar, J., Dunn, D., Austin, J., & Jones, J. (2008). Consensus statement: The evaluation and treatment of people with epilepsy and affective disorders. *Epilepsy & Behavior*, 13(Suppl.1), S1-S29.

Affective disorders in people with epilepsy (PWE) have become increasingly recognized as a primary factor in the morbidity and mortality of epilepsy. To improve the recognition and treatment of affective disorders in PWE, an expert panel comprising members from the Epilepsy Foundation's Mood Disorders Initiative have composed a Consensus Statement. This document focuses on depressive disorders in particular and reviews the appearance and treatment of the disorder in children, adolescents, and adults. Idiosyncratic aspects of the appearance of depression in this population, along with physiological and cognitive issues and barriers to treatment, are reviewed. Finally, a suggested approach to the diagnosis of affective disorders in PWE is presented in detail. This includes the use of psychometric tools for diagnosis [**Child Symptom Inventory-4 and Youth's Inventory-4 are two of several measures noted**] and a stepwise algorithmic approach to treatment. Recommendations are based on the general depression literature as well as epilepsy-specific studies. It is hoped that this document will improve the overall detection and subsequent treatment of affective illnesses in PWE.

- 08-4. Bastiaens, L. (2008). Both atomoxetine and stimulants improve quality of life in an ADHD population treated in a community clinic. *Psychiatric Quarterly*, 79, 133-137.

Objective: To evaluate change in quality of life in a community clinic ADHD population treated with atomoxetine or stimulants. No direct comparisons between atomoxetine and stimulants to improve quality of life in ADHD are available. Methods: A prospective, nonrandomized comparison between ADHD patients treated with atomoxetine or stimulants in one clinic. Structured diagnostic assessment tools [**including the Child Symptom Inventory-4 and the Adolescent Symptom Inventory-4**] and a specific quality of life measure were used. Results: 84 patients (atomoxetine n = 39/stimulants n = 45), between the ages of 5 and 18, were treated for approximately 8 months. At end point, there were no significant differences in improvements of quality of life between the two groups. Age, participation in psychotherapy, and parental disability were not correlated with quality of life changes. Patients with lower baseline scores improved most. Conclusions: Both atomoxetine and stimulants led to a modest increase in quality of life in this community clinic ADHD population.

- 08-5. Beachine, T.P., Hong, J., & Marsh, P. (2008). Sex differences in autonomic correlates of conduct problems and aggression. *Journal of the American Academy of Child and Adolescent Psychiatry*, 47, 788-796.

Objective: To examine sex differences in autonomic nervous system functioning in children and adolescents with conduct problems and to evaluate the role of aggression in predicting autonomic nervous system functioning, over and above the effects of disruptive behavior. Although deficiencies in autonomic responding among boys with oppositional defiant disorder and/or conduct disorder are well documented, it remains unclear whether such findings extend to girls or apply only to children with aggressive forms of conduct problems. Method: Electrodermal responding, cardiac pre-ejection period, and respiratory sinus arrhythmia were recorded while boys (n = 110; 53 with conduct problems, 57 controls) and girls (n = 65; 33 with conduct problems, 32 controls) between the ages of 8 and 12 sat for an extended baseline, then played a game with conditions of reward and frustrative nonreward. [**Aggressive behavior was assessed with the Child Symptom Inventory-4.**] Results: Both sex effects and aggression effects were found. Aggressive boys with conduct problems demonstrated reduced autonomic functioning, consistent with previous research. In contrast, aggressive girls with conduct problems exhibited greater electrodermal responding than controls, with no differences in cardiovascular reactivity to incentives. Conclusions: Observed sex differences in the autonomic correlates of conduct problems and aggression may suggest different etiological mechanisms of externalizing psychopathology for girls compared with boys.

- 08-6 . Bubier, J.L., & Drawback, D.A.G. (2008). Affective decision-making and externalizing behaviors: The role of autonomic activity *Journal of Abnormal Child Psychology*, 36, 941-953.

We tested a conceptual model involving the inter-relations among affective decision-making (indexed by a gambling task), autonomic nervous system (ANS) activity, and attention-deficit/hyperactivity disorder (ADHD) and oppositional defiant disorder (ODD) symptoms in a largely impoverished, inner city sample of first through third grade children (N=63, 54% male). The present study hypothesized that impaired affective decision-making and decreased sympathetic and parasympathetic activation would be associated with higher levels of ADHD and ODD symptoms [**assessed with the *Child Symptom Inventory-4***], and that low sympathetic and parasympathetic activation during an emotion-inducing task would mediate the relation between affective decision-making and child externalizing symptoms. In support of our model, disadvantageous decision-making on a gambling task was associated with ADHD hyperactivity/impulsivity symptoms among boys, and attenuated sympathetic activation during an emotion-inducing task mediated this relation. Support for the model was not found among girls.

- 08-7. Cromley, T., & Lavigne, J.V. (2008). Predictors and consequences of early gains in child psychotherapy. *Psychotherapy*, 45, 42-60.

This study examined the predictors and consequences of early gains among children ( $n=130$ ) receiving psychotherapeutic treatment as usual for a variety of disorders. Classification tree analysis showed that not receiving Medicaid, plus receiving a medication consult, were associated with any early gain (i.e., reliable change on one or more clinical scales of the ***Child Symptom Inventory-4***, with the early gain either remaining in the clinical range or moving to a subclinical level) within the first eight treatment sessions, but only Medicaid status predicted subclinical gains. Overall, patients showing a subclinical early gain showed better long-term improvement in treatment than those with no subclinical gain; patterns of change for those with and without any early gain were similar but with smaller differences between groups.

- 08-8. Crowell, S.E., Beauchaine, T.P., McCauley, E., Smith, C.J., Vasilev, C.A., & Stevens, A.L. (2008). Parent-child interactions, peripheral serotonin, and self-inflicted injury in adolescents. *Journal of Consulting and Clinical Psychology*, 76, 15-21

Self-inflicted injury in adolescence indicates significant emotional and psychological suffering. Although data on the etiology of self-injury are limited, current theories suggest that the emotional lability observed among self-injuring adolescents results from complex interactions between individual biological vulnerabilities and environmental risk. For example, deficiencies in serotonergic functioning, in conjunction with certain family interaction patterns, may contribute to the development of emotional lability and risk for self-injury. The authors explored the relation between peripheral serotonin levels and mother-child interaction patterns among typical ( $n = 21$ ) and self-injuring ( $n = 20$ ) adolescents. [**Measures of psychopathology included the *Adolescent Symptom Inventory-4* and the *Youth's Inventory-4*.**] Findings revealed higher levels of negative affect and lower levels of both positive affect and cohesiveness among families of self-injuring participants. Peripheral serotonin was also correlated with the expression of positive affect within dyads. Furthermore, adolescents' serotonin levels interacted with negativity and conflict within dyads to explain 64% of the variance in self-injury. These findings underscore the importance of considering both biological and environmental risk factors in understanding and treating self-injuring adolescents.

- 08-9. DeVincent, C., Gadow, K.D., Strong, G., Schwartz, J., & Cuva, S. (2008). Screening for autism spectrum disorder with the Early Childhood Inventory-4. *Journal of Developmental and Behavioral Pediatrics*, 29, 1-10.

Objective: The early identification of children with Autism Spectrum Disorders (ASD) is critical for the remediation of developmental deficits. This study examined the clinical utility of ASD scoring algorithms for the ***Early Childhood Inventory-4 (ECI-4)***, a DSM-IV-referenced rating scale, as a practical solution for screening 3-to-5 year old children for ASD in medical and public school settings. Methods: Parents/teachers completed the ECI-4 for 3-to-5 year old clinic referrals with an ASD ( $N=196$ ) or nonASD psychiatric ( $N=135$ ) diagnosis. Children attending early childhood (i.e., day care, preschool, Head Start) programs were also rated by their parents ( $N=507$ ) and teachers ( $N=407$ ). Results: Stepwise logistic regression was used to generate ASD scoring algorithms for the ECI-4. ROC analyses generally indicated high levels of sensitivity/specificity for recommended ASD cutoff scores for parent (clinic: .96/.80; preschool: .92/.96) and teacher (clinic: .81/.79; preschool: .97/.92) ratings. Conclusion: Findings indicate that the ECI-4 shows promise as a clinically useful screening measure for ASD in clinic-referred

and preschool children. Further research is clearly warranted.

- 08-10. Domenech-Llaberia, E., Jane, M.C., Corbella, T., Ballespi, S., & Mitjavila, M., & Canals, J. (2008) Teacher reports of peer aggression in preschool: its relationship to DSM-IV externalizing symptoms *Spanish Journal of Psychology*, 11, 433-442.

Objective: to establish the prevalence and associations of peer aggression as manifested in preschool children, in community-based populations and to study links with DSM-IV externalizing diagnoses. Method: Subjects were 1,104 children, 3-to-5-year-olds attending rural and urban pre-schools classes. Teachers, completed the Peer Conflict Scale (PCS) to inform about direct physical and verbal aggression, object aggression and symbolic aggression and the questionnaire on psychopathology, **Early Childhood Inventory-4**. Results: 6.6% (n = 73) had at least one positive item on the PCS. This percentage dropped to 2.6% (n = 29) if we take into account a minimum of three positive items. Physical direct aggression was the more prevalent type of aggressive behavior, followed by verbal aggression, object aggression and symbolic aggression. Significant differences by gender and age were found. Peer aggression was associated with male gender from three years of age. Physical, object and verbal aggressive behavior was linked with externalizing disorders. This association was very strong with oppositional disorder. Conclusions: The present research with a Spanish population confirms the existence of peer aggression in preschoolers and the gender differences. Our chief contribution is about the age of emergence of sex differences and gender differences in different types of peer aggression

- 08-11. Drabick, D.A.G., Gadow, K.D., & Loney, J. (2008). Co-occurring ODD and GAD symptom groups: Source-specific syndromes and cross-informant comorbidity. *Journal of Clinical Child and Adolescent Psychology*, 37, 314-326.

Objective: Despite important clinical and nosological implications, the comorbidity of oppositional defiant disorder (ODD) and generalized anxiety disorder (GAD) has received little attention. Method: A clinic-based sample of 243 boys (aged 6-10 years), their parents, and teachers participated in an evaluation that involved assessments of behavioral, academic, and family functioning. ODD and GAD symptom groups were defined using various combinations of mother- and teacher-reports using the **Child Symptom Inventory-4**. Results: ODD symptom groups were associated with CD symptoms, and GAD symptom groups with MDD symptoms, regardless of rater. ADHD symptoms were associated with ODD and GAD symptom groups; however, covarying ADHD symptoms altered few findings. The ODD+GAD symptom groups were associated with higher rates of co-occurring symptoms and risk factors within (source-specific syndromes) and across (cross-informant comorbidity) informants.

- 08-12. Gadow, K.D., DeVincent, C.J., & Drabick, D.A.G. (2008). Oppositional defiant disorder as a clinical phenotype in children with autism spectrum disorder. *Journal of Autism and Developmental Disorders*, 38, 1302-1310.

Objective: To examine the validity of oppositional defiant disorder (ODD) as a clinical phenotype distinct from attention-deficit hyperactivity disorder (ADHD), parents and teachers completed either the **Early Childhood Inventory-4** or the **Child Symptom Inventory-4**, DSM-IV-referenced rating scales and a background questionnaire for 608 children (ages 3-12 years) with autism spectrum disorder (ASD). Method: The ASD sample was separated into four groups: ODD, ADHD, ODD+ADHD, and neither (NONE). Comparison samples were nonASD clinic (n=326) and community (n>800) controls. Results: In the ASD sample, all three ODD/ADHD groups were clearly differentiated from the NONE group, and the ODD+ADHD group had the most severe co-occurring symptoms, medication use, and environmental disadvantage. There were few differences between ASD+ODD and ASD+ADHD groups. Conclusion: Findings for ASD and control samples were similar, supporting overlapping mechanisms in the pathogenesis of ODD.

- 08-13. Fastenau, P.S., Shen, J.Z., Dunn, D.W., & Austin, J.K. (2008). Academic underachievement among children with epilepsy proportion exceeding psychometric criteria for learning disability and associated risk factors. *Journal of Learning Disabilities*, 41, 195-207.

This study assessed rates of learning disabilities (LD) by several psychometric definitions in children with epilepsy and identified risk factors. Participants (N = 173, ages 8-15 years) completed IQ screening, academic achievement testing, and structured interviews. Children with significant head injury, chronic physical conditions, or mental retardation were excluded. Using an IQ-achievement discrepancy definition, 48% exceeded the cutoff

for LD in at least one academic area; using low-achievement definitions, 41% to 62% exceeded cutoffs in at least one academic area. Younger children with generalized nonabsence seizures were at increased risk for math LD using the IQ-achievement discrepancy definition; age of seizure onset and attention-deficit/hyperactivity disorder (ADHD) [assessed with the **Child Symptom Inventory-4, Adolescent Symptom Inventory-4**] were risk factors for reading and math LD using low-achievement definitions. Writing was the most common domain affected, but neither ADHD nor seizure variables reliably identified children at risk for writing LD. Although children with earlier seizure onset, generalized nonabsence seizures, and comorbid ADHD appear to be at increased risk for some types of LD by some definitions, these findings largely suggest that all children with epilepsy should be considered vulnerable to LD. A diagnosis of epilepsy (even with controlled seizures and less severe seizure types) should provide sufficient cause to screen school-age children for LD and comorbid ADHD.

- 08-14. Gadow, K.D., DeVincent, C., & Schneider, J. (2008). Predictors of psychiatric symptoms in children with an autism spectrum disorder. *Journal of Autism and Developmental Disorders*, 38, 1710-1720.

Objective: This study examined mental health risk/protective factors for DSM-IV psychiatric symptoms in children with an autism spectrum disorder (ASD) and their contribution to functioning separate from ASD symptom severity. Method: Mothers/teachers completed the **Child Symptom Inventory-4** and measures of risk/protection and social, adaptive, and school functioning in 6-to-12 year olds with a diagnosed ASD ( $N=238$ ). Results: Bivariate correlations and simultaneous regression analyses indicated a unique pattern of predictors for attention-deficit/hyperactivity disorder, aggression, anxiety, and depression symptoms. Moreover, psychiatric symptoms differentially predicted social and school performance. Conclusion: Findings indicate that co-occurring psychiatric symptoms and their associated mental health risk/protective factors may have important clinical implications and generally support a biopsychosocial model of psychopathology in children with an ASD that appears to share many similarities with models for nonASD children.

- 08-15. Gadow, K.D., Nolan, E.E., Sverd, J., et al. (2008). Methylphenidate in children with oppositional defiant disorder and both co-morbid chronic multiple tic disorder and ADHD. *Journal of Child Neurology*, 23, 981-990.

Objective: Our primary objective was to determine if immediate-release methylphenidate is an effective treatment for oppositional defiant disorder diagnosed from mother's report in children with both chronic multiple tic disorder and attention-deficit hyperactivity disorder (ADHD). Method: Children ( $N=31$ ) ages 6 to 12 years received placebo and three doses of methylphenidate twice daily for 2 weeks each, under double-blind conditions and were assessed with ratings scales and laboratory measures. [Diagnostic measures included the **Child Symptom Inventory-4**.] Results: Results indicated significant improvement in both oppositional and ADHD behaviors with medication; however, magnitude of treatment effect varied considerably as a function of disorder (ADHD>oppositional behaviors), informant (teacher>mother), assessment instrument, and specific oppositional behavior (rebellious>disobeys rules). Drug response was comparable to children ( $N=26$ ) who did not have diagnosed oppositional defiant disorder, but co-morbidity appeared to alter the perceived benefits for ADHD according to mother's report. Conclusion: Methylphenidate is an effective short-term treatment for oppositional behavior in children with co-morbid ADHD and chronic multiple tic disorder.

- 08-16. Gadow, K.D., Roohi, J., DeVincent, C.J., & Hatchwell, E. (2008). Association of ADHD, tics, and anxiety with dopamine transporter (*DAT1*) genotype in autism spectrum disorder. *Journal of Child Psychology and Psychiatry*, 49, 1331-1338.

Background: Autism spectrum disorder (ASD) is associated with high rates of psychiatric disturbance to include attention-deficit/hyperactivity disorder (ADHD), tic disorder, and anxiety disorders. The aim of the present study was to examine the association between a variable number tandem repeat (VNTR) functional polymorphism located in the 3'-untranslated region of the dopamine transporter gene (*DAT1*) and the severity of these symptoms as well as the association between the *DAT1* *Ddel* polymorphism and severity of tics. Methods: Parents ( $n=62$ ) and teachers ( $n=57$ ) completed [the **Child Symptom Inventory-4**] a DSM-IV-referenced rating scale for 67 children with ASD. Results: According to parent ratings, children with the 10-10 repeat allele (versus a combined group of all other genotypes) exhibited less severe symptoms of hyperactivity and impulsivity as well as less severe language deficits. Teacher ratings indicated that social anxiety and tic symptoms were more severe for children with the 10-10 genotype versus all others. Exploratory analyses provided preliminary support for the notion that heterozygosity (9-10 repeat genotype) may be a risk/protective factor. There were no associations of tic

severity with the *DAT1 Ddel* polymorphism. Conclusion: Collectively, these results suggest that the extraordinary variability in ASD clinical phenotypes may be explained in part by the same genes that are implicated in a host of other psychiatric disorders in nonASD populations. Nevertheless, replication with independent samples is necessary to confirm this preliminary finding.

- 08-17. Gadow, K.D., Schwartz, J., DeVincent, C., Strong, G., & Cuva, S. (2008). Clinical utility of autism spectrum disorder scoring algorithms for the Child Symptom Inventory. *Journal of Autism and Developmental Disorders*, 38, 419-427.

Objective: Few studies examine the clinical utility of autism spectrum disorder (ASD) rating scales for screening referrals to child psychiatry clinics. Method: Parents/teachers from Long Island, NY, completed the **Child Symptom Inventory-4**, a DSM-IV-referenced rating scale for 6-to-12 year old clinical referrals with an ASD (*N*=317) or nonASD psychiatric (*N*=191) diagnosis. Two separate groups of children attending public school, regular education classes in the same geographic area were also rated by their parents (*N*=446) and teachers (*N*=464). Results: Stepwise forward regression generated a scoring algorithm based on a subset of all CSI-4 items that best differentiated ASD from nonASD children. ROC analyses indicated high levels of sensitivity/specificity for recommended ASD cutoff scores for parent and teacher ratings.

- 08-18. Ghanizadeh, A.A. (2008). A preliminary study on screening prevalence of pervasive developmental disorder in schoolchildren in Iran *Journal of Autism and Developmental Disorders*, 38, 759-763.

To study prevalence rates of pervasive developmental disorder (PDD) symptoms and differences between subtypes in school age Iranian children. A random sample of 2,000 school age children from both genders was selected. A parent-completed, DSM-IV-referenced rating scale of PDD symptoms [**Child Symptom Inventory-4**] was used. About 1.9% of the sample obtained screening cutoff scores for probable autistic disorder and 0.5 for probable asperger's disorder. The rate of probable PDD was not more in girls than the boys. The rate of suspected cases of PDD in Iran is very high and probable autistic disorder is not gender related. It shows the need for more consideration of PDD in the mental health programs planning.

- 08-19. Gouze, K.R., & Wendel, R. (2008). Integrative Module-Based Family Therapy: Application and training. *Journal of Marital and Family Therapy*, 34, 269-286.

The field of marriage and family therapy is currently at a crossroads. The challenge for contemporary therapists is how to incorporate the wisdom of previous models with the accountability that comes from evidence-based practice. The Integrative Module-Based Family Therapy treatment model provides a formalized series of steps that clinicians can use in their case planning and implementation. It is based on nine clinically relevant modules for assessment [**such as the Child Symptom Inventory-4**] and intervention that are consistent with current best practices and empirically supported treatments. It thus meets the need for a structured family therapy practice and training approach that is respectful of the "art" of family therapy while still adhering to the principles of the "science" of evidence-based treatment. CSI-4

- 08-20. Griesler, P.C., Kandel, D.B., Schaffran, C., Hu, M.C., & Davies, M. (2008). Adolescents' inconsistency in self-reported smoking - A comparison of reports in school and in household settings. *Public Opinion Quarterly*, 72, 260-290.

Extent and sources of inconsistency in self-reported cigarette smoking between self-administered school surveys and household interviews was examined in two longitudinal multiethnic adolescent samples, the urban Transition to Nicotine Dependence in Adolescence (TND) (*N* = 832) and the National Longitudinal Study of Adolescent Health (Add Health) (*N* = 4,414). Inconsistency was defined as a positive report of smoking in school followed by a negative report in the household. Smoking questions were ascertained with paper-and-pencil instruments (PAPI-SAQ) in school in both studies, and computer-assisted personal interviewing (CAPI) in TND but audio computer-assisted self-interviewing (ACASI) in Add Health in the household. [**The Youth's Inventory-4 was used to assess depression.**] In TND, 23.5 percent of youths who reported smoking lifetime and 20.4 percent of those who reported smoking the last 12 months in the school survey reported in the household never having smoked; in Add Health, the latter was 8.6 percent. Logistic regressions identified five common correlates of inconsistency across the two studies: younger age, ethnic minority status, lesser involvement in deviant activities, having nonsmoking parents



and friends. In TND, interviewing of youth and parent by the same interviewer increased inconsistent reporting. Matching the definition of inconsistent reporting and the age, gender and race/ethnic distributions of TND on an urban Add Health subsample reduced the predicted rate of inconsistency in TND. The estimated bias attributable to CAPI compared with ACASI methodology did not reach significance in the aggregated matched samples suggesting that irrespective of administration mode, household interviews decrease reporting of smoking, especially among younger, minority and more conventional youths embedded in a social network of nonsmokers.

- 08-21. Hartley, S.L., Sikora, D.M., & McCoy, R. (2008). Prevalence and risk factors of maladaptive behaviour in young children with Autistic Disorder. *Journal of Intellectual Disability Research*, 52, 819-829.

Background: Children with Autistic Disorder (AD) evidence more co-occurring maladaptive behaviours than their typically developing peers and peers with intellectual disability because of other aetiologies. The present study investigated the prevalence of Clinically Significant maladaptive behaviours during early childhood and identified at-risk subgroups of young children with AD. Method: Parents rated their child's maladaptive behaviours on the Child Behaviour Checklist (CBCL) in 169 children with AD aged 1.5 to 5.8 years. Results: One-third of young children with AD had a CBCL Total Problems score in the Clinically Significant range. The highest percentage of Clinically Significant scores were in the Withdrawal, Attention, and Aggression CBCL syndrome scales. There was a high degree of co-morbidity of Clinically Significant maladaptive behaviours. Several subject characteristic risk factors for maladaptive behaviours were identified. Conclusions: Findings highlight the need to include behavioural management strategies aimed at increasing social engagement, sustained attention and decreasing aggressive behaviour in comprehensive intervention programmes for young children with AD.

- 08-22. Hu, M.C., Muthen, B., Schaffran, C., Griesler, P.C., & Kandel, D.B. (2008). Developmental trajectories of criteria of nicotine dependence in adolescence. *Drug and Alcohol Dependence*, 98, 94-104.

We describe the nature and predictors of developmental trajectories of symptoms of DSM-IV nicotine dependence in adolescence following smoking initiation. Data are from a longitudinal cohort of 324 new smokers from grades 6-10 in the Chicago Public Schools interviewed 5 times at 6-month intervals. Monthly data on DSM-IV symptoms of nicotine dependence were available for 36 months. **[Depression symptoms were assessed with the Youth's (Self Report) Inventory-4.]** Growth Mixture modeling was applied to the monthly histories to identify trajectories of DSM-IV criteria of nicotine dependence. A four-class Solution best fitted the data: no DSM criterion (47.7%); early onset/chronic course (19.8%); early onset/remission (17.3%); late onset (15.2%). Blunt use prior to cigarette use was associated with the three symptomatic trajectories. Conduct disorder and prior heavy smoking were associated with Class 2 (chronic). Conduct disorder differentiated Class 2 from Class 4 (late onset). While pleasant initial sensitivity to the first tobacco experience was associated with Classes 2 and 3 (remit) and differentiated Class 2 from Class 4. Novelty seeking characterized Class 3. Parental dependence differentiated chronicity (Class 2) from remission (Class 3) among those who developed symptoms early. Being Hispanic reduced membership in Classes 3 and 4. and being male for Class 3. The data highlight the importance of parental nicotine dependence as a risk factor for early and sustained nicotine dependence by the offspring. Pleasant initial sensitivity and Conduct disorder for early onset of dependence and blunt use prior to smoking for all trajectories. The factors important for onset of dependence are not necessarily the same as those for Sustained Course.

- 08-23. Keenan, K., Hipwell, A., Feng, X., Babinski, D., Hinze, A., Rischall, M., Henneberger, A. (2008). Subthreshold symptoms of depression in preadolescent girls are stable and predictive of depressive disorders. *Journal of the American Academy of Child and Adolescent Psychiatry*, 47, 1433-1442.

Objective: Given the risk for adolescent depression in girls to lead to a chronic course of mental illness, prevention of initial onset could have a large impact on reducing chronicity. If symptoms of depression that emerge during childhood were stable and predictive of later depressive disorders and impairment, then secondary prevention of initial onset of depressive disorders would be possible. Method: Drawing from the Pittsburgh Girls Study, an existing longitudinal study, 232 nine-year-old girls were recruited for the present study, half of whom screened high on a measure of depression **[which included the Child Symptom Inventory-4]** at age 8 years. Girls were interviewed about depressive symptoms using a diagnostic interview at ages 9, 10, and 11 years. Caregivers and interviewers rated impairment in each year. Results: The stability coefficients for DSM-IV symptom counts for a 1- to 2-year interval were in the moderate range (i.e., intraclass coefficients of 0.40-0.59 for continuous symptom counts and Kendall tau coefficients of 0.34-0.39 for symptom level stability). Depressive disorders were also relatively stable

at this age. Poverty moderated the stability, but race and pubertal stage did not. Among the girls who did not meet criteria for a depressive disorder at age 9 years, the odds of meeting criteria for depressive disorders and for demonstrating impairment at age 10 or 11 years increased by 1.9 and 1.7, respectively, for every increase in the number of depression symptoms. Conclusions: Early-emerging symptoms of depression in girls are stable and predictive of depressive disorders and impairment. The results suggest that secondary prevention of depression in girls may be accomplished by targeting subthreshold symptoms manifest during childhood.

- 08-24. Kochanska, G., Barry, R.A., Aksan, N., & Boldt, L.J. (2008). A developmental model of maternal and child contributions to disruptive conduct: the first six years. *Journal of Child Psychology and Psychiatry*, 49, 1220-1227.

Background: The parent-child relationship is considered important for children's future conscience, and conscience is seen as protecting them from disruptive behavior problems, but specific mechanisms of this developmental process are rarely studied. Methods: This multi-trait multi-method study examined, in a longitudinal design, paths linking early maternal responsiveness to the child with the child's future conscience and disruptive behavior in 102 mother-child dyads. We tested a conceptual model where maternal responsiveness to the child, observed at 7 and 15 months, engenders a responsive stance in the child, observed at 25 and 38 months; that stance, in turn, becomes enduring and generalized, promoting multiple aspects of the child's conscience, observed at 52 months. In turn, conscience serves as a protective factor from disruptive behavior problems, rated by mothers and fathers at 67 months [**Child Symptom Inventory-4**]. Results: The postulated paths were examined using sequential regressions and mediation effects were tested using bootstrapping analyses. Child responsive stance at 25-38 months fully mediated the link between maternal responsiveness in infancy and conscience at 52 months, and conscience fully mediated the link between child responsive stance and future disruptive behavior at 67 months. Conclusions: Examination of developmental links among early maternal behavior, the child's responsive stance toward the mother, conscience, and disruptive behavior is a promising step toward elucidating mechanisms of children's adaptive and maladaptive trajectories.

- 08-25. Krull, K.R., Brouwers, P., Jain, N., Zhang, L., Bomgaars, L., Dreyer, Z., Mahoney, D., Bottomley, S., & Okcu, M.F. (2008). Folate pathway genetic polymorphisms are related to attention disorders in childhood leukemia survivors. *Journal of Pediatrics*, 152, 101-105.

Objective: To test the hypothesis that 5,10-methylenetetrahydroreductase (MTHFR) polymorphisms can partially explain the individual variation in developing attention-deficit/hyperactivity disorder (ADHD) after acute lymphoblastic leukemia (ALL) therapy. Study design: Parents of 48 survivors of childhood ALL completed a clinical diagnostic process to identify subtypes of ADHD. [**ADHD was assessed with the Child Symptom Inventory-4.**] Genotyping was performed with peripheral blood DNA for MTHFR (C677T and A1298C) polymorphisms. Results: Eleven of the 48 patients (22.9%) had scores consistent with the inattentive symptoms of ADHD. Patients with genotypes related to lower folate levels (11 out of 39; 39.2%) were more likely to have ADHD. The A1298C genotype appeared to be the predominant linkage to the inattentive symptoms, leading to a 7.4-fold increase in diagnosis, compared with a 1.3-fold increase for the C677T genotype. Age at diagnosis and sex were not associated with inattentiveness. Conclusions: Preliminary data imply a strong relationship between MTHFR polymorphisms and the inattentive symptoms of ADHD in survivors of childhood.

- 08-26. Ladouceur, C.D., Almeida, J.R.C., Birmaher, B., Axelson, D.A., Nau, S., Kalas, C., Monk, K., Kupfer, D.J., & Phillips, M.L. (2008). Subcortical gray matter volume abnormalities in healthy bipolar offspring: Potential neuroanatomical risk marker for bipolar disorder? *Journal of the American Academy of Child and Adolescent Psychiatry*, 47, 532-539.

Objective: A growing number of structural neuroimaging studies have shown that bipolar disorder (BD) is associated with gray matter (GM) volume abnormalities in brain regions known to support affect regulation. The goal of this study was to examine whole-brain regional GM volume in healthy bipolar offspring (HBO) relative to age-matched controls to identify possible structural abnormalities that may be associated with risk for BD. Method: Participants were 20 youths (8-17 years old) with at least one parent diagnosed with BD, and 22 age-matched healthy individuals. All of them were free of Axis I diagnoses. High-resolution magnetic resonance imaging structural images were acquired using a 3-T Siemens scanner. Voxel-based morphometric analyses were conducted using SPM5. [**Child Symptom Inventory-4 was one of several measures used to evaluate**

**psychiatric disorders.]** Results: Relative to controls, HBO had significantly increased GM volume in left parahippocampal/hippocampal gyrus ( $p < .05$  corrected), following whole-brain analyses. This increase was correlated with puberty but not age in HBO. Region-of-interest analyses on the amygdala and orbitomedial prefrontal cortex did not yield any significant group differences after conducting small volume correction. Conclusions: The pattern of increased GM volume in parahippocampal/hippocampal gyrus in HBO suggests a potential marker for risk for BD. It can also be considered as a potential neuroprotective marker for the disorder because HBO were free of current psychopathology. Prospective studies examining the relationship between changes in GM volume in these regions and subsequent development of BD in HBO will allow us to elucidate further the role of this region in either conferring risk for or protecting against the development of BD.

- 08-27. Lecavalier, L., & Gadow, K.D. (2008). Pharmacology effects and side effects. In Matson, J.L. (Ed.), *Clinical Assessment and Intervention for Autism Spectrum Disorders* (pp. 221-263). Elsevier Science.

This book chapter reviews evidence-based assessment instruments for evaluating response to psychotropic medication in individuals with autism spectrum disorder and includes discussion of the **Symptom Inventories**.

- 08-28. Loney, B.R., Fowler, S.N., & Joiner, T.E. (2008) Adolescent conduct problems and bulimic tendencies: Study of an emotional distress hypothesis. *Journal of Psychopathology and Behavioral Assessment*, 30, 298-306.

Prior research has documented an association between adolescent conduct problems and bulimic tendencies. However, there is limited theoretical modeling to explain this association, and prior studies have generally failed to assess for potential mediating variables of impulsivity, anxiety, and depression. The current study assessed these mediating variables in further exploring for unique associations between adolescent conduct problems and bulimic tendencies. A non-referred adolescent sample was assessed for bulimic tendencies, conduct problems, impulsivity, anxiety, and depression using a multi-informant assessment battery including parent, teacher, and self-report measures [including the **Adolescent Symptom Inventory-4** oppositional defiant disorder and conduct disorder symptom categories]. There was a significant bivariate association between conduct problems and bulimic tendencies,  $r=0.29$ ,  $p < 0.01$ . However, this association was fully mediated by anxiety and depression symptoms. This suggests that emotional distress could be a primary factor linking adolescent conduct problems and bulimic tendencies. Implications include the potential for more regular screening of youth with conduct problems for associated eating disturbances.

- 08-29. Moreland, A.D., & Dumas, J.E. (2008) Categorical and dimensional approaches to the measurement of disruptive behavior in the preschool years: A meta-analysis. *Clinical Psychology Review*, 28, 1059-1070.

Preschool disruptive behavior problems were investigated in a meta-analysis of 26 studies using categorical and/or dimensional approaches to assessment. The review sought to distinguish early disruptiveness from normative preschool conduct by showing that, irrespective of assessment methodology: (a) disruptiveness can be adequately measured in the preschool years; (b) early disruptiveness is stable over time; and (c) disruptive children referred for clinical services in the preschool years can be distinguished from non-referred peers. **[Four of the studies used the Early Childhood Inventory-4.]** Results indicated that: categorical and dimensional approaches to measurement of early disruptiveness provide comparable data (effect size  $d = 2.29$ ); both approaches yield comparable estimates of the stability of preschool disruptive behavior over time (categorical approach:  $d = 1.15$ ; dimensional approach:  $d = 0.84$ ); and both approaches discriminate between referred and non-referred preschoolers ( $d = 1.05$  and  $d = .95$ ). Limitations of the existing literature and of this analysis are discussed, as are suggestions for future research.

- 08-30. Pears, K.C., Kim, H.K., & Fisher, P.A. (2008). Psychosocial and cognitive functioning of children with specific profiles of maltreatment. *Child Abuse & Neglect*, 32, 958-971.

Objective: Up to 90% of child welfare system cases involve multiple types of maltreatment; however, studies have rarely incorporated multiple dimensions of maltreatment. The present study employed a latent profile analysis to identify naturally occurring subgroups of children who had experienced maltreatment. Methods: Reports of maltreatment incidents for 117 preschool-aged foster children were classified along two dimensions: type (e.g., physical abuse, sexual abuse, physical neglect, supervisory neglect, or emotional maltreatment) and severity within type. Results: The analyses revealed four distinct profiles showing moderate to high levels of maltreatment:

(a) supervisory neglect/emotional maltreatment; (b) sexual abuse/emotional maltreatment/neglect (when not otherwise specified neglect refers to both supervisory and physical neglect); (c) physical abuse/emotional maltreatment/neglect; and (d) sexual abuse/physical abuse/emotional maltreatment/neglect. Profile membership was examined with respect to the children's cognitive functioning and externalizing and internalizing problems **[assessed in part with the *Early Childhood Inventory-4*]**: lower cognitive functioning was related to profiles with neglect or physical abuse (or both), externalizing was highest in the sexual abuse/physical abuse/emotional maltreatment/neglect profile, and internalizing was highest in the profiles with physical OF sexual abuse (or both). Conclusions: There appear to be distinct profiles of maltreatment among preschoolers that have differential associations to measures of adjustment. Policy and practice implications and future research directions are discussed. Practice implications: Using different profiles Of Maltreatment to understand specific vulnerabilities may guide in tailoring interventions to the needs of maltreated children.

- 08-31. Poch, F.V., Ballabriga, M.C.J., Sans, J.C., Hidalgo, G.E., Sola, S.B., & Domenech-Llaberia, E. (2008). Assessment of psychopathology in preschool age children through the Early Childhood Inventory-4 (ECI-4): Agreement among parents and teachers. *Psicothema*, 20, 481-486.

The main purpose of this study is to determine the level of agreement among parents and teachers as informants in each one of the dimensions or diagnostic categories of the ***Early Childhood Inventory-4*** (ECI-4). Moreover, the effect of health problems in parents in the description and appraisal of behaviour of a sample of 204 students of preschool (3-6 years) of various socioeconomic profiles is analyzed. The results indicate that parents tend to value the symptoms with greater severity, and higher agreement was observed when informing about developmental disorders.

- 08-32. Rapport, M.D., Alderson, R.M., Kofler, M.J., Sarver, D.E., Bolden, J., & Sims, V. (2008). Working memory deficits in boys with attention-deficit/hyperactivity disorder (ADHD): The contribution of central executive and subsystem processes *Journal of Abnormal Child Psychology*, 36, 825-837.

The current study investigated contradictory findings from recent experimental and meta-analytic studies concerning working memory deficits in ADHD. Working memory refers to the cognitive ability to temporarily store and mentally manipulate limited amounts of information for use in guiding behavior. Phonological (verbal) and visuospatial (nonverbal) working memory were assessed across four memory load conditions in 23 boys (12 ADHD, 11 typically developing) using tasks based on Baddeley's (Working memory, thought, and action, Oxford University Press, New York, 2007) working memory model. **[One of several ADHD assessment measures was the *Child Symptom Inventory-4*.]** The model posits separate phonological and visuospatial storage and rehearsal components that are controlled by a single attentional controller (CE: central executive). A latent variable approach was used to partial task performance related to three variables of interest: phonological buffer/rehearsal loop, visuospatial buffer/rehearsal loop, and the CE attentional controller. ADHD-related working memory deficits were apparent across all three cognitive systems-with the largest magnitude of deficits apparent in the CE-even after controlling for reading speed, nonverbal visual encoding, age, IQ, and SES.

- 08-33. Reynolds, S., & Lane, S.J. (2008). Diagnostic validity of sensory over-responsivity: A review of the literature and case reports. *Journal of Autism and Developmental Disorders*, 38, 516-529.

Atypical responses to sensory stimulation are frequently reported to co-occur with diagnoses such as autism, ADHD, and Fragile-X syndrome. It has also been suggested that children and adults may present with atypical sensory responses while failing to meet the criteria for other medical or psychological diagnoses. This may be particularly true for individuals with over-responsivity to sensation. This article reviews the literature related to sensory over-responsivity and presents three pediatric cases **[using the *Child Symptom Inventory-4* to screen for co-morbidities]** that present a profile of having sensory over-responsivity without a co-occurring diagnosis. Findings from these cases provide very preliminary evidence to support the suggestion that sensory over-responsivity can occur as a sole diagnosis. Within this small group, tactile over-responsivity was the most common and pervasive form of this condition.

- 08-34. Smith, K.G., & Corkum, P. (2008). Systematic review of measures used to diagnose attention-deficit/hyperactivity disorder in research on preschool children. *Topics in Early Childhood Special Education*, 27, 164-173.

The diagnosis of attention-deficit/hyperactivity disorder (ADHD) in preschool children is challenging because the behavioral manifestations of the disorder are not uncommon for many children this age. Therefore, the assessment of ADHD in preschoolers needs to be multifaceted and requires the use of a variety of assessment measures. A systematic review of the literature from 1985 through to 2005 found 38 relevant articles related to ADHD in preschool children. We extracted the assessment measures used to identify ADHD in preschoolers [which included the **Early Childhood Inventory-4**] and categorized them into 4 core areas of measurement: standardized rating scales, structured interviews, direct observations of behavior, and direct measures of attention and hyperactivity-impulsivity. We examined quality indicators, such as symptom description, psychometric properties, and logistics, for the most frequent measures in each measurement areas. Our review of the literature highlights the need for more developmentally appropriate measures in 3 of the 4 core areas.

- 08-35. Sukhodolsky, D.G., Scahill, L., Gadow, K.D., Eugene, A.L., Aman, M.G., McDougle, C.J., McCracken, J.T., Tierney, E., White, S.W., Lecavalier, L., & Vitiello, B. (2008). Parent-rated anxiety symptoms in children with pervasive developmental disorders: Frequency and association with core autism symptoms and cognitive functioning. *Journal of Abnormal Child Psychology*, 36, 117-128.

Background: In addition to the core symptoms, children with Pervasive Developmental Disorders (PDD) often exhibit other problem behaviors such as aggression, hyperactivity, and anxiety, which can contribute to overall impairment and, therefore, become the focus of clinical attention. Limited data are available on the prevalence of anxiety in these children. We examined frequency and correlates of parent-rated anxiety symptoms in a large sample of children with PDD. Methods: The goals of this study were to examine the frequency and correlates of parent-rated anxiety symptoms in a sample of 171 medication-free children with PDD who participated in two NIH-funded medication trials. Twenty items of the **Child and Adolescent Symptom Inventory-4 (CASI-4)** were used to measure anxiety. Results: Forty three percent of the total sample met screening cut-off criteria for at least one anxiety disorder. Higher levels of anxiety on the 20-item CASI scale were associated with higher IQ, the presence of functional language use, and with higher levels of stereotyped behaviors. In children with higher IQ, anxiety was also associated with greater impairment in social reciprocity. Conclusion: Anxiety is common in PDD and warrants consideration in clinical evaluation and treatment planning. This study suggests that parent ratings could be a useful source of information about anxiety symptoms in this population. Some anxiety symptoms such as phobic and social anxiety may be closer to core symptoms of PDD. Further efforts to validate tools to ascertain anxiety are needed, as are studies to empirically test approaches to treat anxiety in PDD.

- 08-36. Tarbell, S., & Li, B.U.K.. (2008). Psychiatric symptoms in children and adolescents with cyclic vomiting syndrome and their parents. *Headache*, 48, 259-266.

Objective: To conduct a pilot study to evaluate the prevalence of psychiatric symptoms in children and adolescents with cyclic vomiting syndrome and to assess-family history of psychiatric disorder. Background: Little is known about psychiatric comorbidity in youth with cyclic vomiting syndrome, a periodic syndrome. Methods: Eighty-five parents, of children aged 3-18 years with cyclic vomiting syndrome confirmed in a multidisciplinary clinic, completed the age-appropriate **Child Symptom Inventory-4 (CSI-4)**, a questionnaire that screens for psychiatric symptoms in pediatric patients. Twenty-one adolescents aged 13-18 years completed the **Youth's Inventory-4**, a self-report form of this questionnaire. Sixty-two parents completed a family psychiatric history checklist. Results: These children and their parents evidenced a high prevalence of anxiety and mood symptoms compared to norms of the CSI-4 and population norms for internalizing psychiatric disorders. On the age-appropriate CSI-4, 47% of subjects met diagnostic cut-off for an anxiety disorder, and 14% for an affective disorder. Discrepancies were found in parent and adolescent reports for symptoms of panic disorder (chi-square=4.83,  $df=1$ ,  $p=.028$ ), posttraumatic stress disorder (chi-square=6.87,  $df=1$ ,  $p=.009$ ), and somatization disorder (chi-square=6.41,  $df=1$ ,  $p=.01$ ), with parents reporting significantly more symptoms than the adolescents. Internalizing disorders were also prevalent in the parents with 59% endorsing either an anxiety and/or an affective disorder. Mothers reported a significantly higher prevalence of anxiety disorders (35%) than did fathers (13%) (chi-square=8.43,  $df=1$ ,  $p<.004$ ). Conclusion: Children and adolescents with cyclic vomiting syndrome appear to be at increased risk for internalizing psychiatric disorders, especially anxiety disorders. Further research using standardized psychiatric interviews and a control group are indicated to further assess psychiatric disorders in children and adolescents with cyclic vomiting syndrome.

- 08-37. Villalobos, J.A.L. (2008). Freedom from distraction factor in the attention deficit hyperactivity disorder: A short model *Psicothema*, 20, 718-723.

Attention deficit hyperactivity disorder (ADHD) usually presents a profile in which the freedom from distraction factor of the WISC-R (FDF) is affected to a greater extent than the verbal comprehension factor (VCF) and the perceptual organization factor (POF). The formulation  $FDF < (VCF + POF)/2$  has good sensitivity for ADHD. The aim of this study was to reduce the number of tests needed for the formulation  $FDF < (VCF + POF)/2$ , maintaining the sensitivity for ADHD and concordance with the complete formulation. A clinical sample of 167 children with ADHD is analyzed (6-16 years). The cases of ADHD were defined according to DSM-IV criteria and they were assessed with WISC-R, **Child Symptom Inventory-4** and Social and Occupational Activity Assessment Scale. Lineal regression method was used to reduce the number of tests. The results showed that the short formulation reduces the number of tests by half and it has 83% sensitivity for ADHD. This formulation presents a good concordance with the complete version. The FDF is significantly lower than the VCF, POF and intellectual quotient in cases of ADHD. Comorbidity, social or school activity do not have a significant influence on the probability that  $FDF < (VCF + POF)/2$ .

- 08-38. Wakschlag, L.S., Briggs-Gowan, M.J., Hill, C., Danis, B., Leventhal, B.L., Keenan, K., Egger, H.L., Cicchetti, D., & Burns, J., & Carter, A.S. (2008). Observational assessment of preschool disruptive behavior, part II: Validity of the Disruptive Behavior Diagnostic Observation Schedule (DB-DOS). *Journal of the American Academy of Child and Adolescent Psychiatry*, 47, 632-641.

Objective: To examine the validity of the Disruptive Behavior Diagnostic Observation Schedule (DB-DOS), a new observational method for assessing preschool disruptive behavior. Method: A total of 327 behaviorally heterogeneous preschoolers from low-income environments comprised the validation sample. Parent and teacher reports were used to identify children with clinically significant disruptive behavior. **[The teacher version of the Early Childhood Inventory-4 was used to assess ODD and CD symptoms.]** The DB-DOS assessed observed disruptive behavior in two domains, problems in Behavioral Regulation and Anger Modulation, across three interactional contexts: Examiner Engaged, Examiner Busy, and Parent. Convergent and divergent validity of the DB-DOS were tested in relation to parent and teacher reports and independently observed behavior. Clinical validity was tested in terms of criterion and incremental validity of the DB-DOS for discriminating disruptive behavior status and impairment, concurrently and longitudinally. Results: DB-DOS scores were significantly associated with reported and independently observed behavior in a theoretically meaningful fashion. Scores from both DB-DOS domains and each of the three DB-DOS contexts contributed uniquely to discrimination of disruptive behavior status, concurrently and predictively. Observed behavior on the DB-DOS also contributed incrementally to prediction of impairment over time, beyond variance explained by meeting DSM-IV disruptive behavior disorder symptom criteria based on parent/teacher report. Conclusions: The multidomain, multicontext approach of the DB-DOS is a valid method for direct assessment of preschool disruptive behavior. This approach shows promise for enhancing accurate identification of clinically significant disruptive behavior in young children and for characterizing subtypes in a manner that can directly inform etiological and intervention research.

- 08-39. Wolf, J.M., Tanaka, J.W., Klaiman, C., Cockburn, J., Herlihy, L., Brown, C., South, M., McPartland, J., Kaiser, M.D., Phillips, R., & Schultz, R.T. (2008). Specific impairment of face-processing abilities in children with autism spectrum disorder using the Let's Face It! Skills Battery. *Autism Research*, 1, 329-340.

Although it has been well established that individuals with autism exhibit difficulties in their face recognition abilities, it has been debated whether this deficit reflects a category-specific impairment of faces or a general perceptual bias toward the local-level information in a stimulus. In this study, the Let's Face It! Skills Battery [Tanaka & Schultz, 2008] of developmental face- and object-processing measures was administered to a large sample of children diagnosed with autism spectrum disorder (ASD) and typically developing children **[screened for psychopathology with the Child Symptom Inventory-4]**. The main finding was that when matched for age and IQ individuals with ASD were selectively impaired in their ability to recognize faces across changes in orientation, expression and featural information. In a face discrimination task, ASD participants showed a preserved ability to discriminate featural and configural information in the mouth region of a face, but were compromised in their ability to discriminate featural and configural information in the eyes. On object-processing tasks, ASD participants demonstrated a normal ability to recognize automobiles across changes in orientation and a superior ability to discriminate featural and configural information in houses. These findings indicate that the

face-processing deficits in ASD are not due to a local-processing bias, but reflect a category-specific impairment of faces characterized by a failure to form view-invariant face representations and discriminate information in the eye region of the face.

## YEAR: 2007

- 07-1. Beauchaine, T.P., Gatzke-Kopp, L., & Mead, H.K. (2007). Polyvagal theory and developmental psychopathology: Emotion dysregulation and conduct problems from preschool to adolescence. *Biological Psychology*, 74, 174-184.

Objective: In science, theories lend coherence to vast amounts of descriptive information. However, current diagnostic approaches in psychopathology are primarily atheoretical, emphasizing description over etiological mechanisms. We describe the importance of Polyvagal Theory toward understanding the etiology of emotion dysregulation, a hallmark of psychopathology. When combined with theories of social reinforcement and motivation, Polyvagal Theory specifies etiological mechanisms through which distinct patterns of psychopathology emerge. Method: In this paper, we summarize three studies evaluating autonomic nervous system functioning in children (ages 4-18) with conduct problems [defined in part with **Child and Adolescent Symptom Inventories**]. Results: At all age ranges, these children exhibit attenuated sympathetic nervous system responses to reward, suggesting deficiencies in approach motivation. By middle school, this reward insensitivity is met with inadequate vagal modulation of cardiac output, suggesting additional deficiencies in emotion regulation. We propose a biosocial developmental model of conduct problems in which inherited impulsivity is amplified through social reinforcement of emotional lability. Implications for early intervention are discussed.

- 07-2. Chervin, R.D., Weatherly, R.A., Garetz, S.L., Ruzicka, D.L., Giordani, B.J., Hodges, E.K., Dillon, J.E., Guire, K.E. (2007). Pediatric sleep questionnaire: Prediction of sleep apnea and outcomes. *Archives of Otolaryngology-Head & Neck Surgery*, 133, 216-222.

Objectives: To further validate a questionnaire about symptoms of childhood obstructive sleep apnea (OSA) and to compare the questionnaire with polysomnography in their ability to predict outcomes of adenotonsillectomy. Method: Retrospective analysis of data from a longitudinal study. The Washtenaw County Adenotonsillectomy Cohort, comprising 105 children aged 5.0 to 12.9 years at entry. Parents completed the 22-item Sleep-Related Breathing Disorder (SRBD) scale of the Pediatric Sleep Questionnaire, and children underwent polysomnography before and 1 year after clinically indicated adenotonsillectomy (n = 78, usually for suspected OSA) or unrelated surgical care (n = 27). Measures included commonly used hyperactivity ratings [e.g., **Child Symptom Inventory-4**], attention tests, and sleepiness tests. Results: At baseline, a high SRBD scale score (1 SD above the mean) predicted an approximately 3-fold increased risk of OSA on polysomnography (odds ratio, 2.80; 95% confidence interval, 1.68-4.68). One year later, OSA and symptoms had largely resolved, but a high SRBD score still predicted an approximately 2-fold increased risk of residual OSA on polysomnography (odds ratio, 1.89; 95% confidence interval, 1.13-3.18). Compared with several standard polysomnographic measures of OSA, the baseline SRBD scale better predicted initial hyperactivity ratings and 1-year improvement, similarly predicted sleepiness and its improvement, and similarly failed to predict attention deficit or its improvement. Conclusions: The SRBD scale predicts polysomnographic results to an extent useful for research but not reliable enough for most individual patients. However, the SRBD scale may predict OSA-related neurobehavioral morbidity and its response to adenotonsillectomy as well or better than does polysomnography.

- 07-3. Drabick, D. A. G., Gadow, K.D., & Loney, J. (2007). Source-specific ODD: Comorbidity and risk factors in referred elementary school boys. *Journal of the American Academy of Child and Adolescent Psychiatry*, 46, 92-101.

Objective: To examine differences in risk factors and comorbid conditions for oppositional defiant disorder (ODD) symptom groups in a sample of 248 elementary school boys (ages 6-10) recruited from 1994-1996. Method: The boys and their mothers received multiple assessments of cognitive, behavioral, academic, and family functioning, including a clinic-based evaluation in Stony Brook, NY. ODD was defined using four different strategies for aggregating data from mother and teacher reports of DSM-IV symptoms from the **Child Symptom Inventory-4**. Results: Source-specific ODD symptom groups had better internal validity and were more differentiated than

groups defined using the other strategies. The mother-defined ODD symptom group (ODD/M) had higher levels of maternal detachment than the teacher-defined symptom group (ODD/T), and the ODD/T group had more social problems than the ODD/M group. The classification agreement group (ODD/M+T) evidenced higher levels of sensation seeking, maternal control, and comorbid symptoms than the ODD/M and ODD/T groups. Controlling for co-occurring attention-deficit/hyperactivity disorder (ADHD) and conduct disorder (CD) symptoms altered some of the relations among ODD, comorbid symptoms, and psychosocial correlates. Conclusion: Patterns of co-occurring psychiatric symptoms and psychosocial correlates of ODD symptom groups varied depending on the rater(s) used to determine group membership. Results support continued research into source specificity for conceptualizing ODD.

- 07-4. DeVincent, C.J., Gadow, K.D., Delosh, D., & Geller, L. (2007). Sleep disturbance and its relation to DSM-IV psychiatric symptoms in preschool-aged children with pervasive developmental disorder and community controls. *Journal of Child Neurology*, 22, 161-169

Objective: This study describes the relation between sleep problems and psychiatric symptoms in preschool-aged children (3 to 5 years) with Pervasive Developmental Disorder and a community-based sample of children attending early childhood programs. Method: Parents completed the **Early Childhood Inventory-4**, a DSM-IV-referenced rating scale for two samples: children with Pervasive Developmental Disorder ( $N=112$ ) and nondisabled youngsters ( $N=497$ ). Results: Although children with Pervasive Developmental Disorder had significantly greater number and severity of sleep problems than the community preschoolers, sleep disturbed children in both samples exhibited more severe behavioral difficulties—primarily symptoms of attention-deficit/hyperactivity disorder and oppositional defiant disorder—than children without sleep problems. Conclusion: Sleep problems are an indicator of similar comorbid psychiatric symptoms in both children with and without Pervasive Developmental Disorder, which suggests commonalities in their etiology.

- 07-5. Edwards, M.C., Gardner, E.S., Chelonis, J.J., Schulz, E.G., Flake, R.A., & Diaz, P.F. (2007). Estimates of the validity and utility of the Conners' continuous performance test in the assessment of inattentive and/or hyperactive-impulsive behaviors in children. *Journal of Abnormal Child Psychology*, 35, 393-404.

Objective: This study evaluated the validity and classification utility of the Conners' Continuous Performance Test (CCPT) in the assessment of inattentive and hyperactive-impulsive behaviors in children. Significant, positive correlations between the CCPT parameters and behavioral ratings of ADHD behaviors were hypothesized. In addition, it was hypothesized that the CCPT parameters would perform better than a random test (chance) and show fair to moderate utility of classification across the different indices. Method: Participants were 104 children between 6 and 12 years of age who were referred for evaluation of attention problems. **[Co-morbidities were screened with the Child Symptom Inventory-4.]** Results: The first hypothesis was not supported. There were no significant, positive correlations between the CCPT parameters and parent and teacher ratings of inattentive and hyperactive-impulsive behaviors. The second hypothesis was only partially supported. The CCPT Overall Index and the Omission Errors (84th percentile cutoff) performed better than a random test; however, the utility of the CCPT Overall Index only ranged from poor to slight. Receiver operating characteristic analyses showed the accuracy of the CCPT to be low. The implications and limitations of this study and future research directions are discussed.

- 07-6. Gadow, K.D., Sprafkin, J., Schneider, J., Nolan, E.E., Schwartz, J., & Weiss, M.D. (2007). ODD, ADHD, versus ODD+ADHD in clinic and community adults. *Journal of Attention Disorders*, 11, 374-383.

Objective: To seek evidence for the validity of oppositional defiant disorder (ODD) as a behavioral syndrome in adults. Method: Two groups of adults, a mental health outpatient Clinic sample ( $N=490$ ) and a non-referred Community sample ( $N=900$ ) completed a DSM-IV-referenced rating scale, the **Adult Self Report Inventory-4 (ASRI-4)**, and a brief questionnaire (social, educational, occupational, and treatment variables). Participants were separated into four groups on the basis of ASRI-4 scores: ODD, ADHD, ODD+ADHD, and NONE. Results: In general, the three symptom groups were more severe than the NONE group; the ODD+ADHD and NONE groups were the most and least severe, respectively; and there were clear differences between the ODD and ADHD groups. The pattern of group differences was generally similar in both samples. Conclusion: Findings support the distinction between ADHD and ODD symptom presentations in adults, and the notion that the co-morbid condition is a unique clinical entity, both of which are consistent with the child literature. Nevertheless, additional research



with larger samples of patients will be necessary to establish ODD as a potential behavioral syndrome in adults.

- 07-7. Gadow, K. D., Sverd, J., Nolan, E.E., et al. (2007). Immediate-release methylphenidate for ADHD in children with comorbid chronic multiple tic disorder. *Journal of the American Academy of Child and Adolescent Psychiatry*, 46, 840-848.

Objective: To examine the safety and efficacy of immediate-release methylphenidate (MRH-IR) for the treatment of attention-deficit/hyperactivity disorder (ADHD) in children with Tourette's disorder (96%) or chronic motor tic disorder (4%). Method: Two cohorts of pre-pubertal children ( $N=71$ ) received placebo and three doses of methylphenidate (0.1, 0.3, and 0.5 mg/kg) twice daily for 2 weeks each, under double-blind conditions as part of their involvement in a long-term observation study (1989-2004). **[Diagnostic measures included the *Child Symptom Inventory-4*.]** Treatment effects were assessed with an extensive battery of parent-, teacher-, child- and physician-completed rating scales and laboratory tasks. Results: MPH-IR effectively suppressed ADHD, oppositional defiant disorder, and peer aggression behaviors. There was no evidence that MPH-IR altered the overall severity of tic disorder or OCD behaviors. Teacher ratings indicated that MPH-IR therapy decreased tic frequency and severity. Conclusion: MPH-IR appears to be a safe and effective short-term treatment for ADHD in the majority of children with chronic tic disorder; nevertheless, the possibility of tic exacerbation in susceptible individuals warrants careful monitoring of all patients.

- 07-8. Gatzke-Kopp, L.M., & Beauchaine, T.P. (2007). Direct and passive prenatal nicotine exposure and the development of externalizing psychopathology. *Child Psychiatry & Human Development*, 38, 255-269.

Objective: The association between maternal smoking during pregnancy and childhood antisocial outcomes has been demonstrated repeatedly across a variety of outcomes. Yet debate continues as to whether this association reflects a direct programming effect of nicotine on fetal brain development, or a phenotypic indicator of heritable liability passed from mother to child. Method: In the current study, we examine relations between maternal smoking and child behavior among 133 women and their 7-15-year-olds, who were recruited for clinical levels of psychopathology. In order to disentangle correlates of maternal smoking, women who smoked during pregnancy were compared with (a) those who did not smoke, and (b) those who did not smoke but experienced significant second-hand exposure. Results: Second-hand exposure was associated with increased externalizing psychopathology in participant mothers' offspring. Moreover, regression analyses indicated that smoke exposure during pregnancy predicted conduct disorder symptoms **[assessed with the *Child Symptom Inventory-4*]**, over and above the effects of income, parental antisocial tendencies, prematurity, birth weight, and poor parenting practices. This is the first study to extend the findings of externalizing vulnerability to second hand smoke exposure.

- 07-9. Greve, K.W., Bianchini, K.J., Stickle, T.R., Love, J.M., Doane, B.M., & Thompson, M.D. (2007). Effects of a community toxic release on the psychological status of children. *Child Psychiatry & Human Development*, 37, 307-323.

Objective: This study sought to determine the emotional effects of a major community toxic release on children in the exposed community while controlling for the potential effects of response bias. Controlling for the response bias inherent in litigated contexts is an advance over previous studies of toxic exposure in children. Method: A randomly selected representative sample of Exposed children ( $n = 31$ ) was compared to a matched Control group ( $n = 28$ ) from a nearby, unexposed community. Symptoms and complaints were assessed via interview with the children and their guardians, surveys and checklists, and well-established psychological instruments. Results: Even when biased responding was controlled the Exposed children experienced more psychological distress, more physical symptoms, and greater general concern over their physical functioning than the Controls. The Exposed children also reported some concern about their future health and cancer risk but usually only if asked. Limitations and future research directions are discussed.

- 07-10. Huang-Pollock, C.L., Mikami, A.Y., Piffner, L., & McBurnett, K. (2007). ADHD subtype differences in motivational responsivity but not inhibitory control: Evidence from a reward-based variation of the stop signal paradigm. *Journal of Clinical Child and Adolescent Psychology*, 36, 127-136.

In this study we examined prepotent motor inhibition and responsiveness to reward using a variation of the stop signal reaction time (SSRT) task in clinic and community-recruited children ages 7 to 12 with attention-

deficit/hyperactivity disorder-inattentive type (ADHD--I), ADHD-combined type (ADHD-C), and non-ADHD controls. Contrary to theoretical expectations, we found evidence for inhibitory weaknesses in ADHD-I. **[The *Child Symptom Inventory-4* was used as one of several measures.]** We also found evidence that although children with ADHD-I were able to improve their inhibitory control given reward-based motivation, the improvement depended on the order of reward conditions. Results suggest that the 2 primary subtypes of ADHD share similar neuropsychological weaknesses in inhibitory control but that there are subtype differences in response to success and failure that contribute to a child's ultimate level of performance.

- 07-11. Kollins, S., Greenhill, L., Swanson, J., Wigal, S., et al. (2006). Rationale, design, and methods of the preschool ADHD Treatment Study (PATS). *Journal of the American Academy of Child and Adolescent Psychiatry*, 45, 1275-1283.

Objective: To describe the rationale and design of the Preschool ADHD Treatment Study (PATS). Method: PATS was a National Institutes of Mental Health-funded, multicenter, randomized, efficacy trial designed to evaluate the short-term (5 weeks) efficacy and long-term (40 weeks) safety of methylphenidate (MPH) in preschoolers with attention-deficit/ hyperactivity disorder (ADHD). Three hundred three subjects ages 3 to 5.5 years old who met criteria for a primary DSM-IV diagnosis of ADHD entered the trial. Subjects participated in an 8-phase, 70-week trial that included screening, parent training, baseline, open-label safety lead-in, double-blind crossover titration, double-blind parallel efficacy, open-label maintenance, and double-blind discontinuation. **[One of many evaluation instruments was the *Early Childhood Inventory-4*.]** Medication response was assessed during the crossover titration phase using a combination of parent and teacher ratings. Special ethical considerations throughout the trial warranted a number of design changes. Results: This report describes the design of this trial, the rationale for reevaluation and modification of the design, and the methods used to conduct the trial. Conclusions: The PATS adds to a limited literature and improves our understanding of the safety and efficacy of MPH in the treatment of preschoolers with ADHD, but changes in the design and problems in implementation of this study impose some specific limitations that need to be addressed in future studies.

- 07-12. Kopp, L.M., & Beauchaine, T.P. (2007). Patterns of psychopathology in the families of children with conduct problems, depression, and both psychiatric conditions. *Journal of Abnormal Child Psychology*, 35, 301-312.

Objective: Comorbid conduct problems (CPs) and depression are observed far more often than expected by chance, which is perplexing given minimal symptom overlap. In this study, relations between parental psychopathology and children's diagnostic status were evaluated to test competing theories of comorbidity. Method: Participants included 180 families with an 8-12-year-old child diagnosed with CPs, depression, both conditions, or neither condition. **[Child diagnostic classifications were based on the *Child Symptom Inventory-4*.]** Results: Although no single theory of comorbidity was supported fully, evidence suggested that CPs and depression may be inherited separately. Paternal antisocial characteristics and maternal depression provided independent prediction of both child depression and CPs. However, paternal antisocial behavior moderated the effect of maternal depression on CPs. For children with antisocial fathers, CPs were observed regardless of maternal depression levels. In contrast, a strong relation was observed between CPs and maternal depression for children without antisocial fathers.

- 07-13. Kronenberger, W.G., Giauque, A.L., & Dunn, D.W. (2007). Development and validation of the outburst monitoring scale for children and adolescents *Journal of Child and Adolescent Psychopharmacology*, 17, 511-526.

Objective: The aim of this study was to develop a parent-completed questionnaire measure of specific types of aggressive behaviors in children and adolescents. Method: Two studies tested the psychometrics of the Outburst Monitoring Scale (OMS), a questionnaire measure of verbal, property, self, and physical aggression, based in part on the categories of the Overt Aggression Scale. In Study 1, parents of 23 adolescents with a history of aggressive-disruptive behavior and 30 control adolescents completed the OMS and other measures of aggressive-disruptive behavior **[including the *Adolescent Symptom Inventory-4*]**. In Study 2, parents of 9 adolescents with a history of aggressive-disruptive behavior completed the OMS and other measures of aggressive-disruptive behavior during open-label treatment with methylphenidate and quetiapine. Results: Results from both studies demonstrated adequate internal consistency of OMS sub-scale and total scores. OMS scores correlated significantly with measures of conduct disorder and oppositional defiant disorder and differentiated between control

and aggressive sub-samples. Changes in OMS scores during treatment correlated with changes in other measures of aggressive and disruptive behavior. Conclusion: The OMS demonstrated good internal consistency, strong correlations with other measures of aggressive/disruptive behavior, good differential validity, and sensitivity to change during a medication trial. The OMS offers a quick, valid, questionnaire-based alternative for measuring frequencies of specific aggressive behaviors in clinical and research settings.

- 07-14. Lewandowski, A., & Drotar, D. (2007). The relationship between parent-reported social support and adherence to medical treatment in families of adolescents with type 1 diabetes. *Journal of Pediatric Psychology*, 32, 427-436.

Objective: To investigate the relationships between both mother-reported spousal support and social network support, and mother-adolescent diabetes-related conflict, discrepancies in decision-making autonomy (DDMA), and adolescent adherence to diabetes treatment. Method: Fifty-one mothers of adolescents with IDDM completed self-report measures of social support, diabetes-related conflict, and adolescent autonomy for diabetes care.

**[Mothers completed the Oppositional Defiant Disorder category of the Adolescent Symptom Inventory-4.]**

Analyses tested conflict and DDMA as mediators between mother-reported social support and adolescent adherence to treatment. Results: Increased levels of mother-adolescent conflict were associated with poorer treatment adherence and both mother-reported diabetes-related conflict and DDMA predicted adolescents' glycemic control. Higher levels of mother-reported spousal support were associated with less conflict and greater adherence to treatment. Sobel's test indicated a statistical trend for conflict as a mediator between spousal support and adolescent treatment adherence ( $p < .07$ ). DDMA did not predict mother-adolescent conflict and did not emerge as a mediator between mother-reported social support and adolescent adherence. Conclusions: This study highlights the role of spousal support for mothers of adolescents with IDDM and indicates that the level of spousal support mothers receive may play an important role in the health care behaviors of their adolescents.

- 07-15. Lopez-Villalobos, J. A., Serrano-Pintado, I., Delgado Sanchez-Mateos, J., Ruiz-Sanz, F., Sanchez-Azon, M. I., & Sacristan-Martin, A. M. (2007). Attention deficit hyperactivity disorder: Intellectual profile and the freedom from distraction factor. *Revista De Neurologia*, 44, 589-595.

Objective: Attention deficit hyperactivity, disorder (ADHD) usually presents a neuropsychological profile in which the freedom from distraction factor (FDF) is affected to a greater extent than the verbal comprehension factor (VCF) and the perceptual organisation factor (POF). To determine the intellectual profile of clinical cases with ADHD through a specific analysis of the FDF in which we evaluated the differences compared with the VCF and the POF, between types of ADHD and with WISC-R criteria, as well as the variables that affect the probability of  $FDF < VCF$  and  $POF$ . Method: Our study involved a clinical sample (of 167 cases of ADHD between 6 and 16 years of age). The cases were defined according to DSM-IV criteria and the evaluation was performed using WISC-R, the **Child Symptom Inventory-4** and the social and occupational activity assessment scale. Both descriptive and exploratory, statistics were used. Means were compared using ANOVA and/or t tests. Alpha was accepted if it was equal to or below 0.05 and a logistic regression method was used (alpha model parameters below or equal to 0.05). In each factor a 95% confidence interval and odds ratio were determined. Results: The criterion,  $FDF < VCF$  and  $POF$  accounted for 71.3% of the cases with ADHD and  $FDF < (VCF + POF)/2$  represented 81.4% (sensitivity: 81.4%). The FDF is significantly lower than both the mean that corresponds to factorial criteria derived from the WISC-R and the VCF and POF in the cases that were analysed. The mean FDF scores were significantly higher in ADHD-H (a type in which hyperactive-impulsivity predominates) than in ADHD-C (combined type) and ADHD-I (inattentive type). Comorbidity, social or school activity and intellectual quotient do not have a significant influence on the probability that  $FDF < VCF$  and  $POF$ . Conclusion: The FDF is a neuropsychological dimension that is useful in evaluating ADHD.

- 07-16. Mikami, A.Y., Huang-Pollock, C.L., Pfiffner, L.J., McBurnett, K., & Hangai, D. (2007). Social skills differences among attention-deficit/hyperactivity disorder types in a chat room assessment task. *Journal of Abnormal Child Psychology*, 35, 509-521.

Objective: This study assessed social skills in 116 children aged 7-12 with ADHD-Combined Type (ADHD-C;  $n=33$ ), ADHD-Inattentive Type (ADHD-I;  $n=45$ ), and comparison children ( $n=38$ ), with consideration of the role sluggish cognitive tempo (SCT) symptoms play in distinguishing profiles. **[The Child Symptom Inventory-4 was used as a screening tool for ADHD.]** Method: Social skills were assessed using a novel computerized chat room

task, in which participants were encouraged to join a conversation and type messages to interact with four computer-simulated peers. Every participant received the identical stimulus from the simulated peers, but was free to respond to it in his or her own unique way. Results: Relative to comparison children, children with ADHD-C made off-topic and hostile responses; children with ADHD-I made off-topic responses, few responses and showed poor memory for the conversation. ADHD subtype differences remained after statistical control of IQ, reading achievement, typing skill, and comorbid disruptive behavior disorders. SCT symptoms, most prevalent among children with ADHD-I, predicted a distinct pattern of social withdrawal and lower hostility. Parent and teacher ratings and in-vivo observations of social skills correlate with this new measure.

- 07-17. Pfiffner, L.J., Mikami, A.Y., Huang-Pollock, C., Easterlin, B., Zalecki, C., & McBurnett, K.. (2007). A randomized, controlled trial of integrated home-school behavioral treatment for ADHD, predominantly inattentive type. *Journal of the American Academy of Child and Adolescent Psychiatry*, 46, 1041-1050.

Objective: To evaluate the efficacy of a behavioral psychosocial treatment integrated across home and school (Child Life and Attention Skills Program) with attention-deficit/hyperactivity disorder (ADHD) predominantly inattentive type (ADHD-I). Method: Sixty-nine children ages 7 to 11 years were randomized to the Child Life and Attention Skills Program or a control group who did not receive the intervention. We compared groups posttreatment and at 3- to 5-month follow-up on parent and teacher ratings of inattention sluggish cognitive tempo, and functional impairment. **[The Child Symptom Inventory-4 was the primary outcome measure.]** Results: Children randomized to the Child Life and Attention Skills Program were reported to have significantly fewer inattention and sluggish cognitive tempo symptoms, and significantly improved social and organizational skills, relative to the control group. Gains were maintained at follow-up. Conclusions: Behavioral psychosocial treatment, when specifically adapted for ADHD-I and coordinated among parents, teachers, and children, appears efficacious in reducing symptoms and impairment associated with ADHD-I.

- 07-18. Shannon, K.E., Beauchaine, T.P., Brenner, S.L., Neuhaus, E., & Gatzke-Kopp, L. (2007). Familial and temperamental predictors of resilience in children at risk for conduct disorder and depression. *Development and Psychopathology*, 19, 701-727.

Objective: In this study, we evaluated predictors of resilience among 8- to 12-year-old children recruited from primarily low socioeconomic status neighborhoods, 117 of whom suffered from clinical levels of conduct problems and/or depression and 63 of whom suffered from no significant symptoms. **[The Child Symptom Inventory-4 was used to evaluate DSM-IV symptoms.]** Method: Tests of interactions were conducted between (a) paternal antisocial behavior and maternal depression and (b) several physiological indices of child temperament and emotionality in predicting (c) children's conduct problems and depression. Results: Both internalizing and externalizing outcomes among children were associated specifically with maternal melancholic depression, and not with nonmelancholic depression. In addition, low levels of respiratory sinus arrhythmia (RSA) among children conferred significant risk for depression, regardless of maternal melancholia, whereas high RSA offered partial protection. Furthermore, high levels of maternal melancholia conferred significant risk for child depression, regardless of paternal antisocial behavior, whereas low levels of maternal melancholia offered partial protection. Finally, low levels of electrodermal responding (EDR) conferred significant risk for conduct problems, regardless of paternal antisocial behavior, whereas high EDR offered partial protection. None of the identified protective factors offered complete immunity from psychopathology. Conclusion: These findings underscore the complexity of resilience and resilience-related processes, and suggest several potential avenues for future longitudinal research.

- 07-19. Sprafkin, J., Gadow, K.D., Weiss, M.D., Schneider, J., & Nolan, E.E. (2007). Psychiatric comorbidity in ADHD symptom subtypes in clinic and community adults. *Journal of Attention Disorders*, 11, 114-124.

Objective: To compare psychiatric comorbidity between the three symptom subtypes of attention-deficit/hyperactivity disorder (ADHD), inattentive (I), hyperactive-impulsive (H), and combined (C), in adults. Methods: Two groups of adults, a mental health outpatient Clinic sample (N=487) and a nonreferred Community sample (N=900) completed the **Adult Self Report Inventory-4 (ASRI-4)**, a DSM-IV-referenced rating scale and a brief questionnaire (social, educational, occupational, and treatment variables). Participants were assigned to one of four groups: ADHD:I, ADHD:H, ADHD:C, and NONE. Results: In general, all three ADHD symptom groups reported more severe comorbid symptoms than the NONE group; the ADHD:C and NONE groups were the most and least severe, respectively; and there were clear differences between the ADHD:I and ADHD:H groups. The

pattern of group differences was generally similar in both samples. Conclusions: ADHD symptom subtypes in adults are associated with distinct clinical correlates, which is consistent with the research on child ADHD subtypes. The diversity of self-reported, co-occurring psychiatric symptoms in adults who meet symptom criteria for ADHD suggests that restricting diagnostic and treatment evaluations to ADHD behaviors is ill-advised.

- 07-20. Sullivan K., Hatton, D.D., Hammer, J., Sideris, J., Hooper, S., Ornstein, P.A., & Bailey, D.B. (2007). Sustained attention and response inhibition in boys with fragile X syndrome: Measures of continuous performance. *American Journal of Medical Genetics Part B-Neuropsychiatric Genetics*, 144:517-532.

Sustained attention and response inhibition were examined in boys with full mutation fragile X syndrome (FXS) using adapted visual and auditory continuous performance tests (CPTs). Only 61% of 56 boys with visual CPT data and 54% of 52 boys with auditory data were able to demonstrate sufficient understanding to complete the visual and auditory CPTs, respectively. Mental age (MA) predicted whether boys with FXS were able to demonstrate understanding of the CPTs. The performance of boys with FXS who were able to complete the CPTs was compared to a sample of boys without disabilities matched on MA. Boys with FXS demonstrated similar or smaller declines in sustained attention over task time than their MA-matched peers on the visual and auditory CPTs, respectively, but consistently demonstrated greater declines in response inhibition over task time than their MA-matched peers. There were no differences between groups for response time of hits. Higher MAs consistently predicted better sustained attention and response inhibition over task time on the visual and auditory CPTs. Furthermore, boys taking psychotropic medication performed better at the beginning of most tasks, although their performance deteriorated at a faster rate over time, and boys rated as meeting diagnostic criteria for ADHD-hyperactive type **[assessed with the *Child Symptom Inventory-4* or *Adolescent Symptom Inventory-4*]** had more difficulty over task time with response inhibition on the auditory CPT. For both boys with FXS and their MA matches, performance was better on the visual CPT than on the auditory CPT though this effect may be attributable to a number of factors other than the modality.

- 07-21. Sullivan, K., Hooper, S., & Hatton, D. (2007). Behavioural equivalents of anxiety in children with fragile X syndrome: parent and teacher report. *Journal of Intellectual Disability Research*, 51, 54-65.

Background: Identifying many of the diagnostic criteria for anxiety and depression in individuals with intellectual disability (ID) can be challenging because they may be unable to recognize and communicate their emotional experiences accurately. The purpose of this study is to identify behavioural equivalents of anxiety in children with fragile X syndrome (FXS), the leading inherited cause of ID. Methods: Parents and teachers of 43 children (aged 6-14 years) with full mutation FXS completed two standardized questionnaires on children's problem behaviour and psychiatric symptoms, **[one of which was the *Child Symptom Inventory-4*]**. Items from the questionnaires thought to be possible behavioural equivalents of anxiety were identified and grouped into four domains: Avoidance Behaviours-Confrontational; Avoidance Behaviours-Non-confrontational; Anxiety Continuum Behaviours; and Behavioural Dysregulation. The mean rating for the four groups of items was used to predict the children's status for exhibiting significant problems with anxiety as defined by the Diagnostic and Statistical Manual of Mental Disorders-oriented Anxiety Subscale from the problem behaviour scale. Results: The predictor variables classified 81% (parent rating) and 86% (teacher rating) of the children correctly. Avoidance Behaviours - Confrontational and Avoidance Behaviours - Non-confrontational (teacher rating) and Anxiety Continuum Behaviours (parent and teacher rating) made unique contributions to the models. Conclusions: Children who are unable to identify and communicate that they worry about general day-to-day events may exhibit more observable behaviours resembling active and passive avoidance (e.g. arguing, avoiding difficult tasks, staring off) or have specific phobias and compulsions. These findings suggest that there are behavioural equivalents for anxiety disorder in children with FXS and, more generally, support the notion of behavioural equivalents in ID.

- 07-22. Wade, C.A., Ortiz, C., & Gorman, B.S. (2007). Two-session group parent training for bedtime noncompliance in head start preschoolers. *Child & Family Behavior Therapy*, 29, 23-55.

Objective: Bedtime struggles are some of the most common childhood behavior problems. These disruptions are associated with children's daytime misbehavior, impaired social functioning, poorer school performance, and even an increased risk of child abuse. These problems also have a number of negative consequences for members of the child's family. Of the evidence-based treatments for bedtime noncompliance in young children, graduated extinction is the most widely used by clinicians. A number of studies have demonstrated its efficacy. The present

study is the first to examine the efficacy of graduated extinction with children from ethnic minority or low socioeconomic backgrounds. Additionally, this is one of the first studies to examine the effects of graduated extinction when it is delivered in a group format. Method: In an interrupted time-series design, five parents of children enrolled at a Head Start preschool site participated in one of two groups that received instruction on the use of graduated extinction. **[The Early Childhood Inventory-4 was used as a screen for emotional disorders.]** Results: According to visual inspection as well as single case and multilevel statistical analyses, parents reported that at posttest their children experienced large reductions in both bedtime and daytime behavior problems. Parents also reported that their own levels of depression and stress declined during this period. At two-month follow-up, gains in the children's bedtime behavior were maintained. Parents also reported high levels of satisfaction with the intervention. Conclusion: These results suggest that graduated extinction for bedtime noncompliance is effective for a wide range of parents and can be successfully administered in a group setting.

- 07-23. Wightman, A., Schluchter, M., Drotar, D., Andreias, L., Taylor, H.G., Klein, N., Wilson-Costello, D., & Hack, M. (2007). Parental protection of extremely low birth weight children at age 8 years. *Journal of Developmental and Behavioral Pediatrics*, 28, 317-326.

Objective: To examine parent protection and its correlates among 8-year-old ELBW children compared with normal birth weight (NBW) controls. Methods: The population included 217 eight-year-old ELBW children born 1992-1995 (92% of the surviving birth cohort; mean birth weight, 811 g; mean gestational age, 26.4 weeks) and 176 NBW controls. The primary outcome measure, the Parent Protection Scale (PPS), included a total score and four domains including Supervision, Separation, Dependence, and Control. Multivariate analyses were performed to examine the predictors of parental protection and overprotection. **[The Child Symptom Inventory-4 was included in the initial assessment battery.]** Results: After adjusting for socioeconomic status (SES), race, sex, and age of the child, parents of ELBW children reported significantly higher mean total Parent Protection Scale scores (31.1 vs 29.7,  $p = .03$ ) than parents of NBW children and higher scores on the subscale of Parent Control (8.0 vs 7.5,  $p = .04$ ). These differences were not significant when the 36 children with neurosensory impairments were excluded. Parents of ELBW children also reported higher rates of overprotection than controls (10% vs 2%,  $p = .001$ ), findings that remained significant even after excluding children with neurosensory impairments (8% vs 2%,  $p = .011$ ). Multivariate analyses revealed lower SES to be associated with higher total Parent Protection Scale scores in both the ELBW ( $p < .001$ ) and NBW ( $p < .05$ ) groups. Additional correlates included neurosensory impairment ( $p < .05$ ) and functional limitations ( $p < .001$ ) in the ELBW group and black race ( $p < .05$ ) and maternal depression ( $p < .01$ ) in the NBW group. Lower child IQ was significantly associated with higher PPS scores only in the neurosensory impaired subgroup of ELBW children. Conclusions: Longer term follow-up will be necessary to examine the effects of the increased parent protection on the development of autonomy and interpersonal relationships as the children enter adolescence.

## YEAR: 2006

- 06-1. Chervin, R.D., Ruzicka, D.L., Giordani, B.J., Weatherly, R.A., Dillon, J.E., Hodges, E.K., Marcus, C.L., & Guire, K.E. (2006). Sleep-disordered breathing, behavior, and cognition in children before and after adenotonsillectomy. *Pediatrics*, 117:769-778.

Objective: Most children with sleep-disordered breathing (SDB) have mild-to-moderate forms, for which neurobehavioral complications are believed to be the most important adverse outcomes. To improve understanding of this morbidity, its long-term response to adenotonsillectomy, and its relationship to polysomnographic measures, we studied a series of children before and after clinically indicated adenotonsillectomy or unrelated surgical care. Method: We recorded sleep and assessed behavioral, cognitive, and psychiatric morbidity in 105 children 5.0 to 12.9 years old: 78 were scheduled for clinically indicated adenotonsillectomy, usually for suspected SDB, and 27 for unrelated surgical care. One year later, we repeated all assessments in 100 of these children. Results: Subjects who had an adenotonsillectomy, in comparison to controls, were more hyperactive on well-validated parent rating scales **[including the Child Symptom Inventory-4]**, inattentive on cognitive testing, sleepy on the Multiple Sleep Latency Test, and likely to have attention-deficit/hyperactivity disorder (as defined by the Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition) as judged by a child psychiatrist. In contrast, 1 year later, the 2 groups showed no significant differences in the same measures. Subjects who had an adenotonsillectomy had improved substantially in all measures, and control subjects improved in none. However, polysomnographic assessment of baseline SDB and its subsequent

amelioration did not clearly predict either baseline neurobehavioral morbidity or improvement in any area other than sleepiness. Conclusion: Children scheduled for adenotonsillectomy often have mild-to-moderate SDB and significant neurobehavioral morbidity, including hyperactivity, inattention, attention-deficit/hyperactivity disorder, and excessive daytime sleepiness, all of which tend to improve by 1 year after surgery. However, the lack of better correspondence between SDB measures and neurobehavioral outcomes suggests the need for better measures or improved understanding of underlying causal mechanisms.

- 06-2. Crowell, S.E., Beauchaine, T.P., Gatzke-Kopp, L., Sylvers, P., Mead, H., & Chipman-Chacon, J. (2006). Autonomic correlates of attention-deficit/hyperactivity disorder and oppositional defiant disorder in preschool children. *Journal of Abnormal Psychology*, 115, 174-178.

Objective: Numerous studies have revealed autonomic underarousal in conduct-disordered adolescents and antisocial adults. It is unknown, however, whether similar autonomic markers are present in at-risk preschoolers. Method: In this study, the authors compared autonomic profiles of 4- to 6-year-old children with attention-deficit/hyperactivity disorder (ADHD) and oppositional defiant disorder (ODD;  $n = 18$ ) with those of age-matched controls ( $n = 20$ ). **[Symptom groups were defined on the basis of scores on the parent-completed *Child Symptom Inventory-4*.]** Results: Children with ADHD and ODD exhibited fewer electrodermal responses and lengthened cardiac preejection periods at baseline and during reward. Although group differences were not found in baseline respiratory sinus arrhythmia, heart rate changes among ADHD and ODD participants were mediated exclusively by parasympathetic withdrawal, with no independent sympathetic contribution. Heart rate changes among controls were mediated by both autonomic branches. Conclusion: These results suggest that at-risk preschoolers are autonomically similar to older externalizing children.

- 06-3. Drabick, D.A.G., Gadow, K.D., & Sprafkin, J. (2006). Co-occurrence of conduct disorder and depression in a clinic-based sample of boys with ADHD. *Journal of Child Psychology and Psychiatry*, 47, 766-774.

Background: Children with attention-deficit/hyperactivity disorder (ADHD) are at risk for the development of comorbid conduct disorder (CD) and depression. The current study examined potential psychosocial risk factors for CD and depression in a clinic-based sample of 203 boys (aged 6-10 years) with ADHD. Method: The boys and their mothers participated in an evaluation that involved assessments of cognitive, behavioral, academic, and family functioning and included the ***Child Symptom Inventory-4***. Potential predictors of CD and depression involved four domains: parenting behaviors, family environment, academic/cognitive functioning, and peer relations. ADHD groups were defined using mother- and teacher-report of DSM-IV symptoms. Mother-ratings of DSM-IV symptoms were obtained for a subsample of 91 boys approximately 5 years after the initial assessment. Results: For both mother- and teacher-defined ADHD groups, social problems were related to depression symptoms; hostile, inconsistent, and detached parenting behaviors were related to CD symptoms; and family environment characterized by low cohesion, high conflict, and low marital satisfaction was related to CD and depression symptoms. For the teacher-defined ADHD group, parenting variables also predicted depression symptoms. Academic and cognitive variables did not predict CD or depression symptoms when parenting, family, and peer relationship variables were taken into account. Depression prospectively predicted CD, but not the reverse, and parental hostile control and familial conflict prospectively predicted CD for the teacher-defined ADHD group only. Conclusion: Source-specificity is a useful consideration when describing the relation of parenting and home environment with CD and depression symptoms in boys with ADHD. Intervention efforts that address these parenting, family, and peer relationship variables may aid in preventing the development of comorbid conditions.

- 06-4. Egger, H.L., & Angold, A. (2006). Common emotional and behavioral disorders in preschool children: Presentation, nosology, and epidemiology. *Journal of Child Psychology and Psychiatry*, 47, 313-337.

We review recent research on the presentation, nosology and epidemiology of behavioral and emotional psychiatric disorders in preschool children (children ages 2 through 5 years old), focusing on the five most common groups of childhood psychiatric disorders: attention deficit hyperactivity disorders, oppositional defiant and conduct disorders, anxiety disorders, and depressive disorders. We review the various approaches to classifying behavioral and emotional dysregulation in preschoolers and determining the boundaries between normative variation and clinically significant presentations. While highlighting the limitations of the current DSM-IV diagnostic criteria for identifying preschool psychopathology and reviewing alternative diagnostic approaches, we also present evidence supporting the reliability and validity of developmentally appropriate criteria for diagnosing

psychiatric disorders in children as young as two years old. Despite the relative lack of research on preschool psychopathology compared with studies of the epidemiology of psychiatric disorders in older children, the current evidence now shows quite convincingly that the rates of the common child psychiatric disorders and the patterns of comorbidity among them in preschoolers are similar to those seen in later childhood. We review the implications of these conclusions for research on the etiology, nosology, and development of early onset of psychiatric disorders, and for targeted treatment, early intervention and prevention with young children. [The authors summarize research findings for the *Early Childhood Inventory-4*. They also note “that relatively stable psychopathological characteristics can be reliably identified in preschoolers, consider the encouraging psychometric properties of the CBCL 1½-5 (Achenbach & Rescorla, (2000) and the *Early Childhood Inventory-4*” p. 315.]

- 06-5. Gadow, K.D., DeVincent, C.J., & Pomeroy, J. (2006). ADHD symptom subtypes in children with pervasive developmental disorder. *Journal of Autism and Developmental Disorders*, 36, 271-283.

Objective: This study describes and compares DSM-IV ADHD symptom subtypes in children with and without pervasive developmental disorder (PDD). Method: Parents and teachers completed *Early Childhood Inventory-4* for 3-to-5 ( $N=182/135$ ) and the *Child Symptom Inventory-4* for 6-to-12 ( $N=301/191$ ) year old children with PDD and clinic controls, respectively. Results: ADHD subtypes were clearly differentiated from the nonADHD group and showed a differential pattern of co-occurring psychiatric symptoms, which was more pronounced for teacher- than parent-defined subtypes and for older versus younger children. The combined (C) type was rated more oppositional and aggressive (ages 3-12) and as having more severe PDD symptoms (ages 6-12) than the inattentive (I) type and from less advantaged home environments than the I and hyperactive-impulsive (H) subtypes. The H group was the least impaired subtype. ADHD subtype differences were similar for both PDD and nonPDD children. Conclusion: Findings support the notion that ADHD may be a clinically meaningful syndrome in children with PDD.

- 06-6. Hooper, S.R., Ashley, T.A., Roberts, J.E., Zeisel, S.A., & Poe, M.D. (2006). The relationship of otitis media in early childhood to attention dimensions during the early elementary school years. *Journal of Developmental and Behavioral Pediatrics*, 27, 281-289.

Objective: This study examined the impact of otitis media with effusion (OME) and associated hearing loss between 6 and 48 months of age on attention dimensions (i.e., selective/focus, sustained) during the elementary school years. Method: A prospective cohort design in which 74 African American infants were recruited between ages 6 and 12 months. Ear examinations were done repeatedly using both otoscopy and tympanometry, and hearing was assessed using standard audiometric procedures between 6 and 48 months. Multiple measures of attention including direct assessment, behavioral observations, parent/teacher ratings [to include the *Child Symptom Inventory-4*] were administered from kindergarten through second grade to assess two theoretical dimensions of attention: selective/focused and sustained. The home environment was assessed annually. Results: Findings indicated that neither early childhood OME nor hearing loss showed significant correlations with any of the longitudinal or cross-sectional measures of selective/focused attention and sustained attention. In contrast, children with mothers who had fewer years of education and who lived in less responsive and supportive home environments scored higher on both parent and teacher ratings of sustained attention (i.e., hyperactivity) through the second grade of elementary school. For NEPSY Auditory Attention in second grade, a significant interaction between the Home Observation for Measurement of the Environment and hearing loss was uncovered. This interaction showed that children with hearing loss from poor home environments experienced greater difficulties on the NEPSY Auditory Attention task than those with hearing loss from good home environments. Conclusion: These findings do not support a direct linkage of a history of OME and associated hearing loss to difficulties in selective/focused attention or sustained attention in early elementary school children. Relationships between sociodemographic variables and attention-related functions appear stronger and should be considered as mediators in any examination of the linkages between early OME and subsequent attention functions.

- 06-7. Jane, M.C., Canals, J., Ballespi, S., Vinas, F., Esparo, G., & Domenech, E. (2006). Parents and teachers reports of DSM-IV psychopathological symptoms in preschool children. *Social Psychiatry and Psychiatric Epidemiology*, 41, 386-393.

Objective: This study used DSM-IV criteria to analyse reports from teachers and parents and to compare



behavioural and emotional symptoms in Spanish preschool children from both urban and rural populations. Method: The field survey was conducted in two geographical areas in Catalonia (Spain). A sample of 1104 children (56.67% boys and 43.32% girls) aged 3-6 years participated in this study: 697 were from urban areas and 408 from rural ones. The **Early Childhood Inventory**-teachers' and parents' versions (ECI-4) was used as the screening instrument. Results: The teachers' and parents' reports assigned 32.7 and 46.7%, respectively, to one or more ECI-4 categories. Significant differences between sexes were found in teachers' reports. The whole disorders were significantly more prevalent in the urban sample than in the rural one (30.6 vs. 20.3%). The most prevalent disorders in both areas were Anxiety Disorders and Behavioural Problems, and the least prevalent were Mood Disorders and Autistic Disorders. Conclusion: The findings indicate that there are some differences in the prevalence rates of preschool psychopathological disorders between rural and urban Spanish areas.

- 06-8. Kandel, D.B., Schaffran, C., Griesler, P.C., Hu, M.C., Davies, M., & Benowitz, N. (2006). Salivary cotinine concentration versus self-reported cigarette smoking: Three patterns of inconsistency in adolescence. *Nicotine & Tobacco Research*, 8, 525-537.

Objective: The present study examined the extent and sources of discrepancies between self-reported cigarette smoking and salivary cotinine concentration among adolescents. Method: The data are from household interviews with a cohort of 1,024 adolescents from an urban school system. Histories of tobacco use in the last 7 days and saliva samples were obtained. Results: Logistic regressions identified correlates of three inconsistent patterns: (a) Pattern 1-self-reported nonsmoking among adolescents with cotinine concentration above the 11.4 ng/mg cutpoint (n=176), (b) Pattern 2 - low cotinine concentration (below cutpoint) among adolescents reporting having smoked within the last 3 days (n=155), and (c) Pattern 3-high cotinine concentration (above cutpoint) among adolescents reporting not having smoked within the last 3 days (n=869). Rates of inconsistency were high among smokers defined by cotinine levels or self-reports (Pattern 1=49.1%; Pattern 2=42.0%). Controlling for other covariates, we found that reports of nonsmoking among those with high cotinine (Pattern 1) were associated with younger age, having few friends smoking, little recent exposure to smokers, and being interviewed by the same interviewer as the parent and on the same day. Low cotinine concentration among self-reported smokers (Pattern 2) was negatively associated with older age, being African American, number of cigarettes smoked, depth of inhalation, and exposure to passive smoke but positively associated with less recent smoking and depressive symptoms as assessed with the **Youths Inventory-4** (YI-4). High cotinine concentrations among self-reported nonsmokers was positively associated with exposure to passive smoke (Pattern 3). The data are consonant with laboratory findings regarding ethnic differences in nicotine metabolism rate. The inverse relationship of cotinine concentration with YI-4 depressive symptoms has not previously been reported. Depressed adolescent smokers may take in smaller doses of nicotine than nondepressed smokers; alternatively, depressed adolescents may metabolize nicotine more rapidly.

- 06-9. Klassen, A.F., Miller, A., & Fine, S. (2006). Agreement between parent and child report of quality of life in children with attention-deficit/hyperactivity disorder. *Child Care Health and Development*, 32, 397-406.

Objective: There is little information in the research literature of agreement between parent and child in reports of child quality of life (QOL) for a sample of children diagnosed with attention-deficit/ hyperactivity disorder (ADHD). The aim of our study was to determine whether parent and child concordance is greater for physical domains of QOL than for psychosocial domains; whether parents rate their child's QOL better or poorer than their child's ratings; and whether concordance is related to demographic, socioeconomic or clinical factors. Method: The study was a questionnaire survey of children aged 10-17 referred to the ADHD clinic and diagnosed with ADHD in the province of British Columbia (Canada) between November 2001 and October 2002 and their parent. Results: Fifty-eight children diagnosed with ADHD and their parents completed our study questionnaire. The main outcome measure was the Child Health Questionnaire, which permitted comparisons on eight QOL domains and one single item. Intraclass correlation coefficients were moderate for five domains (range from 0.40 to 0.51), and good for three domains (range from 0.60 to 0.75). Children rated their QOL significantly better than their parents in four areas and poorer in one. Standardized Response Means indicated clinically important differences in mean scores for Behaviour and Self-esteem. Compared with population norms, across most domains, children with ADHD reported comparable health. Discrepancies between parent-child ratings were related to the presence of a comorbid oppositional/defiant disorder, a psychosocial stressor and increased ADHD symptoms. Conclusion: Although self-report is an important means of eliciting QOL data, in children with ADHD, given the discrepancies in this study between parent and child report, measuring both perspectives seems appropriate.

- 06-10. Leathers, S.J. (2006). Placement disruption and negative placement outcomes among adolescents in long-term foster care: The role of behavior problems. *Child Abuse & Neglect*, 30, 307-324.

Objective: This study examined risk of placement disruption and negative placement outcomes (e.g., residential treatment and incarceration) among adolescents placed in traditional family foster care for a year or longer. Method: The caseworkers and foster parents of 179 randomly selected 12-13-year-old adolescents placed in traditional foster care were interviewed by telephone. Interviews included standardized measures of externalizing behavioral problems [**Oppositional Defiant Disorder and Conduct Disorder symptom categories of the Child Symptom Inventory-4**] and several other variables that have been previously associated with placement movement. Disruption from the youth's foster home at the time of the interview was prospectively tracked for 5 years. Results: Over half of the youth experienced a disruption of their placement. Contrary to expectations, behavior problems as reported by caseworkers, but not foster parents, were predictive of placement disruption. However, the foster parent's report of behavior problems predicted risk of negative outcome after a period of 5 years. As hypothesized, integration in the foster home was highly predictive of placement stability and mediated the association between behavior problems and risk of disruption. Conclusion: Results suggest that integration in the foster home might be an important dimension of placement adaptation that should be considered during service planning for foster youth in long-term foster care. In addition, using standardized measures of behavior with both foster parents and caseworkers might be necessary to assess both long-term risk of negative outcomes and more immediate risk of placement disruption.

- 06-11. Loney, B.R., Butler, M.A., Lima, E.N., Counts, C.A., & Eckel, L.A. (2006). The relation between salivary cortisol, callous-unemotional traits, and conduct problems in an adolescent non-referred sample. *Journal of Child Psychology and Psychiatry*, 47, 30-36.

Objective: Background: Previous research has suggested that adult psychopathic behavior and child callous-unemotional (CU) traits are uniquely related to low emotional reactivity. Salivary cortisol is a promising biological measure of emotional reactivity that has been relatively overlooked in research on CU traits and antisocial behavior. The current study examined for gender differences in the relation between resting salivary cortisol levels and CU traits in a non-referred adolescent sample. Salivary testosterone levels were assessed to provide discriminant validity for cortisol analyses and were not expected to bear a relation to CU traits. Method: An extreme groups strategy was used to recruit 108 adolescents (53 male, 55 female) from a larger screening sample who exhibited various combinations of low and high scores on parent-report measures of CU traits and conduct problems. [**The latter were assessed with the Adolescent Symptom Inventory-4**]. Resting saliva samples were assayed for cortisol and testosterone levels using a radioimmunoassay procedure. Results: Consistent with prediction, male participants exhibiting elevated CU traits were uniquely characterized by low cortisol levels relative to male comparison groups ( $p < .05$ ). Testosterone levels did not differentiate groups and no hormone effects were found for female participants. Conclusion: The current findings build upon recent research in suggesting that low cortisol may be a biological marker for male CU traits.

- 06-12. Loney, B.R., Lima, E.N., & Butler, M.A.. (2006). Trait affectivity and nonreferred adolescent conduct problems. *Journal of Clinical Child and Adolescent Psychology*, 35, 329-336.

Objective: This study examined for profiles of positive trait affectivity (PA) and negative trait affectivity (NA) associated with adolescent conduct problems. Prior trait affectivity research has been relatively biased toward the assessment of adults and internalizing symptomatology. Consistent with recent developmental modeling of antisocial behavior, this study, proposed that conduct problems are uniquely associated with 2 PA-NA profiles (i.e., high PA-high NA and low PA-low NA). Method: A nonreferred sample of 109 adolescents ages 12 to 19 was recruited to assess the independent relations between rating scale measures of the PA-NA dimensions and conduct problems [**sum of the Oppositional Defiant Disorder and Conduct Disorder symptom categories of the Adolescent Symptom Inventory-4**], controlling for related internalizing (anxiety and depression) and externalizing (hyperactivity-impulsivity) symptomatology. Results: The results generally confirmed the proposed interaction between the PA-NA dimensions in the prediction of adolescent conduct problems. [Also reported are correlations between the ASI-4 and the CDI and the RCMAS.]

- 06-13. Scahill, L., McDougall, C.J., Williams, S.K., Dimitropoulos, A., Aman, M.G., McCracken, J.T., Tierney, E.,

Arnold, L.E., Cronin, P., Grados, M., Ghuman, J., Koenig, K., Lam, K.S.L., McGough, J., Posey, D.J., Ritz, L., Swiezy, N.B., & Vitiello, B. (2006). Children's Yale-Brown Obsessive Compulsive Scale modified for pervasive developmental disorders. *Journal of the American Academy of Child and Adolescent Psychiatry*, 45, 1114-1123.

Objective: To examine the psychometric properties of the Children's Yale-Brown Obsessive Compulsive Scales (CYBOCS) modified for pervasive developmental disorders (PDDs). Method: Raters from five Research Units on Pediatric Psychopharmacology (RUPP) Autism Network were trained to reliability. The modified scale (CYBOCS-PDD), which contains only the five Compulsion severity items (range 0-20), was administered to 172 medication-free children (mean 8.2 +/- 2.6 years) with PDD (autistic disorder, n = 152; Asperger's disorder, n = 6; PDD not otherwise specified, n = 14) participating in RUPP clinical trials. Reliability was assessed by intraclass correlation coefficient (ICC) and internal consistency by Cronbach's alpha coefficient. Correlations with ratings of repetitive behavior and disruptive behavior were examined for validity. Results: Eleven raters showed excellent reliability (ICC = 0.97). The mean CYBOCS score was 14.4 +/- 3.86) with excellent internal consistency (alpha = .85). Correlations with other measures of repetitive behavior [**including the *Child Symptom Inventory-4* Compulsions and Tics scales**] ranged from r = 0.11 to r = 0.28 and were similar to correlations with measures of irritability (r = 0.24) and hyperactivity (r = 0.25). Children with higher scores on the CYBOCS-PDD had higher levels of maladaptive behaviors and lower adaptive functioning. Conclusion: The five-item CYBOCS-PDD is reliable, distinct from other measures of repetitive behavior, and sensitive to change.

- 06-14. Weiss, M.D., Wasdell, M.B., Bomben, M.M., Rea, K.J., & Freeman, R.D. (2006). Sleep hygiene and melatonin treatment for children and adolescents with ADHD and initial insomnia. *Journal of the American Academy of Child and Adolescent Psychiatry*, 45, 512-519.

Objective: To evaluate the efficacy of sleep hygiene and melatonin treatment for initial insomnia in children with attention-deficit/hyperactivity disorder (ADHD). Method: Twenty-seven stimulant-treated children (6-14 years of age) with ADHD and initial insomnia (> 60 minutes) received sleep hygiene intervention. Nonresponders were randomized to a 30-day double-blind, placebo-controlled, crossover trial of 5-mg pharmaceutical-grade melatonin provided by the study's sponsor. [**The ADHD symptom category of the parent-completed *Child Symptom Inventory-4* was used as a screening device for possible inclusion in the study.**] Results: Sleep hygiene reduced initial insomnia to < 60 minutes in 5 cases, with an overall effect size in the group as a whole of 0.67. Analysis of the trial data able to be evaluated showed a significant reduction in initial insomnia of 16 minutes with melatonin relative to placebo, with an effect size of 0.6. Adverse events were generally mild and not different from those recorded with placebo treatment. The effect size of the combined sleep hygiene and melatonin intervention from baseline to 90 days' posttrial was 1.7, with a mean decrease in initial insomnia of 60 minutes. Improved sleep had no demonstrable effect on ADHD symptoms. Conclusion: Combined sleep hygiene and melatonin was a safe and effective treatment for initial insomnia in children with ADHD taking stimulant medication.

## YEAR: 2005

- 05-1. Aman, M.G., Buitelaar, J., DeSmedt, G., Wapenaar, R., & Binder, C. (2005). Pharmacotherapy of disruptive behavior and item changes on a standardized rating scale: Pooled analysis of risperidone effects in children with subaverage IQ. *Journal of Child and Adolescent Psychopharmacology*, 15, 220-232.

The ADHD symptom category of the parent-completed ***Child Symptom Inventory-4*** was used as a screening device for possible inclusion in the study.

- 05-2. Aman, M.G., Arnold, L.E., McDougle, C.J., Vitiello, B., Scahill, L., Davies, M., McCracken, J.T., Tierney, E., Nash, P.L., Posey, D.J., Chuang, S., Martin, A., Shah, B., Gonzalez, N.M., Swiezy, N.B., Ritz, L., Koenig, K., McGough, J., Ghuman, J.K., & Lindsay, R.L. (2005). Acute and long-term safety and tolerability of risperidone in children with autism. *Journal of Child and Adolescent Psychopharmacology*, 15, 869-884.

The ADHD symptom category of the parent-completed ***Child Symptom Inventory-4*** was used as a screening device for possible inclusion in the study.

- 05-3. Croonenberghs, J., Fegert, J.M., Findling, R.L., De Smedt, G., Van Dongen, S., & Risperidone Disruptive

Behavior Study Group. (2005). Risperidone in children with disruptive behavior disorders and subaverage intelligence: A 1-year, open-label study of 504 patients. *Journal of the American Academy of Child and Adolescent Psychiatry*, 44, 64-72.

Objective: To determine the long-term safety and effectiveness of risperidone for severe disruptive behaviors in children. Method: A multisite, 1-year, open-label study of patients aged 5 to 14 years with disruptive behavior and subaverage intelligence was conducted. **[The *Child Symptom Inventory-4* was one of several measures used to make DSM-IV diagnoses.]** Results: Seventy-three percent of the 504 patients enrolled completed the study. The mean  $\pm$  SE dose of risperidone was 1.6 $\pm$ 0.0 mg/day. The most common adverse events were somnolence (30%), rhinitis (27%), and headache (22%). The incidence of movement disorders was low, and mean *Extrapyramidal Symptom Rating Scale* scores decreased during risperidone treatment. No clinically significant changes in mean laboratory values were noted, except for transient increase in serum prolactin levels. Scores on the *Nisonger Child Behavior Rating Form* Conduct Problem Scale improved significantly as early as week 1, and improvement was maintained throughout the trial ( $p < .001$  at each time point). Significant improvements were noted on positive social behavior and other *Nisonger Rating Form* subscales, *Aberrant Behavior Checklist*, *Clinical Global Impressions* scale, and tests of patients' cognitive functioning (each  $p < .001$ ). Conclusions: Risperidone was well tolerated and effective in the long-term treatment of disruptive behavior disorders in children with subaverage intelligence.

- 05-4. Crowell, S.E., Beauchaine, T.P., McCauley, E., Smith, C.J., Stevens, A.L., & Sylvers, P. (2005). Psychological, autonomic, and serotonergic correlates of parasuicide among adolescent girls. *Development and Psychopathology*, 17, 1105-1127.

Objective: Although parasuicidal behavior in adolescence is poorly understood, evidence suggests that it may be a developmental precursor of borderline personality disorder (BPD). Current theories of both parasuicide and BPD suggest that emotion dysregulation is the primary precipitant of self-injury, which serves to dampen overwhelmingly negative affect. To date, however, no studies have assessed endophenotypic markers of emotional responding among parasuicidal adolescents. Method: In the present study, we compare parasuicidal adolescent girls ( $n = 23$ ) with age-matched controls ( $n = 23$ ) on both psychological and physiological measures of emotion regulation and psychopathology. Adolescents, parents, and teachers completed questionnaires **[including the *Adolescent Symptom Inventory-4* and the *Youth's Inventory-4*]** assessing internalizing and externalizing psychopathology, substance use, trait affectivity, and histories of parasuicide. Psychophysiological measures including electrodermal responding (EDR), respiratory sinus arrhythmia, and cardiac pre-ejection period (PEP) were collected at baseline, during negative mood induction, and during recovery. Results: Compared with controls, parasuicidal adolescents exhibited reduced respiratory sinus arrhythmia (RSA) at baseline, greater RSA reactivity during negative mood induction, and attenuated peripheral serotonin levels. No between-group differences on measures of PEP or EDR were found. Conclusion: These results lend further support to theories of emotion dysregulation and impulsivity in parasuicidal teenage girls.

- 05-5. Frick, P.J., Stickle, T.R., Dandreaux, D.M., Farrell, J.M., & Kimonis, E.R. (2005). Callous-unemotional traits in predicting the severity and stability of conduct problems and delinquency. *Journal of Abnormal Child Psychology*, 33, 471-487.

Objective: The current study tests whether the presence of callous-unemotional (CU) traits designates a group of children with conduct problems who show an especially severe and chronic pattern of conduct problems and delinquency. Method: Ninety-eight children who were selected from a large community screening of school children in grades 3, 4, 6 and 7 were followed across four yearly assessments. Results: Children with conduct problems **[determined on the basis of parent and teacher ratings of ODD and CD symptoms from the *Child Symptom Inventory-4*]** who also showed CU traits exhibited the highest rates of conduct problems, self-reported delinquency, and police contacts across the four years of the study. In fact, this group accounted for at least half of all of the police contacts reported in the sample across the last three waves of data collection. In contrast, children with conduct problems who did not show CU traits continued to show higher rates of conduct problems across the follow-up assessments compared to non-conduct problem children. However, they did not show higher rates of self-reported delinquency than non-conduct problem children. In fact, the second highest rate of self-reported delinquency in the sample was found for the group of children who were high on CU traits but without conduct problems at the start of the study.

- 05-6. Gadow, K.D., & DeVincent, C.J. (2005). Clinical significance of tics and ADHD in children with pervasive developmental disorder. *Journal of Child Neurology*, 20, 481-488.

Objective: The goal of this study was to examine the clinical significance of co-occurring tics and attention-deficit/hyperactivity disorder (ADHD) as indicators of more complex symptomatology in children with and without pervasive developmental disorder (PDD). Method: Parents and teachers completed a DSM-IV-referenced rating scale for 3 to 5- ( $N=182/135$ ) (**Early Childhood Inventory-4**) and 6 to 12- ( $N=301/191$ ) (**Child Symptom Inventory-4**) year-old children with PDD and clinic controls, respectively. Results: The percentage of children with tic behaviors varied with age: preschoolers (25%, 44%) versus elementary school children (60%, 66%), parents and teachers, respectively. For many psychiatric symptoms, screening prevalence rates were highest for the ADHD+Tics group, and lowest for the NONE group, but the pattern of group differences varied by age group and informant. In general, there were few differences between the ADHD only and Tics only groups. The pattern of ADHD/Tic group differences was similar for both PDD and nonPDD children. Conclusion: We concluded that these findings support the notion that the co-occurrence of ADHD and tics is an indicator of more complex psychiatric symptomatology in children with PDD.

- 05-7. Gadow, K.D., DeVincent, C.J., Pomeroy, J. & Azizian, A. (2005). Comparison of DSM-IV symptoms in elementary school-aged children with PDD versus clinic and community samples. *Autism*, 9, 392-414.

Objective: This study describes and compares the severity and prevalence of DSM-IV symptoms in children (ages 6 to 12 years) with diagnosed pervasive developmental disorder (PDD), clinic controls, and two community-based samples. Method: Parents (/and teachers) completed the **Child Symptom Inventory-4** (CSI-4) for four samples: PDD ( $N=284/284$ ) and nonPDD psychiatric clinic referrals ( $N=189/181$ ) and pupils in regular ( $N=385/404$ ) and special ( $N=61/60$ ) education classes. Results: In general, the PDD group received higher DSM-IV symptom severity ratings than the regular education group, but was similar to the nonPDD clinic sample. Screening prevalence rates were highest for ADHD, ODD, and generalized anxiety disorder. PDD subtypes exhibited differentially higher rates of psychiatric symptoms (Asperger's disorder > PDDNOS > Autistic disorder). The magnitude of rater and gender differences in symptom severity ratings was generally modest. Conclusion: Clinic-referred children with PDD exhibit a pattern of psychiatric symptoms that is highly similar to nonPDD clinic referrals. Although much additional research is needed to address the issue of comorbidity, these symptoms have important treatment implications.

- 05-8. Kandel, D., Schaffran, C., Griesler, P., Samuolis, J., Davies, M., & Galanti, R. (2005). On the measurement of nicotine dependence in adolescence: Comparisons of the mFTQ and a DSM-IV-based scale. *Journal of Pediatric Psychology*, 30, 319-332.

Objective: To compare nicotine-dependent smokers identified by the modified Fagerstrom Tolerance Questionnaire (mFTQ) and a scale based on the *Diagnostic and Statistical Manual of Mental Disorders*, fourth edition (DSM-IV), in a multiethnic adolescent sample. Method: A school survey was conducted on 6<sup>th</sup> to 10<sup>th</sup>-grade students ( $N=15,007$ ) in a large urban public school system. Results: Two scales formed two distinct factors. The concordance between the two classifications of nicotine dependence was low. The DSM identified a much larger number of nicotine-dependent smokers than the mFTQ, mostly because smokers met dependence criteria at much lower levels of cigarettes consumed, especially when they were depressed [as assessed with the **Depression symptom category of the Youth's Inventory-4**]. Rates of dependence were higher among whites than minority-group members, especially African Americans. Control for level of cigarette consumption attenuated or eliminated ethnic differences. Conclusion: This investigation provides some understanding of youths defined as dependent by each scale but cannot by itself indicate which scale better measures dependence. Differences in dependence rates among ethnic groups are accounted for mostly by quantity of cigarettes smoked.

- 05-9. Kronenberger, W.G., Mathews, V.R., Dunn, D.W., Wang, Y., Wood, E.A., Giaque, A.L., Larsen, J.J., Rembusch, M.E., Lowe, M.J., & Li, T.Q. (2005). Media violence exposure and executive functioning in aggressive and control adolescents. *Journal of Clinical Psychology*, 61, 725-737.

Objective: The relationship between media violence exposure and executive functioning was investigated in samples of adolescents with no psychiatric diagnosis or with a history of aggressive-disruptive behavior. Method:

Age-, gender-, and IQ-matched samples of adolescents who had no Diagnostic and Statistical Manual of Mental Disorders-fourth edition (DSM-IV: American Psychiatric Association, 1994) diagnosis ( $N = 27$ ) and of adolescents who had DSM-IV Disruptive Behavior Disorder diagnoses ( $N = 27$ ) completed measures of media violence exposure and tests of executive functioning. Results: Moderate to strong relationships were found between higher amounts of media violence exposure and deficits in self-report, parent-report **[ADHD Symptom Severity Score of the Adolescent Symptom Inventory-4]**, and laboratory-based measures of executive functioning. A significant diagnosis by media violence exposure interaction effect was found for Conners' Continuous Performance Test scores, such that the media violence exposure-executive functioning relationship was stronger for adolescents who had Disruptive Behavior Disorder diagnoses. Conclusion: Results indicate that media violence exposure is related to poorer executive functioning **[ADHD Symptom Severity Score of the Adolescent Symptom Inventory-4]**, and this relationship may be stronger for adolescents who have a history of aggressive-disruptive behavior.

- 05-10. Leff, S.S., & Lakin, R. (2005). Playground-based observational systems: A review and implications for practitioners and researchers. *School Psychology Review*, 34, 475-489.

Behavioral observation systems allow for a relatively objective way to record important academic, behavioral, and/or interactional processes. Not surprisingly, the majority of school-based observational methods have been designed for and evaluated within the classroom setting. Although this is understandable, the playground context during recess provides an important unstructured school context in which to understand young children's peer relationships, play behaviors, and aggressive actions. This article provides a critical review of six playground-based observation systems **[including the ADHD School Observation Code, ADHD-SOC]** and discusses implications for use by practitioners and researchers. [The authors conclude that "the ADHD-SOC appears to be a well-established measure that has been evaluated extensively for its reliability and validity" (p. 481). They also note that "the ADHD SOC can be used to monitor the effectiveness of medication or psychosocial interventions with students with ADHD and comorbid externalizing disorders. Furthermore, the ADHD-SOC manual includes information on how to adapt coding sheets to fit one's particular needs, which makes the ADHD-SOC a feasible system for use across classroom and playground/lunchroom settings" (p. 486).]

- 05-11. Mathews, V.P., Kronenberger, W.G., Wang, Y., Lurito, J.T., Lowe, M.J., & Dunn, D.W. (2005). Media violence exposure and frontal lobe activation measured by functional magnetic resonance imaging in aggressive and nonaggressive adolescents. *Journal of Computer Assisted Tomography*, 29, 287-292.

Objective: To understand better the relation between media violence exposure, brain functioning, and trait aggression, this study investigated the association between media violence exposure and brain activation as measured by functional magnetic resonance imaging (fMRI) in groups of normal adolescents and adolescents with disruptive behavior disorder (DBD) with aggressive features **[assessed with the Adolescent Symptom Inventory-4]**. Methods: Seventy-one participants underwent neuropsychologic evaluation and assessment of exposure to violent media. Subjects also were evaluated with fMRI while performing a counting Stroop (CS) task. Results: Frontal lobe activation was reduced in aggressive subjects compared with control subjects. In addition, differences in frontal lobe activation were associated with differences in media violence exposure. Specifically, activation during performance of the CS in control subjects with high media violence exposure resembled that seen in DBD subjects. Conclusions: Our findings suggest that media violence exposure may be associated with alterations in brain functioning whether or not trait aggression is present.

- 05-12. McMahon, R.J., & Frick, P.J. (2005). Evidence-based assessment of conduct problems in children and adolescents. *Journal of Clinical Child and Adolescent Psychology*, 34, 477-505.

This article provides a summary of research in 4 areas that have direct and important implications for evidence-based assessment of children and adolescents with conduct problems (CP): (a) the heterogeneity in types and severity of CP, (b) common comorbid conditions, (c) multiple risk factors associated with CP, and (d) multiple developmental pathways to CP. For each of these domains, we discuss implications for evidence-based assessment, present examples of specific measures that can aid in such assessments **[such as the Early Childhood Inventory-4 and the Child Symptom Inventory-4, which the authors note were the only measures in their review that contained DSM-IV-referenced oppositional defiant disorder and conduct disorder subscales]**, and provide recommendations for evidence-based assessment of CP in children and adolescents. We conclude that there is a need to (a) enhance the clinical utility of evidence-based measures for

assessing CP; (b) increase attention to the sensitivity of such measures to change, for both treatment evaluation and monitoring; and (c) develop assessment methods that reliably and validly identify a child or adolescent's placement and progress on the various developmental pathways to CP.

- 05-13. O'Driscoll, G.A., Depatie, L., Holahan, A.L.V., Savion-Lemieux, T., Barr, R.G., Jolicoeur, C., & Douglas, V.I. (2005). Executive functions and methylphenidate response in subtypes of attention-deficit/hyperactivity disorder. *Biological Psychiatry*, 57, 1452-1460.

Objective: Oculomotor tasks are a well-established means of studying executive functions and frontal-striatal functioning in both nonhuman primates and humans. Attention-deficit/hyperactivity disorder (ADHD) is thought to implicate frontal-striatal circuitry. We used oculomotor tests to investigate executive functions and methylphenidate response in two subtypes of ADHD. Method: Subjects were boys, aged 11.5–14 years, with ADHD-combined ( $n = 10$ ), ADHD-inattentive ( $n = 12$ ), and control subjects ( $n = 10$ ). **[Diagnostic assessment instruments included the *Child Symptom Inventory-4*.]** Executive functions assessed were motor planning (tapped with predictive saccades), response inhibition (antisaccades), and task switching (saccades-antisaccades mixed). Results: The ADHD-combined boys were impaired relative to control subjects in motor planning ( $p < .003$ ) and response inhibition ( $p < .007$ ) but not in task switching ( $p > .92$ ). They were also significantly impaired relative to ADHD-inattentive boys, making fewer predictive saccades ( $p < .03$ ) and having more subjects with antisaccade performance in the impaired range ( $p < .04$ ). Methylphenidate significantly improved motor planning and response inhibition in both subtypes. Conclusions: ADHD-combined but not ADHD-inattentive boys showed impairments on motor planning and response inhibition. These deficits might be mediated by brain structures implicated specifically in the hyperactive/impulsive symptoms. Methylphenidate improved oculomotor performance in both subtypes; thus, it was effective even when initial performance was not impaired.

- 05-14. Pakalnis, A., Gibson, J., & Colvin, A. (2005). Comorbidity of psychiatric and behavioral disorders in pediatric migraine. *Headache*, 45, 590-596.

Objective: Recurrent migraine headaches are common in school-age children, and concurrent behavioral or psychiatric diagnoses could significantly impact headache frequency, severity, and response to treatment. The present study determines whether behavioral and psychiatric disorders occur more frequently in school-age children with migraine headache and elucidates treatment response related to comorbid psychiatric or behavioral diagnosis. Method: Healthy children from 6 to 17 years of age presenting to our headache clinic with migraine headache according to International Headache Society (IHS) criteria were identified. Parents/guardians were asked to complete the ***Child Symptom Inventory-4 (CSI-4)*** after written informed consent. Children with positive rating scales underwent psychological interviews for confirmatory diagnosis. Results were compared to controls. Headache patients were assigned our usual treatment paradigm. Response regarding headache frequency was assessed at 3 months. Results: A total of 47 patients were diagnosed with migraine headaches. The mean age was 10.55 years. Thirty controls were identified. After completing the CSI-4 and confirmatory psychological interview, 14 of 47 headache patients fulfilled DSM-4 criteria for a psychiatric or behavioral disorder. Oppositional defiant disorder (ODD) was significantly represented among children with migraine compared to the control group of children. Headache patients improved significantly post-treatment regarding their headache frequencies regardless of comorbid psychiatric or behavioral disorder. No significant differences were noted between boys and girls regarding diagnoses or treatment outcome. Conclusion: ODD was a significant comorbidity in our headache population. Although families complained of significant behavioral symptomatology in their children, most of these symptoms did not qualify their children for a psychiatric diagnosis and may be related to the stressors of headache on social/school disruption.

- 05-15. Pelham, W.E., Fabiano, G.A., & Massetti, G.M. (2005). Evidence-based assessment of attention deficit hyperactivity disorder in children and adolescents. *Journal of Clinical Child and Adolescent Psychology*, 34, 449-476.

This article examines evidence-based assessment practices for attention deficit hyperactivity disorder (ADHD). The nature, symptoms, associated features, and comorbidity of ADHD are briefly described, followed by a selective review of the literature on the reliability and validity of ADHD assessment methods **[including the *ADHD Symptom Checklist-4*, *Child Symptom Inventory-4*]**. It is concluded that symptom rating scales based on DSM-IV, empirically and rationally derived ADHD rating scales, structure interviews, global impairment measures, and

behavioral observations are evidence-based ADHD assessment methods. The most efficient assessment method is obtaining information through parent and teacher rating scales; both parent and teacher ratings are needed for clinical purposes. Brief, non-DSM based rating scales are highly correlated with DSM scales but are much more efficient and just as effective at diagnosing ADHD. No incremental validity or utility is conferred by structured interviews when parent and teacher ratings are utilized. Observational procedures are empirically valid but not practical for clinical use. However, individualized assessments of specific target behaviors approximate observations and have both validity and treatment utility. Measures of impairment that report functioning in key domains (peer, family, school) as well as globally have more treatment utility than nonspecific global measures of impairment. DSM diagnosis per se has not been demonstrated to have treatment utility, so the diagnostic phase of assessment should be completed with minimal time and expense so that resources can be focused on other aspects of assessment, particularly treatment planning. We argue that the main focus of assessment should be on target behavior selection, contextual factors, functional analysis, treatment planning, and outcome monitoring.

- 05-16. Pfiffner, L., McBurnett, K., Rathouz, P., & Judice, S. (2005). Family correlates of oppositional and conduct disorders in children with attention deficit/hyperactivity disorder. *Journal of Abnormal Child Psychology*, 33, 551-563.

Objective: Comorbidities among children with ADHD are key determinants of treatment response, course, and outcome. This study sought to separate family factors (parental psychopathology and parenting practices) associated with comorbid Oppositional Defiant Disorder (ODD) from those associated with Conduct Disorder (CD) among children with Attention Deficit/Hyperactivity Disorder. Method: Clinic-referred families (n = 149) were diagnosed using DSM-IV criteria. **[Children were initially screened with *Child Symptom Inventory-4*.]** Parents completed measures of parenting practices. Results: Comorbid ODD and CD were significantly associated with maternal negative/ineffective discipline. Comorbid CD, but not ODD, was significantly associated with lack of maternal warmth and involvement, paternal negative/ineffective discipline, and with paternal Antisocial Personality Disorder (APD). However, the risk of CD posed by parenting appeared concentrated among children without a father having APD. Conclusion: While consistent discipline appears important for addressing comorbid ODD and CD, paternal psychopathology and the quality of the relationship between mother and child may pose risk specifically for comorbid CD. Efforts to prevent and/or treat CD should consider not only provision of structure and prudent discipline, but also the affective qualities of the relationship between the primary caretaker and child.

- 05-17. Scahill, L. (2005). Diagnosis and evaluation of pervasive developmental disorders. *Journal of Clinical Psychiatry*, 66(Suppl. 10), 19-25, 2005.

Accurate diagnosis and appropriate treatment of pervasive developmental disorders (PDDs), including autistic disorder, Asperger's disorder, and pervasive developmental disorder not otherwise specified, are necessary to ensure the best possible outcomes for children with these disorders. In the past, it was not uncommon for children with PDDs to wait several years from the time of parental recognition of developmental delay to the determination of the correct diagnosis and initiation of treatment. Increased awareness of PDDs and the availability of better assessment tools have improved the detection of these conditions in children. A wide variety of standardized diagnostic checklists, interviews, and observational measures are available to assist the clinician in making an accurate PDD diagnosis. A comprehensive evaluation also establishes a baseline of adaptive functioning and problematic behavior, which is essential for subsequent assessment of progress. This article discusses the differential diagnosis and evaluation of PDDs, focusing on the various assessment tools. The elements of a contemporary diagnostic evaluation and behavioral assessment are presented. The application of discretionary evaluations for special situations are also introduced. **[The authors note that the "advantage of the *Child Symptom Inventories* over the *Autism Behavior Checklist* is that they are entirely based on DSM-IV and offer information about other diagnostic categories beyond PDD (p. 21) and "can assist with the diagnosis of PDD as well as other DSM-IV symptom complexes" (p. 24).]**

- 05-18. Sobin, C., Kiley-Brabeck, K., & Karayiorgou, M. (2005). Lower prepulse inhibition in children with the 22q11 deletion syndrome. *American Journal of Psychiatry*, 162, 1090-1099.

Objective: The 22q11 deletion syndrome is associated with a range of possible physical anomalies, probable ongoing learning disabilities, and a specific constellation of neuropsychological deficits, including impairments in selective and executive visual attention, working memory, and sensorimotor functioning. It has been estimated that



25% of the children with 22q11 deletion syndrome go on to develop schizophrenia in late adolescence or adulthood. This is of urgent concern. Specification of early brain network vulnerabilities may provide a basis for early intervention while indicating critical links between genes and severe psychiatric illness. Neuropsychological studies of children with 22q11 deletion syndrome have implicated an array of potentially aberrant brain pathways. This study was conducted to determine whether preattentive processing ("sensorimotor gating") deficits are present in this population. Method: The authors administered a test of prepulse inhibition to 25 children with 22q11 deletion syndrome and their 23 sibling comparison subjects, ages 6–13. It was predicted that the children with 22q11 deletion syndrome would have lower prepulse inhibition than the comparison subjects. Results: Prepulse inhibition in the children with 22q11 deletion syndrome (26.06%) was significantly less than that of the sibling comparison subjects (46.41%). Secondary analyses suggested that this decrement did not reflect developmental delay, and lower prepulse inhibition was associated with particular subsyndromal symptoms **[as assessed with the Schizophrenia subscale of the *Child Symptom Inventory-4*]** in some children. Conclusion: Sensorimotor gating is lower in children with 22q11 deletion syndrome. These findings may indicate specific brain circuits that are anomalous in 22q11 deletion syndrome.

- 05-19. Volpe, R.J., DiPerna, J.C., Hintze, J.M., & Shapiro, E.S. (2005). Observing students in classroom settings: A review of seven coding schemes. *School Psychology Review*, 34, 454-474.

A variety of coding schemes are available for direct observational assessment of student classroom behavior. These instruments have been used for a number of assessment tasks including screening children in need of further evaluation for emotional and behavior problems, diagnostic assessment of emotional and behavior problems, assessment of classroom ecology in the formulation of academic interventions, and monitoring the progress of medical, psychosocial, and academic interventions. Although this method of behavioral assessment has a high degree of face validity, it is essential to consider the psychometric properties of available coding schemes to select the appropriate instrument for a given assessment. This article reviews the structure, content, training requirements, and available psychometric properties of seven available direct observation codes **[including the ADHD School Observation Code, ADHD-SOC]**. Recommendations for the use of each code and future directions for research in observational assessment are provided. **[The authors conclude that "based on the available data, the ADHD-SOC and DOF appear to have the most support for use in the multimethod assessment of externalizing problems" (p. 470).]**

- 05-20. Weisbrot, D.M., Gadow, K.D., DeVincent, C.J., & Pomeroy, J. (2005). The presentation of anxiety in children with pervasive developmental disorders. *Journal of Child and Adolescent Psychopharmacology*, 15, 477-496.

Objective: Although DSM-IV diagnostic criteria generally discourage the diagnosis of other Axis I disorders in children with pervasive developmental disorder (PDD), anxiety symptoms are often observed in this clinical population. Moreover, there are some albeit limited data that suggest an association between anxiety and psychotic symptoms in children. Because co-occurring psychiatric symptoms have important clinical implications, this study examined anxiety and psychotic symptoms in children with and without PDD. Method: Parents and teachers completed the *Early Childhood Inventory-4 (ECI-4)* or the *Child Symptom Inventory-4 (CSI-4)* for children evaluated in a developmental disabilities clinic (PDD) or a child psychiatry outpatient clinic (nonPDD). Children were divided into four groups: 3-5 year olds with ( $n=182$ ) and without ( $n=135$ ) PDD, and 6-12 year olds with ( $n=301$ ) and without ( $n=191$ ) PDD. The 6 to 12 year olds were further divided into high-anxious and low-anxious subgroups based on CSI-4 ratings and compared with regard to severity of psychotic symptoms. Results: Teachers rated preschoolers with PDD as exhibiting more severe anxiety symptoms than the nonPDD group; however, the converse was true for parent ratings. For 6 to 12 year olds, both parents and teachers rated children with PDD as significantly more anxious than nonPDD clinic referrals. In general, the severity of anxiety varied by PDD Subtype (Asperger's disorder>PDDNOS>Autistic disorder) and IQ (high>low). Furthermore, highly anxious, 6 to 12 year olds with PDD received significantly higher parent and teacher ratings of psychotic symptom severity (strange behaviors, hearing voices, illogical thinking, inappropriate affect, and odd thoughts) than our low-anxiety group even when controlling for PDD symptom severity. Moreover, the relation between anxiety level and psychotic symptom severity was similar for both PDD and nonPDD children. Parent and teachers differed in their perceptions of the severity of specific anxiety symptoms. In addition, parent- versus teacher-defined anxiety level groups differed with regard to the differential severity of psychotic symptoms. This supports the continued investigation of source-specific syndromes in children with PDD. Two case vignettes are presented. Conclusion: Anxiety appears to be a clinically important concern in many children with PDD. Similarities in anxiety symptom

presentation and their association with psychotic symptoms in both children with and without PDD support the possibility of (a) psychiatric comorbidity in the former, (b) at least some overlap in causal mechanisms for anxiety and psychotic symptoms in both PDD and nonPDD children, and (c) a unique diagnostic entity comprised of PDD, anxiety, and psychotic symptoms. Lastly, clinicians should seriously consider dual diagnoses in children with PDD.

## YEAR: 2004

- 04-1. Aman, M.G., Binder, C., & Turgay, A. (2004). Risperidone effects in the presence/absence of psychostimulant medicine in children with ASDHD, other disruptive behavior disorders, and subaverage IQ. *Journal of child and Adolescent Psychopharmacology*, 14, 243-254.

The ADHD symptom category of the parent-completed *Child Symptom Inventory-4* was used as a screening device for possible inclusion in the study.

- 04-2. Domenech-Llaberia, E., Jane, C., Canals, J., Ballespi, S., Esparó, G., & Garralda, E. (2004). Parental reports of somatic symptoms in preschool children: Prevalence and associations in a Spanish sample. *Journal of the American Academy of Child and Adolescent Psychiatry*, 43, 598-604.

Objective: To document prevalence and associations of somatic symptoms in Spanish preschool children. Method: Subjects were 3- to 5-year-olds attending nurseries (8 urban, 30 rural). Parental questionnaires (response rate 77%) were used to inquire about somatic symptoms in the child in the 2 weeks prior to assessment, about preschool absence and pediatric help-seeking, chronic family health problems, and recent stressful life events for the child. Parents completed questionnaires on child psychopathology [**Early Childhood Inventory-4**] and their own mental health (*General Health Questionnaire*). Children who were reported as complaining of symptoms frequently (four or more times) were compared to noncomplaining children. Results: parents reported that 452 of the 807 (56%) children complained of somatic symptoms at least once, significantly more so in urban than rural areas. Frequent somatic complaints were reported for 165 of the 807 (20%) (abdominal pains 7.9%, tiredness 5.7%, leg pains 4%, headaches 2%, dizziness 0.4%). There were significant associations of frequent symptom reporting with days off preschool and pediatric clinic attendance, with emotional and behavioral symptoms in children, mental distress in parents, and urban abode. Conclusions: Somatic symptoms are common in preschool children. Results point to family influences.

- 04-3. Drabick, D.A.G., Gadow, K.G., Carlson, G.A., & Bromet, E.J. (2004). ODD and ADHD symptoms in Ukrainian children: External validators and comorbidity. *Journal of the American Academy of Child and Adolescent Psychiatry*, 43, 735-743.

Objective: Examined potential external validators for ODD symptoms and ADHD symptoms in a Ukrainian community-based sample of 600, 10- to 12-year-old children and evaluated the nature of co-occurring ODD and ADHD symptoms using mother- and teacher-defined groups. Method: In 1997, parents, children, and teachers participated in extensive clinical assessments using standard Western measures, including the **Child Symptom Inventory-4**. Four areas of functioning were assessed: child mental health, parent-child interactions, parental well-being, and school/cognitive performance. Results: Mother-defined ODD versus ADHD symptom groups were differentiated by history of overactivity and tantrums, behavior in school, and maternal anxiety and hostility. Teacher-defined groups were differentiated by conduct problems, internalizing symptoms, mother-child interactions, and paternal alcohol use. The effects of co-occurring ODD and ADHD symptoms were greater than would be expected based on their separate effects for conduct problems, internalizing symptoms, social problems, academic performance, parent-child relations, and marital discord. Conclusion: Children with ODD versus ADHD symptoms were not significantly different from each other for the majority of variables examined, and group differences were dependent on the rater used to define symptom groups.

- 04-4. Ellis, B.H., Fisher, P.A., & Zaharie, S. (2004). Predictors of disruptive behavior, developmental delays, anxiety, and affective symptomatology among institutionally reared Romanian children. *Journal of the American Academy of Child and Adolescent Psychiatry*, 43, 1283-1292.

Objective: To examine the associations between duration of institutionalization, age at abandonment, and mental and physical health outcomes of young institutionalized children in Romania and to examine patterns of

associations between placement history, physical growth variables, and psychiatric symptoms. Method: Institutionalized children (ages 2 to 6 years) in a Romanian orphanage were studied through caregiver reports. Orphanage staff completed the **Early Childhood Inventory-4 (ECI-4)** on the children's psychiatric symptoms and physical growth measurements and placement histories on the children. ECI-4 variables included Screening Cutoff, Symptom Severity, Total Severity, and Developmental Deficits Index scores as well as three theoretically-related aggregated symptom scales: disruptive behavior, anxiety/affective symptomatology, and disorders of development. Results: Children showed high rates of developmental delays, anxiety/affective symptoms, and physical growth delays. Patterns of associations between history and growth variables and ECI-4 scores were examined using three sequential multiple regressions. Longer duration of institutionalization and shorter physical stature were significantly associated with anxiety/affective symptoms. Physical stature was significantly associated with developmental delays and disruptive behaviors, with smaller stature being associated with greater developmental delays and fewer disruptive behavior problems. Conclusions: Institutionalized children demonstrate high rates of psychiatric symptoms. Duration of institutionalization, physical stature, and age at abandonment differentially relate to psychiatric symptoms. Findings are interpreted in light of implications for intervention and social policy.

- 04-5. Esparo, G., Canals, J., Jane, C., Ballespi, S., Vinas, F., & Domenech, E. (2004). Feeding problems in nursery children: Prevalence and psychosocial factors. *Acta Paediatrica*, 93, 663-668.

Objective: In this study we analyze the prevalence of feeding problems in a sample of nursery children and examine the environmental and psychopathological factors related to such problems. Method: The parent version of the **Early Childhood Inventory-4** was used to assess 851 Spanish children (ages 3 to 6 years) in both urban and rural settings. We collected sociodemographic data and information about life events and the psychopathology of the children's parents (*General Health Questionnaire*). Results: Results showed that the prevalence of feeding problems was 4.8% and that there were no differences in gender. Sample subtype, SES, and family characteristics were not linked to feeding problems. Children with feeding problems had significantly more symptoms of psychiatric symptoms and somatic complaints and experienced more life events in the previous 12 months. The psychopathology of the mother, especially in terms of anxiety problems, increased the risk of feeding problems in children. Conclusion: When there are no complaints of feeding problems in preschoolers, the psychological problems of children and their mothers should be taken into consideration during pediatric consultation, irrespective of gender or SES.

- 04-6. Gadow, K.D., Drabick, D.A.G., Loney, J., et al. (2004). Comparison of ADHD symptom subtypes as source-specific syndromes. *Journal of Child Psychology and Psychiatry*, 45, 1135-1149.

Objective: This study examines differences between the three subtypes of attention-deficit/hyperactivity disorder (ADHD), inattentive (I), hyperactive-impulsive (H), and combined (C), in a heterogeneous sample of 248 boys (ages 6 to 10 years) with emotional and behavioral problems who were recruited for participation in a diagnostic study. Method: The boys and their mothers participated in an extensive evaluation that involved multiple assessments of cognitive, behavioral, academic, and family functioning. ADHD subtypes were defined on the basis of teacher alone, mother alone, and mother/teacher ratings of DSM-IV symptoms using the **Child Symptom Inventory-4**. Results: ADHD symptom groups showed a differential pattern of impairment socially (H,C>I) and cognitively (I,C>H). The C and H groups were the most and least impaired overall, respectively, and all subtypes were differentiated from the nonADHD clinical control or NONE (N) group in a manner consistent with the primary findings. External validation of group differences was limited, and there were marked inconsistencies in the pattern of findings depending on how groups were defined. For the most part, although the mother/teacher grouping strategy (compared with either alone) captured a greater diversity of differences between subtypes, it also obscured some. Conclusion: Observed findings are consistent with the notion that mothers and teachers interpret symptom statements in terms of behaviors that are most relevant for their daily concerns.

- 04-7. Gadow, K.D., DeVincent, C.J., Pomeroy, J. & Azizian, A. (2004). Psychiatric symptoms in preschool children with PDD and clinic and comparison samples. *Journal of Autism and Developmental Disorders*, 34, 379-393.

Objective: This study describes and compares the severity of DSM-IV symptoms in preschool children with diagnosed pervasive developmental disorder (PDD), clinic controls, and two community-based samples. Method:

Parents (/and teachers) completed the **Early Childhood Inventory-4 (ECI-4)**, a DSM-IV-referenced rating scale for four samples: PDD ( $N=172/160$ ) and nonPDD psychiatric clinic referrals ( $N=135/101$ ) and youngsters in regular ( $N=507/407$ ) and special ( $N=64/140$ ) early childhood programs. Children ranged in age from 3 to 5 years old. Results: With the exception of conduct problems, the PDD group generally received higher symptom severity ratings than the regular early childhood group, but the pattern of differences compared with the other two groups often varied by type of symptom and informant. Teachers rated the PDD and nonPDD clinic groups as having equally severe ADHD and oppositional defiant disorder symptoms. Teachers rated the PDD group as having more severe anxiety and depression symptoms than parents. The Asperger group was rated by both informants as more oppositional than the autism and PDDNOS subgroups. Teachers rated males in the regular early childhood sample as having more severe ADHD and aggressive symptoms than females, but this was not the case for the PDD sample. Conclusion: Preschoolers with PDD exhibit more severe DSM-IV psychiatric symptoms than children in regular and special early childhood programs, and to some extent nonPDD psychiatric referrals. The concept of comorbidity warrants further exploration, as does informant-specific syndromes as validators of diagnostic constructs.

- 04-8. Gadow, K.D., Sprafkin, J., Salisbury, H., Schneider, J., & Loney, J. (2004). Further Validity Evidence for the Teacher Version of the Child Symptom Inventory-4. *School Psychology Quarterly*, 19, 50-71.

Objective: Examined the reliability and validity of the teacher version of the **Child Symptom Inventory-4 (CSI-4)**. Method: Teachers rated 248 boys referred for evaluation of behavioral and emotional problems using the CSI-4, a behavior rating scale whose items correspond to the symptoms of DSM-IV-defined disorders. Results: Findings indicated satisfactory internal consistency reliabilities for most symptom categories: ADHD:I (.93), ADHD:HI (.93), ADHD:C (.93), ODD (.92), Conduct Disorder (.78), Generalized Anxiety Disorder (.76), Social Phobia (.72), Major Depressive Disorder (.73), Dysthymic Disorder (.74), Schizophrenia (.58), Autistic Disorder (.85), and Asperger's Disorder (.82). CSI-4 scores converged and diverged in a theoretically consistent manner with respective scales of the *Teacher's Report Form* (Achenbach, 1991), the *IOWA Conners Teacher's Rating Scale* (Loney & Milich, 1982), and the *Diagnostic Interview for Children and Adolescents-Revised-Parent Version* (DICA-P; Reich, Shayka, & Taibleson, 1991). Age was minimally correlated ( $r<.16$ ) with CSI-4 symptom severity ratings. Similarly, neither WISC-III Verbal, Performance, or Full Scale IQ ( $r<.17$ ); WRAT-R Reading, Spelling, or Arithmetic ( $r<.20$ ); IQ/achievement discrepancy ( $r<.13$ ); nor SES ( $r<.28$ ) were associated with any CSI-4 scores. Correlations between teacher and parent CSI-4 ratings were low to moderate, whereas all correlations between teacher ratings and child self report were very low ( $rs<.16$ ). Children who met DICA-P diagnostic criteria for attention-deficit/hyperactivity disorder, oppositional defiant disorder, and conduct disorder received significantly higher corresponding CSI-4 teacher symptom ratings than children not so diagnosed. Comparisons of boys with and without IOWA research diagnoses indicated that children with ADHD or ODD received significantly higher scores for corresponding CSI-4 symptom scores than children not so diagnosed. Conclusion: Collectively, findings support the clinical utility of the CSI-4 in clinically-referred boys.

- 04-9. Keenan, K., Hipwell, A., Duax, J., Stouthamer-Loeber, M., & Loeber, R. (2004). Phenomenology of depression in young girls. *Journal of the American Academy of Child and Adolescent Psychiatry*, 43, 1098-1106.

Objective: To examine the prevalence of depressive symptoms, the overlap between caregiver and child report, the association between depression and anxiety, and the relationship between symptoms of depression and impairment in young girls. Method: Participants in the Pittsburgh Girls Study, a community sample of 2,451 girls aged 5-8 years old and their primary caregivers were interviewed in 2000-2001 using the **Child Symptom Inventory-4** and the *Short Moods and Feelings Questionnaire* to measure depression, the *Screen for Child Anxiety and Related Emotional Disorders* to measure anxiety, and the *Children's Global Assessment Scale* to measure impairment. Results: Less than 1% of 5-to-year-old girls had five or more symptoms of major depression according to caregiver report. Individual differences in symptom counts and depression scores by caregiver and child report were observed. Agreement between caregivers and girls on depression symptoms was low, with only 2% of the variance in caregiver-reported depression on the *Child Symptom Inventory-4* being accounted for by child report on the *Short Moods and Feelings Questionnaire*. The level of association between depression and anxiety scores suggested that these constructs are associated but relatively independent in young girls. Both caregiver report and child report of depressive symptoms were uniquely associated with impairment ratings. Conclusions: Although major depression appears to be rare among 5- to-8-year girls, continuous measures of depressive symptoms yield significant individual differences that are associated with impairment. Thus, preliminary

evidence suggests that depressive symptoms can be validly measured in 5- to-8-year-old girls.

- 04-10. Kimonis, E.R., Frick, P.J., & Barry, C.T. (2004). Callous-unemotional traits and delinquent peer affiliation. *Journal of Consulting and Clinical Psychology*, 72, 956-966.

Objective: Association with a deviant peer group is a robust correlate of juvenile social behavior. The current study focused on whether this association differed for antisocial youth with and without callous-unemotional (CU) traits and whether potential mediators of this association differed for the 2 groups. Method: Deviant peer group association was examined in a community sample ( $N=98$ ) of high risk youth. The sample was assessed at 4 yearly intervals. **Results:** Across all assessment points, children with conduct problems [determined on the basis of parent and teacher ratings of ODD and CD symptoms from the *Child Symptom Inventory-4*] and CU traits [determined on the basis of parent and teacher ratings of the CU subscale of the *Antisocial Process Screening Device*] showed the highest level of affiliation with deviant peers. [Parent and teacher ratings were combined using the "or" rule.] At the first 2 assessment points, this effect was largely mediated by dysfunctional parenting and problems in the child's social relationships. In contrast, the mediational role of these variables was much weaker at the last 2 assessment points.

- 04-11. Klassen, A.F., Miller, A., & Fine, S. (2004). Health-related quality of life in children and adolescents who have a diagnosis of attention-deficit/hyperactivity disorder. *Pediatrics*, 114, 541-547.

Objective: The aim of our study was to measure health-related quality-of-life (HRQL) in a clinic-based sample of children who has a diagnosis of ADHD and consider the impact of 2 clinical factors, symptom severity and comorbidity, on HRQL. Method: The sample included 165 respondents of 259 eligible children, of whom 131 were diagnosed ADHD (of these, 69% had comorbid psychiatric disorder). Measures were the parent version of the *Child Health Questionnaire* and the parent and teacher versions of the *Child and Adolescent Symptom Inventory-4 (CASI-4)*. Results: Compared with normative samples, the ADHD group had similar physical health, but had clinically important deficits in all HRQL psychosocial domains. In most cases, Children with  $\geq 2$  comorbid disorders differed significantly from children with no comorbidity. Interclass correlation coefficients computed for parent- and teacher-reported CASI-4 scores were moderate to low for ADHD Inattentive (.34), ADHD Hyperactive-Impulsive (.39), and ADHD Combined (.30). Parents rated ADHD symptoms significantly higher than teachers for ADHD Inattentive and ADHD Combined symptoms. Conclusion: Our study shows that ADHD has a significant impact on multiple domains of HRQL in children and adolescents. Compared with normative data, children with ADHD had more parent-reported problems in terms of emotional-behavioral role function, behavior, mental health, and self-esteem. In addition, the problems of children with ADHD has a significant impact on the parents' emotional health and parents' time to meet their own needs, and they interfered with family activities and family cohesion.

- 04-12. Lopez-Villalobos, J.A., Pintado, I.S., & Sanchez-Mateos, J.D. (2004). Attention-deficit hyperactivity disorder: Comorbidity with depressive and anxiety disorders. *Psicothema*, 16, 402-407.

The study analyzes the profile of comorbidity of attention-deficit/hyperactivity disorder (ADHD) and depressive/anxiety disorders (ID), exploring the pattern that could predict this psychopathological association. A sample of 90 cases of ADHD was analyzed (6-16 years). ADHD was defined according to DSM-IV criteria, whereas comorbidity was defined by the Spanish translation of the *Child Symptom Inventory-4*. The following variables were considered: IQ, academic performance, relational dimension, and previous psychiatric history. There were no significant between group differences.

- 04-13. Mattison, R.E. (2004). Universal measures of school functioning in middle school special education students. *Behavioral Disorders*, 29, 359-371.

Universal measures of school functioning/impairment (i.e., grade point average, subject failures, absenteeism, disciplinary referrals/suspensions) were examined over the course of 1 school year for a cohort of 89 special education students classified as having emotional disturbance (ED) who were taught in a unique public school program. On average during the year the students achieved at a high "C" level, failed major subjects infrequently, missed 11 days of school, and rarely were tardy. They averaged one disciplinary referral per marking period, but the majority were never suspended out of school. The measures generally were consistent across marking

periods, independent of each other, and significantly correlated to DSM-IV psychiatric disorders as rated by their teachers using the **Child Symptom Inventory-4 (CSI-4)**. [CSI-4 scores were minimally correlated with IQ, gender, SES, or achievement ratios. However, GPA was moderately correlated ( $r=-.46$ ) with ADHD:I but not ADHD:HI, ODD ( $r=-.50$ ), MDD ( $r=-.41$ ) and Dysthymia ( $r=-.43$ ). School absences were most highly correlated with anxiety and depression symptoms, and disciplinary referrals and suspensions were most highly correlated with ODD and CD symptom severity.] Teachers contributed little variance to the measures. The findings support the increased use of these universal indicators of school function in students with ED as a research tool and a meaningful way of communication with educators about such students.

- 04-14. Weiss, M.D., & Weiss, J.R. (2004). A guide to the treatment of adults with ADHD. *Journal of Clinical Psychiatry*, 65 (Suppl. 3), 27-37.

While child and adolescent physicians are familiar with the treatment of attention-deficit/hyperactivity disorder (ADHD), many adult physicians have had little experience with the disorder. It is difficult to develop clinical skills in the management of residual adult manifestations of developmental disorders without clinical experience with their presentation in childhood. Adult patients are increasingly seeking treatment for the symptoms of ADHD, and physicians need practice guidelines. Adult ADHD often presents differentially from childhood ADHD. Because adult ADHD can be comorbid with other disorders and has symptoms similar to those of other disorders, it is important to understand differential diagnosis. "The **Adult Self Report-4 (ASRI-4)** provides a screening checklist for DSM-IV symptoms of developmental disorders and personality disorder, as well as the major disorders of adulthood. This inventory can be easily reviewed by the clinician, and even without formal scoring can clue clinicians into groupings of symptoms that signify patterns of comorbidity that might otherwise be missed" (p. 29). Physicians should work with patients to provide feedback about their symptoms, to educate them about ADHD, and to set treatment goals. Treatment for ADHD in adults should include a medication trial, restructuring of the patient's environment to make it more compatible with the symptoms of ADHD, and ongoing supportive management to address any residual impairment and to facilitate functional and developmental improvements.

## YEAR: 2003

- 03-1. Angello, L.M., Volpe, R.J., DiPerna, J.C., Gureasko-Moore, S.P., Gureasko-Moore, D.P., Nebrig, M.R., & Ota, K. (2003). Assessment of attention-deficit/hyperactivity disorder: An evaluation of six published rating scales. *School Psychology Review*, 32, 241-262.

The current article reports a critical analysis of six published behavior rating scales commonly utilized in a best practices approach to a school-based comprehensive assessment of ADHD (DuPaul & Stoner, 1994). These scales are the *ADHD Rating Scale-IV* (DuPaul et al., 1998), *BASC Monitor* (Kamphaus & Reynolds, 1998), *Conners's Rating Scales Revised* (Conners, 1997), **ADHD Symptom Checklist -4 (ADHD-SC4)**, *ADDES-2nd edition* (McCarney, 1995), and *ACTeRS* (Ullmann et al., 1997). Each of the rating scales was evaluated for strengths and limitations with regard to purpose, content, standardization, and psychometric properties. Recommendations are delineated regarding the use of each rating scale with specific target populations (i.e., culturally diverse students) as well as specific stages of assessment within a problem-solving process. With regard to the ADHD-SC4, the authors state that "there is strong evidence to support the use of the ADHD-SC4 in the screening process" (p. 258), and "with the exception of the ADHD-SC4, all of the rating scales in this review had limited evidence regarding sensitivity to changes in behavior (e.g., resulting from treatment). In addition to providing such evidence, the ADHD-SC4 includes a side effects scale that makes it the best choice for monitoring the impact of pharmacological interventions" (p. 258).

- 03-2. Baldwin, R.L., Chelonis, J.J., Flake, R.A., Edwards, M.C., Field, C.R., Meaux, J.B., & Paule, M.G. (2004). Effect of methylphenidate on time perception in children with attention-deficit/hyperactivity disorder. *Experimental and Clinical Psychopharmacology*, 12, 57-64.

Objective: The effects of methylphenidate (MPH) on performance of a time-production task were studied in 17 children with attention-deficit/hyperactivity disorder who participated in 1 test session on and off MPH. Method: Screening Cutoff scores on the **Child Symptom Inventory-4** were an exclusion criterion for schizophrenia, major depressive disorder, and pervasive developmental disorder. Participants held a response lever down for at least 10 but no longer than 14 seconds. Results: Administration of MPH had no effect on the number of responses or

the mean duration of lever holds. MPH administration significantly decreased timing response variability, increased holds of 10- to 11-seconds duration, and decreased lever holds of extremely short durations. Conclusion: These results indicate that administration of MPH resulted in more precise timing performance without changing the means duration of lever holds, suggesting an enhancement in working memory.

- 03-3. Barry, C.T., Frick, P.J., & Killian, A.L. (2003). The relation of narcissism and self-esteem to conduct problems in children: A preliminary investigation. *Journal of Clinical Child and Adolescent Psychology*, 32, 139-152.

Objective: Investigated several possible models to explain the seemingly discrepant relations between self-esteem and conduct problems, as both low self-esteem and exaggerated levels of self-esteem, thought to be captured by narcissism, have been associated with aggressive and antisocial behavior. Method: Sample consisted of 98 nonreferred children recruited from public schools who initially scored above the third quartile for the Oppositional Defiant Disorder or Conduct Disorder categories of the parent and teacher **Child Symptom Inventory-4**. Results: Certain aspects of narcissism were particularly predictive of maladaptive characteristics and outcomes. In addition, the relation between narcissism and conduct problems was moderated by level of self-esteem, such that children with relatively high levels of narcissism and low self-esteem showed the highest rates of conduct-problem symptoms.

- 03-4. Carlson, G.A., & Mick, E. (2003). Drug-induced disinhibition in psychiatrically hospitalized children. *Journal of Child and Adolescent Psychopharmacology*, 13, 2003.

Objective: To examine rates and predictors of drug-induced behavioral disinhibition (DIBD) in psychiatrically hospitalized children. Methods: DIBD was examined in 267 children psychiatrically hospitalized for at least 4 weeks. Age, gender, diagnosis, and medication were covariates. DIBD was defined as dramatic increase in aggression identified by increased time outs while on medication. Results: Twenty (7.5%) children met our criteria. The DIBD group was twice as likely to exhibit selected bipolar symptom as rated with the **Child Symptom Inventory** than the control group. Attention deficit hyperactivity disorder, pervasive developmental disorder, and selective serotonin reuptake inhibitor use appeared to increase the risk, and older age and stimulant use decreased the risk of DIBD. However, it was often difficult to distinguish true DIBD from the behavioral fluctuations of these disturbed children. Fifteen percent of children subsequently improved on the same regimen, 40% improved when the offending drug was stopped and another treatment was started, and the remainder had adverse response to many medications.

- 03-5. Carlson, G.A., & Youngstrom, E.A. (2003). Clinical implications of pervasive manic symptoms in children. *Biological Psychiatry*, 53, 1015-1058.

Objective: Examined cross-informant agreement among parents, teachers, and clinicians for manic symptoms. Method: We identified three groups from a large cohort of youths, aged 8-12 years, treated on an inpatient unit. All 108 participants met criteria for an externalizing disorder, based on a semi-structured diagnostic interview. Of these, 49 did not have manic symptoms endorsed by either the parent or teacher based on a modified version of the **Child Symptom Inventory-4**; 34 has manic symptoms reported by the parent only, and 25 had pervasive manic symptoms (i.e., corroborated by both sources). Results: The "corroborated mania" group consistently showed the most disruptive behavior on the inpatient unit, the worst behavior problems on multiple scales, and the longest admission durations. The "parent-only" group scored in the midrange on all of these measures, with group differences typically representing small to medium effect sizes. The "externalizing only" group consistently scored the lowest on all dependent measures, with the differences representing large to extremely large effects when compared with the corroborated mania group and medium effects compared with the parent-only group. Conclusions: Youths for whom multiple informants report manic symptoms appear likely to have more severe symptom presentation and more complicated, refractory courses than do youths without manic symptoms.

- 03-6. Colvin, A.N., Yeates, K.O., Enrile, B.G., & Coury, D. (2003). Motor adaptation in children with myelomeningocele: Comparison to children with ADHD and Healthy siblings. *Journal of the International Neurological Society*, 9, 642-652.

Children in the ADHD group were required to have Screening Cutoff scores for the ADHD symptom category of the parent-completed **Child Symptom Inventory-4** for inclusion in the study.

- 03-7. Dunn, D.W. (2003). Neuropsychiatric aspects of epilepsy in children. *Epilepsy & Behavior*, 4, 101-106.

Children with epilepsy are at increased risk of behavioral and emotional problems compared with both children from the general population and children with other chronic illnesses not involving the central nervous system. The *Child Behavior Checklist* and the **Child and Adolescent Symptom Inventories** are general behavioral screening questionnaires that have been used to assess children with chronic health problems. Risk factors are multiple and include additional neurological impairment, intractable seizures, and family dysfunction. The case of Peter is used to illustrate the neuropsychiatric aspects of epilepsy and to discuss possible interventions for the child with epilepsy and psychiatric problems.

- 03-8. Dunn, D.W., Austin, J.K., Harezlak, J., & Ambrosius, W.T. (2003). ADHD and epilepsy in childhood. *Developmental Medicine and Child Neurology*, 45, 50-54.

Objective: Attention-deficit/hyperactivity disorder (ADHD) has been associated with childhood epilepsy; prevalence figures have ranged from 8 to 77%, depending on the sample studied and the criteria used for diagnosis. In the general population the prevalence of ADHD is approximately 5%, with the majority of affected children having ADHD combined type. Method: As part of a larger study of behavioral problems in children with epilepsy, we assessed 175 children (90 males, 85 females; age range 9 to 14 years, mean age was 11 years 10 months, SD 1 year 8 months) for evidence of ADHD. The children had at least a 6-month history of epilepsy. The primary caregiver completed both the *Child Behavior Checklist* (CBCL) and the **Child Symptom Inventory-4 (CSI-4)** or **Adolescent Symptom Inventory-4 (ASI-4)**. Results: On the CBCL, the mean Attention Problem *T* score was 64.6 (SD 10.5) for adolescents and 67.9 (SD 11.6) for children. On the CSI-4 or ASI-4, 11.4% met DSM-IV criteria for ADHD combined type; 24% had ADHD predominantly inattentive type; and 2.3% met criteria for ADHD predominantly hyperactive-impulsive type. There were significant correlations between CBCL Attention Problems scores and CSI-4/ASI-4 ADHD Inattention scores ( $r=0.68$ ) and CSI-4/ASI-4 ADHD Hyperactive-Impulsive scores ( $r=0.59$ ). Sex, seizure type, and focus of seizure discharge were not predictors of symptoms of ADHD. Conclusion: Children with epilepsy are at risk for symptoms of ADHD. They differ from other samples of children with ADHD by the higher proportion of children with ADHD predominantly inattentive type and by an equal male:female ratio.

- 03-9. Frick, P.J., Cornell, A.H., Barry, C.T., Bodin, S.D., & Dane, H.E. (2003). Callous-unemotional traits and conduct problems in the prediction of conduct problem severity, aggression, and self-report of delinquency. *Journal of Abnormal Child Psychology*, 31, 457-470.

The role of callous-unemotional (CU) traits and conduct problems in predicting conduct problem severity, severity and type of aggression, and self-reported delinquency at a 1-year follow-up was investigated in a sample of 98 children (mean age 12.43; SD=1.72) recruited from a community-wide screening. The Oppositional Defiant Disorder and Conduct Disorder categories of the **Child Symptom Inventory-4** were used to form groups. Children with both CU traits and conduct problems had a greater number and variety of conduct problems at follow-up than children who at the screening had high levels of conduct problems alone. However, this poorer outcome for children with CU traits could largely be accounted for by differences in initial level of conduct problem severity. Children with CU traits and conduct problems were also at risk for showing higher levels of aggression, especially proactive aggression, and self-reported delinquency. Importantly, these outcomes could not be solely explained by initial level of conduct problem severity. Finally, CU traits predicted self-reported delinquency in some children who did not initially show high levels of conduct problems and this predictive relationship seemed to be strongest for girls in the sample who were high on CU traits but who did not show significant conduct problems.

- 03-10. Hill, D.E., Yeo, R.A., Campbell, R.A., Hart, B., Vigil, J., & Brooks, W. (2003). Magnetic resonance imaging correlates of attention-deficit/hyperactivity disorder in children. *Neuropsychology*, 17, 496-506.

Objective: This study compared magnetic resonance imaging size differences in several brain regions and neurocognitive function in a group of male and female children with attention-deficit/hyperactivity disorder (ADHD) with no comorbid learning disorders with a normal control group of children. [The **Child Symptom Inventory -4** was one of several measures used to verify the presence of ADHD symptoms in the experimental group as well as to screen for comorbid psychiatric disorders and rule out the presence of significant behavioral symptoms in the control group.] Results: The ADHD group demonstrated smaller total brain, superior prefrontal,



and right superior prefrontal volumes, as well as significantly smaller areas for cerebellar lobules I-V and VIII-X, total corpus callosum area, and splenium. No group differences were observed for the inferior prefrontal, caudate, or cerebellar volumes, or for the area of cerebellar lobules VI-VII. In the ADHD group but not in the control group, greater right superior prefrontal volume predicted poorer performance on a test of sustained attention. Patterns of brain abnormality did not differ in male and female children with ADHD.

- 03-11. Loney, B.R., Frick, P.J., Clements, C.B., Ellis, M.L., & Kerlin, K. (2003). Callous-unemotional traits, impulsivity, and emotional processing in adolescents with antisocial behavior problems. *Journal of Clinical Child and Adolescent Psychology*, 32, 66-80.

*Objective:* Examined the emotional reactivity of adolescents with antisocial behavior problems using a lexical decision paradigm. *Evidence from adult forensic samples indicates that psychopathic traits are associated with abnormalities in the processing of emotional stimuli. Method:* In an attempt to extend these findings earlier in development, this association was tested in a sample of adolescents referred to a diversion program for delinquent behavior. Measures included the *Antisocial Process Screening Device* (ASPD) and the ADHD hyperactivity-impulsivity (HI) category of the **Youth's Inventory-4 (YI-4)**;  $\alpha=.72$  in present study). Results: Emotional processing was assessed by comparing recognition time for emotional words, both positive and negative, to recognition time for nonemotional words. Consistent with adult findings, the callous-unemotional (CU) dimension of psychopathy was associated with slower reaction times to negative words. In contrast, problems of impulse control were associated faster recognition times for negative emotional words. YI-4 ADHD:HI scores were moderately correlated with the RCMAS ( $r=.55$ ) and several APSD scores, including Impulsivity-Conduct Problems scale ( $r=.48$ ).

- 03-12. Mattison, R.E., Gadow, K.D., Sprafkin, J., Nolan, E.E., & Schneider, J. (2003). A DSM-IV-referenced teacher rating scale for use in clinical management. *Journal of the American Academy of Child and Adolescent Psychiatry*, 42, 442-449.

*Objective:* Two studies were conducted to examine the psychometric properties of a DSM-IV-referenced teacher-completed rating scale in children receiving special education. *Method:* To assess reliability, teachers rated 74 students on two separate accessions (test-retest) using the teacher version of the **Child Symptom Inventory-4 (CSI-4T)**, and teacher aides also rated the children in the first occasion (interrater). In a second study, teacher CSI-4T and *Teacher's Report Form* (TRF) ratings and consultant diagnoses were obtained for 101 students. Results: Perhaps the most compelling finding of this study is the similarity of the results for the psychometric properties of the CSI-4T symptom categories with scales derived through multivariate statistical procedures. Internal consistency reliabilities (0.72-0.94), 2-week test-retest reliabilities ( $r=0.61-0.88$ ), and interrater agreement ( $r=0.19-0.56$ ) for the CSI-4T major symptom categories were comparable with dimensional rating scales. CSI-4T ratings showed a consistent pattern of convergent and divergent validity with TRF scores and with consultant diagnoses. It is noteworthy the presence-absence of consultant diagnoses of ADHD, oppositional defiant disorder, conduct disorder, and depressive disorders were distinguished significantly only by the same-named CSI-4T symptom categories. Conclusion: Findings provide preliminary support for the reliability and validity of the CSI-4T as a measure of DSM-IV symptoms in children receiving special education.

- 03-13. Miller, V.A., & Drotar, D. (2003). Discrepancies between mother and adolescent perceptions of diabetes-related decision-making autonomy and their relationship to diabetes-related conflict and adherence to treatment. *Journal of Pediatric Psychology*, 28, 265-274.

*Objective:* To document the relationship between discrepancies in mother and adolescent perceptions of diabetes-related decision-making autonomy, diabetes-related conflict, and regimen adherence. *Methods:* The sample was composed of 82 mother-adolescent dyads. Measures included adolescent and mother reports of diabetes-related decision-making autonomy, diabetes-related conflict, and regimen adherence. Nurses' reports of adherence and number of glucose tests performed each day were also obtained. Results: The Oppositional Defiant Disorder symptom category of the **Adolescent Symptom Inventory-4** was used to control for oppositional symptoms in the analysis of the relationships between discrepancies in perceptions of decision-making autonomy, diabetes-related conflict, and adherence to treatment. Discrepancies between mother and adolescent perceptions of decision-making autonomy were related to greater maternal report of diabetes-related conflict. In particular, when adolescents reported that they were more in charge of decisions than reported by their mothers, mothers reported

more conflict. Discrepancies between mother and adolescent perceptions of decision-making autonomy were not related to regimen adherence. Conclusions: The findings suggest that discrepancies between mother and adolescent perceptions of diabetes-related decision-making autonomy may be a potentially important area for intervention.

- 03-14. Shytle, R.D., Silver, A.A., Sheehan, K.H., Wilkinson, B.J., Newman, M., Sanberg, P.R., & Sheehan, D. (2003). The Tourette's Disorder Scale (TODS): Development, reliability, and validity. *Assessment*, 10, 273-287.

Authors use the **Child Symptom Inventory-4** and the **Adolescent Symptom Inventory-4** to examine the convergent and discriminant validity of the TODS.

- 03-15. Snarr, J.D., Strassberg, Z., & Slep, A.M.S. (2003). Making faces: Testing the relation between child behavior problems and mothers' interpretations of child emotion expressions. *Journal of Abnormal Child Psychology*, 31, 371-380.

Objective: We examined the relations between preschool boys' behavior problems and mothers' interpretations of children's emotion expressions. Method: A sample of 31 mothers of oppositional boys and 28 control mothers responded to standard stimuli depicting child emotional relations to maternal control attempts; mothers were instructed to think of the stimuli as either (a) their own child or (b) an unfamiliar child. **[Screening Cutoff scores for the ODD category of the Early Childhood Inventory-4 were used classify children as oppositional.]** Results: Mothers of oppositional boys were more likely to generate negative interpretations than were control mothers when thinking of their own children; however, this difference did not generalize to the explicitly unfamiliar child condition. Mothers of oppositional boys demonstrated negative and comparison mothers demonstrated positive interpretive tendencies toward their own children. Conclusion: Findings suggest that child emotion cues may trigger biased maternal cognitions even in the absence of the child misbehavior.

- 03-16. Weiss, M., & Murray, C. (2003). Assessment and management of attention-deficit hyperactivity disorder in adults. *Canadian Medical Association Journal*, 168, 715-722.

Attention-deficit hyperactivity disorder (ADHD) is estimated to affect 2%-6% of adults. The symptoms in adults with ADHD mirror those in children with the disorder and are associated with significant educational, occupational and interpersonal difficulties. Double-blind, placebo-controlled trials have established that adult ADHD is responsive to stimulant medication treatment. New medications and psychotherapeutic approaches are being developed in an effort to achieve optimal treatment effects in this population. We review the available literature and provide an approach to the assessment and management of ADHD in adults. **[The authors' note that the Adult Self Report Inventory-4 (patient) and Adult Inventory-4 (collateral informant) are useful patient evaluation tools because they not only assess ADHD symptoms but also the symptoms of commonly co-occurring disorders.]**

- 03-17. Yeo, R.A., Hill, D.E., Campbell, R.A., Vigil, J., Petropoulos, H., Hart, B., Zamora, L., & Brooks, W.M. (2003). Proton magnetic resonance spectroscopy investigation of the right frontal lobe in children with attention-deficit/hyperactivity disorder. *Journal of the American Academy of Child and Adolescent Psychiatry*, 42, 303-310.

The authors use the **Child Symptom Inventory-4** to exclude children who had Screening Cutoff scores for nonADHD diagnoses other than oppositional defiant disorder from the ADHD group and excluded children with elevated scores on all symptom categories from the control group.

## YEAR: 2002

- 02-1. Aman, M.G., Armstrong, S., Buican, B., & Sillick, T. (2002). Four-year follow-up of children with low intelligence and ADHD: A replication. *Research in Developmental Disabilities*, 23, 119-134.

Objective: Twenty children with attention-deficit/hyperactivity disorder (ADHD) and low IQs, who participated in a drug study, were followed-up 4.5 years later, when their ages averaged 12.4 years (range: 8-20 years; SD=2.78). Method: Participants were assessed by their parents and teachers on the *Aberrant Behavior Checklist-Community*

(ABC; Aman & Singh, 1994), on the **Child Symptom Inventory-4 (CSI-4)**, and on a structured interview. Outcome variables included summed weighted scores for the combined CSI-4 ODD and CD categories and for all CSI-4 categories related to anxiety. Results: Based on CSI-4 findings, a majority of children continued to screen positive for ADHD at follow-up, as well as display high rates of comorbid anxiety disorders, tics, and elimination disorders. Educational placement became slightly more restrictive over the follow-up interval. Multiple medication trials (30 in all, among 14 participants) were attempted between initial contact and follow-up. Ratings on the ABC by parents and teachers showed significantly lower scores at follow-up on the ABC Hyperactivity subscale. Relatively few associations were found between initial ratings and follow-up ratings on standardized scales. In general, teacher ABC ratings were more predictive of CSI-4 outcome variables than parent ABC ratings. Most teacher-completed ABC factor scores at intake were at least moderately ( $r > .40$ ) associated with CSI-4 ODD/CD scores at follow-up.

- 02-2. Aman, M.G., Smedt, G.D., Derivan, A., Lyons, B., Findling, R.L., & Risperidone Disruptive Behavior Study Group. (2002). Double-blind, placebo-controlled study of risperidone for the treatment of disruptive behaviors in children with subaverage intelligence. *American Journal of Psychiatry*, 159, 1337-1346.

Objective: The short-term efficacy and safety of risperidone in the treatment of disruptive behaviors was examined. Method: In this 6-week, multicenter, double-blind, parallel-group design study of 118 children (aged 5-12 years) with severely disruptive behaviors and subaverage intelligence (IQ between 36 and 84, inclusive), the subjects received 0.02-0.06 mg/kg per day of risperidone oral solution or placebo. **[DSM-IV diagnoses were based, in part, on responses to the parent version of the Child Symptom Inventory-4.]** Results: The risperidone group showed significantly greater improvement than did the placebo group on all subscales of the *Nisonger Child Behavior Rating Form*, including the conduct problems scale, and specific scales of other measures. The most common adverse effects reported during risperidone treatment were headache and somnolence. The extrapyramidal symptom profile of risperidone was comparable to that of placebo. Mean weight increases of 2.2 kg and 0.9 kg occurred in the risperidone and placebo groups, respectively. Conclusions: Risperidone was effective and well tolerated for the treatment of severely disruptive behaviors in children with subaverage IQ.

- 02-3. Armenteros, J.L., & Lewis, J.E. (2002). Citalopram treatment for impulsive aggression in children and adolescents: An open pilot study. *Journal of the American Academy of Child and Adolescent Psychiatry*, 41, 522-529.

Objective: To assess the short-term effect and safety of citalopram in the reduction of impulsive aggression in children and adolescents. Method: Twelve subjects, aged 7 to 15 years, were attending a psychiatric outpatient clinic and had a profile of impulsive aggression. **[Semistructured interviews were conducted using the Child and Adolescent Symptom Inventories-4 (CASI-4).]** Best estimate diagnoses were based, in part, on CASI-4 Symptom Count scores. Subjects were treated in an open label trial with citalopram for 6 weeks after a 1-week washout period. Dosage was regulated individually over a period of 4 weeks. The starting dose was 10 mg/day followed by 10 mg increments on a weekly basis (maximum < 40 mg/day). Results: Eleven subjects completed the study. Citalopram produced clinically and statistically significant reductions on target symptoms of impulsive aggression, independent of other behavioral problems, as measured by the Modified Overt Aggression Scale, the Child Behavior Checklist, and the Clinical Global Impressions at doses ranging from 20 to 40 mg/day (mean=27 mg). No major adverse reactions were associated with citalopram. Conclusion: Citalopram appears to be effective and well tolerated in this sample of children and adolescents with impulsive aggression.

- 02-4. Bachanas, P.J., Morris, M.K., Lewis-Gess, J.K., Sarett-Cuasay, E.J., Flores, A.L., Sirl, K.S., & Sawyer, M.K. (2002). Psychological adjustment, substance use, HIV knowledge, and risky sexual behavior in at-risk minority females: Developmental differences during adolescence. *Journal of Pediatric Psychology*, 27, 373-384.

Objective: To assess developmental differences in the psychological functioning, substance use, coping style, social support, HIV knowledge, and risky sexual behavior of at-risk, minority adolescent girls; to assess developmental differences in psychosocial correlates of risky sexual behavior in older and younger adolescents. Method: Participants included 164 minority teens, ages 12-19, who were receiving medical care in an adolescent primary care clinic. Teens completed measures of psychological adjustment, substance use, coping style, social support, religious involvement, and HIV knowledge and attitudes and the Conduct Disorder category of the **Youth's Inventory-4**, a DSM-IV-referenced, self-report rating scale. Results: Younger teens (ages 12-15) reported more symptoms of depression and earlier sexual debuts than older teens (ages 16-19). However, older teens

reported significantly more substance use and were more likely to have been pregnant and to have contracted a sexually transmitted disease (STD) than younger teens. YI-4 Conduct Disorder ratings were moderately correlated with age of sexual debut ( $r=-.33$ ) and condom use ( $r=-.34$ ) in younger, but not older, teens. Moreover, substance use was also significantly associated with risky sexual behavior in younger teens, but not older teens. Younger teens whose peers were engaging in risky behaviors reported engaging in more risky sexual behaviors; however, these same relations were not found for older teens. Conclusions: Young minority adolescents exhibiting conduct problems and using substances seem to be at highest risk for contracting HIV and STDs as a result of risky sexual behavior. An interdisciplinary model of care in primary care settings is clearly indicated to provide services to at-risk youths.

- 02-5. Bachanas, P.J., Morris, M.K., Lewis-Gess, J.K., Sarett-Cuasay, E.J., Sirl, K., Reis, J.K., & Sawyer, M.K. (2002). Predictors of risky sexual behavior in African American adolescent girls: Implications for prevention interventions. *Journal of Pediatric Psychology*, 27, 519-530.

Objective: To describe empirically the risky sexual behavior of an at-risk sample of adolescent girls, to assess psychosocial correlates of risky behavior, and to examine the utility of applying a risk and protective model to predicting teens' risky sexual behavior. Method: Participants included 158 African American girls, ages 12 to 19, who were receiving medical care in an adolescent primary care clinic. Teens completed measures of depression, conduct problems [**Conduct Disorder category of the Youths Inventory-4**], substance use, peer norms, social support, HIV knowledge, sexual self-efficacy, and sexual behavior. Results: Teens in this sample reported high rates of risky sexual behaviors. Girls who reported high rates of substance use and who reported their peers engaged in risky behaviors also reported engaging in high rates of risky sexual behaviors. Little support was obtained for protective factors moderating the relations between risk factors and adolescents' risky sexual behavior in this sample. Conclusion: Teens presenting in primary care settings in urban environments seem to be at high risk for HIV, STDs, and substance abuse, and risk reduction strategies should be introduced during the preteen years.

- 02-6. Beauchaine, T.P., Strassberg, Z., Kees, M.R., & Drabick, A.G.D. (2002). Cognitive response repertoires to child noncompliance by mothers of aggressive boys. *Journal of Abnormal Child Psychology*, 30, 89-101.

Objective: Cognitive response repertoires to videotaped child noncompliance episodes were examined in mothers of aggressive (MAs) and nonaggressive 4-6-year-old boys. Method: Children were classified as aggressive based both on the opinion of a service-providing professional and maternal ratings of aggressive behavior [**the Oppositional Defiant Disorder symptom category of the Child Symptom Inventory-4 or the Aggressive Behavior subscale of the Child Behavior Checklist**]. Mothers provided open-ended solutions to three types of noncompliance under conditions of time pressure, or after they waited for 15 seconds to consider alternatives. Solutions were coded as assistance/facilitation, coercion, deference, or explanation/clarification. Results: Compared with controls ( $n=23$ ), MAs ( $n=27$ ) offered fewer explanation/clarification responses, more coercive responses, and fewer solutions during pressured responding. Two to 6 weeks later, mothers were videotaped while participating with their sons in a challenging block-building task. Maternal responses to the vignettes predicted conflict escalation during block building, even after rates of concurrent and past child noncompliance were partialled out. Implications for parent-training models are considered.

- 02-7. Chelonis, J.J., Edwards, M.C., Schulz, E.G., Baldwin, R., Blake, D.J., Wenger, A., & Paule, M.G. (2002). Stimulant medication improves recognition memory in children diagnosed with attention-deficit/hyperactivity disorder. *Experimental and Clinical Psychopharmacology*, 10, 400-407.

The authors use the **Child Symptom Inventory-4** to exclude children who had Screening Cutoff scores for schizophrenia, major depressive disorder, or pervasive developmental disorder.

- 02-8. Gadow, K.D., & Nolan, E.E. (2002). Differences between preschool children with ODD, ADHD, and ODD+ADHD symptoms. *Journal of Child Psychology and Psychiatry*, 43, 191-201.

Objective: This study examines differences between children (ages 3 to 6 years) who have the symptoms of oppositional defiant disorder (ODD) with or without attention-deficit/hyperactivity disorder (ADHD), ADHD alone, and a non ODD/ADHD comparison group. Method: Parent ( $N=595$ ) and teacher ( $N=538$ ) ratings were obtained for

children attending the same community early childhood programs and for youngsters evaluated in an outpatient clinic ( $N=224$ ) using the **Early Childhood Inventory-4 (ECI-4)**, a DSM-IV-referenced rating scale. Results: ECI-4 ratings were minimally correlated with age ( $r<.14$ ), SES ( $r<.20$ ), or IQ ( $r<.14$ ). Differences between symptom groups varied depending on how they were configured (teacher versus parent ratings) and setting (clinic versus community). In general, the ODD+ADHD group received the highest (and the comparison group the lowest) ratings of severity for the symptoms of other disorders, difficulties with peers, and developmental deficits. Moreover, the clinical impact of comorbidity was largely additive. Differences between youngsters with ODD versus ADHD symptoms were most apparent for teacher-defined groups in the community sample and parent-defined groups in the clinic sample. Conclusion: Collectively, these findings provide preliminary evidence for the notion that ODD and ADHD may constitute distinct clinical entities in preschool-aged children and suggest that informant may be an important consideration in the formulation of diagnostic criteria.

- 02-9. Gadow, K.D., Nolan, E.E., Sprafkin, J., & Schwartz, J. (2002). Tics and psychiatric comorbidity in children and adolescents. *Developmental Medicine and Child Neurology*, 44, 330-338.

Objective: This study examined comorbid psychiatric symptoms in a large community-based sample of children and adolescents. The study sample was comprised of a total of 3,006 children in preschool ( $N=413$ ; 3 to 5 years; 57% male), elementary school ( $N=1,520$ ; 5 to 12 years; 52% male), and secondary school ( $N=1,073$ ; 12 to 18 years; 53% male), all of whom were attending regular education programs. Method: Children were evaluated with teacher-completed, DSM-IV-referenced rating scales: **Early Childhood Inventory-4**, **Child Symptom Inventory-4**, or **Adolescent Symptom Inventory-4**. The sample was divided into four groups: attention-deficit/hyperactivity disorder with and without tics (ADHD+tics), tics without ADHD, and a comparison group (i.e., neither ADHD or tics). Results: The percentage of children with tic behaviors varied with age: preschoolers (22%), elementary school children (8%), and adolescents (3%). Tic behaviors were more common in males than females, regardless of comorbid ADHD symptoms, and more common in African-American than Caucasian children. Rates were highest for ADHD:C (13%), least for ADHD:I (3%), and intermediate for ADHD:HI (9%). The rate for the comparison group was 0.6%. For many psychiatric symptoms, screening prevalence rates were highest for the ADHD groups (ADHD+tics>ADHD>tics>comparison). However, obsessive-compulsive and simple and social phobia symptoms were more common in the tic behavior groups. Ratings of tic behaviors dropped appreciably between 11 and 12 years of age and remained at very low levels during adolescence. Ratings of ADHD:HI symptoms decreased gradually through the entire age range, whereas ADHD:I symptoms showed a developmental course somewhat similar to tics. Conclusion: Findings for a community-based sample show many similarities with studies of clinically-referred samples suggesting that teacher-completed ratings of DSM-IV symptoms may be a useful methodology for investigating the phenomenology of tic disorders.

- 02-10. Gadow, K.D., Nolan, E.E., Sverd, J., et al. (2002). Anxiety and depression symptoms and response to methylphenidate in children with attention-deficit hyperactivity disorder and tic disorder. *Journal of Clinical Psychopharmacology*, 22, 267-274.

Objective: This study examined response to methylphenidate in children with attention-deficit/hyperactivity disorder (ADHD) and chronic multiple tic disorder. The primary goal was to determine if children with anxiety or depression symptoms showed a less favorable response to treatment. Method: Subjects were 38 prepubertal children who participated in an 8-week, double-blind, placebo-controlled, methylphenidate crossover evaluation. Treatment effects were assessed with direct observations of child behavior in public school and clinic settings; rating scales completed by parents, teachers, and clinicians; and laboratory analogue tasks. Results: There was little evidence (group data) that children with anxiety or depression symptoms [assessed with the **Child Symptom Inventory-3R**] responded in a clinically different manner to methylphenidate than youngsters who did not exhibit these symptoms, particularly in school observations of the core features of ADHD. Seeming differences between children with and without comorbid anxiety or depression symptoms and drug response are likely explained by differences in pretreatment levels of negativistic behaviors (i.e., symptoms of oppositional defiant disorder or conduct disorder). For example, of 54 partial correlations (controlling for negativistic behavior) between anxiety and drug response measures, 93% were less than  $-.10$ . (A negative correlation indicates a less favorable response to medication.) Conclusion: Methylphenidate appears to be effective for the management of ADHD behaviors in children with mild to moderate anxiety or depression symptoms; nevertheless, much research remains to be performed in this area.

- 02-11. Gadow, K.D., Sprafkin, J., Carlson, G.A., Schneider, J., Nolan, E.E., Mattison, R.E., & Rundberg-Rivera, V. (2002). A DSM-IV-referenced, adolescent self-report rating scale. *Journal of the American Academy of Child and Adolescent Psychiatry*, 41, 671-679.

Objective: To examine the reliability and validity of the **Youth's Inventory-4 (YI-4)**, a DSM-IV-referenced self report rating scale. Method: Youths ( $N=239$ ) between 11 and 18 years who were clinically evaluated between 1996 and 1999 completed the YI-4, and 79% completed at least one additional self report. Parents and teachers completed a companion measure. A second sample ( $N=47$ ) was retested 2 weeks after an initial evaluation. Results: Age was only minimally correlated ( $r<.20$ ) with YI-4 Symptom Severity scores, with the exception of the Substance Use ( $r=.40$ ). Similarly, neither IQ ( $r<.20$ ) nor SES ( $r<.15$ ) was associated with YI-4 scores. Gender differences were significant for only one symptom category, Eating Problems; females received higher scores than males. YI-4 symptom categories demonstrated satisfactory internal consistency (Cronbach's alpha), especially considering that most have fewer than 10 items: ADHD:I (.81), ADHD:HI (.79), ADHD:C (.87), CD (.80), ODD (.86), GAD (.78), SAD (.66), Schizophrenia (.73), MDD (.82), Dysthymic Disorder (.80), Bipolar Disorder (.70), Eating Problems (.81), and Substance Use (.67). Test-retest reliabilities ranged from .54 to .92. YI-4 scales demonstrated convergent and to lesser extent divergent validity with three different dimensional self-report measures, the *Youth Self Report* (Achenbach, 1991), the *Children's Depression Inventory* (CDI; Kovacs, 1992), and the *Multidimensional Anxiety Scale for Children* (MASC; March, 1997). The YI-4 MDD scale correlated .84 with the CDI Total Score, and the YI-4 GAD scale correlated .71 with the MASC Total Anxiety score. The YI-4 evidenced discriminant validity by differentiating children with and without diagnosed ADHD, conduct disorder, substance use, generalized anxiety disorder, or major depressive disorder. Youth-parent ( $rs=.05$  to .50) and youth-teacher ( $rs<.18$ ) agreement was generally modest. Conclusion: These findings provide preliminary support for the clinical utility of the YI-4 for symptom assessment in referred youths.

- 02-12. Leathers, S.J. (2002). Foster children's behavioral disturbance and detachment from caregivers and community institutions. *Children and Youth Services Review*, 24, 239-268.

Objective: This study explored how experiences in substitute care are related to behavioral disturbance among young adolescents in non-relative foster care. A model was defined in which placement movement, group placement, and inconsistent or decreasing parental visitation were expected to be correlated with weak informal social controls such as caregiver attachments and involvement in schools and churches. Through weakened attachments and community involvement, these experiences in care were expected to be associated with behavioral problems. Method: This correlational model was tested in a random sample of 199 urban foster children. Structured telephone interviews conducted at a single point in time with foster parents and caseworkers were the primary source of data. **[Behavioral disturbance was assessed with the Conduct Disorder category of the Child Symptom Inventory-4]**. Results: Some results were consistent with the study hypotheses, but the results varied for boys and girls. Fewer symptoms of conduct disorder were found among boys with stronger attachments to their foster families and girls with higher school achievement and investment. Additionally, placement movement was indirectly associated with severity of conduct disorder for both boys and girls.

- 02-13. Lewinsohn, P.M., Seeley, J.R., Buckley, M.E., & Klein, D.N. (2002). Bipolar disorder in adolescence and young adulthood. *Child and Adolescent Clinics of North America*, 11, 461-475.

[The authors' note that the Bipolar Disorder symptom category of the **Adolescent Symptom Inventory-4** has been used to assess the presence of manic and hypomanic symptoms in children and adolescents.]

- 02-14. Mattison, R.E., Gadow, K.D., Sprafkin, J., & Nolan, E.E. (2002). Discriminant validity of a DSM-IV-based teacher checklist: Comparison of regular and special education students. *Behavioral Disorders*, 27, 304-316.

Objective: Special educators are increasingly called upon to communicate with community mental health professionals about problem behaviors in terms of DSM-IV psychiatric symptomatology. The teacher version of the **Child Symptom Inventory-4 (CSI-4T)** is a screening instrument for DSM-IV emotional and behavioral disorders. Method: This study used the CSI-4T to investigate the presence of DSM-IV symptoms in four groups of 6- to 12-year old boys: students with E/BD who were referred for psychiatric consultation, students in special education, students referred to an outpatient clinic (42% receiving special education), and general education students. Results: The symptoms of ADHD and oppositional defiant disorder occurred most commonly across the groups.

The general pattern of symptom severity was, in order of decreasing severity, E/BD consultation, outpatient clinic, special education, and general education. Overall, characteristics for all groups of boys appeared consistent with clinical expectations. Findings also provide preliminary support for the discriminant validity of the CSI-4T.

- 02-15. Miranda, A., Presentacion, M.J., & Soriano, M. (2002). Effectiveness of a school-based multicomponent program for the treatment of children with ADHD. *Journal of Learning Disabilities*, 35, 546-562.

Objective: The objective of this study was to evaluate the efficacy of a multicomponent program for treating attention-deficit/hyperactivity disorder (ADHD) carried out by teachers in a classroom context. Dependent measures included neuropsychological tasks, behavioral rating scales for parents and teachers, direct observation of behavior in the classroom, and academic records of children with ADHD. Method: Fifty children who received Screening Cutoff scores for the ADHD Combined type symptom category of the mother and teacher version of the **Child Symptom Inventory-4** participated in the study. The teachers of 29 of the 50 students were trained in the use of behavior modification techniques, cognitive behavior strategies, and instructional management strategies. The other 21 students formed the control group. Results: Parents' and teachers' ratings detected improvements in primary symptoms (inattention-disorganization, hyperactivity-impulsivity) and in behavioral difficulties usually associated with ADHD (e.g., antisocial behavior, psychological disorders, anxiety). Furthermore, the results showed increased academic scores, enhanced classroom behavioral observations, and improved teachers' knowledge about the strategies direct toward responding to the children's education needs.

- 02-16. O'Connor, M.J., Shah, B., Whaley, S., Cronin, P., Gunderson, B., & Graham, J. (2002). Psychiatric illness in a clinical sample of children with prenatal alcohol exposure. *American Journal of Drug and Alcohol Abuse*, 28, 743-756.

Objective: The purpose of this study was to describe psychiatric disorders exhibited by children with prenatal alcohol exposure. Method: Twenty-three children between that ages of 5 and 13 years who were referred to the UCLA Fetal Alcohol and Related Disorders Clinic because of heavy exposure to alcohol in utero were evaluated. Children and their families were interviewed. Interobserver reliability of DSM-IV diagnosis was established comparing clinical diagnoses with diagnoses made using the "best estimate" procedure. For the best estimate method, items from the *Child Behavior Checklist*, the *Fetal Alcohol Behavior Scale*, the **Child Symptom Inventory-4**, the *Conner's Rating Scale*, as well as information from historical records were reviewed by two experienced clinicians who were blind to the diagnostic and alcohol exposure status of the children. Results: Approximately 87% of the sample met diagnostic criteria for a psychiatric disorder. The majority of the children (61%) were assigned a mood disorder diagnosis. Twenty-six percent were diagnosed with major depressive disorder or adjustment disorder with depressed mood, and 35% met criteria for bipolar disorder. Conclusion: Psychiatric disorders are common in children with prenatal alcohol exposure. In particular, these children seem to be highly vulnerable to mood disorders. There is need for training in how to recognize the physical and behavioral phenotypes of children with prenatal alcohol exposure so that appropriate treatment can be initiated early.

- 02-17. Shytle, R.D., Silver, A.A., Sheehan, K.H., Sheehan, D.V., & Sanberg, P.R. (2002). Neuronal nicotinic receptor inhibition for treating mood disorders: Preliminary controlled evidence with mecamylamine. *Depression and Anxiety*, 16, 89-92.

Objective: Investigated the effects of mecamylamine on symptom improvement in a subgroup of Tourette's disorder (TD) patients with comorbid depression. Method: All subjects were participants in a multi-center, double-blind, placebo-controlled, flexible-dose study of mecamylamine in 61 children (ages 8 to 17 years). Results: Significant mecamylamine-related improvements were found for several measures, including the Depression subscale of the **Child Symptom Inventory-4** in depressed patients. Conclusion: Further clinical studies are warranted to investigate the therapeutic potential of nAChR antagonists, like mecamylamine, for treating affective disorders.

- 02-18. Snyder, R., Turgay, A., Aman, M., Binder, C., Fisman, S., Carroll, A., & The Risperidone Conduct Study Group. (2002). Effects of risperidone on conduct and disruptive behavior disorders in children with subaverage IQs. *Journal of the American Academy of Child and Adolescent Psychiatry*, 41, 1026-1036.

Objective: To determine whether risperidone is effective in reducing symptoms of disruptive behaviors associated

with conduct disorder, oppositional defiant disorder, and disruptive behavior disorder-not otherwise specified in children with subaverage IQs. Method: The trial consisted of a 1-week, single-blind, placebo run-in period and was followed by a 6-week, double-blind, placebo-controlled period. One hundred ten children (aged 5-12 years) with an IQ of 36-84 with disruptive disorder and a score of at least 24 on the Conduct Problem subscale of the *Nisonger Child Behavior Rating Form* (NCBRF) were enrolled. **[The *Child Symptom Inventory-4* was used to screen for psychiatric disorders and guide the clinical interview.]** Risperidone doses ranged from 0.02 to 0.06 mg/kg per day. Results: The risperidone-treated subjects showed a significant reduction in mean scores on the Conduct Problem subscale of the NCBRF. A subanalysis demonstrated that the effect of risperidone was unaffected by diagnosis, presence/absence of ADHD, psychostimulant use, IQ status, and somnolence. The most common side effects included somnolence, headache, appetite increase, and dyspepsia. Side effects related to extrapyramidal symptoms were reported in 7 (13%) and 3 (5%) of the subjects in the risperidone and placebo groups, respectively. Conclusions: Risperidone appears to be an adequately tolerated and effective treatment in children with subaverage IQs and severe disruptive behaviors such as aggression and destructive behavior.

- 02-19. Sprafkin, J., Volpe, R.J., Gadow, K.D., Nolan, E.E., & Kelly, K. (2002). A DSM-IV-referenced screening instrument for preschool children: The Early Childhood Inventory-4. *Journal of the American Academy of Child and Adolescent Psychiatry*, 41, 604-612.

Objective: To examine the validity of the **Early Childhood Inventory-4 (ECI-4)**, a parent and teacher rating scale designed to screen for DSM-IV emotional and behavioral disorders. Method: The convergent, divergent, and discriminant validity and clinical utility of the ECI-4 was studied in a sample of 224 consecutive referrals (ages 3 to 6 years) to a child outpatient clinic. Results: Coefficient  $\alpha$  for parent ratings were relatively high for ADHD:I (.91), ADHD:HI (.90), ODD (.93), CD (.87), Autistic Disorder (.90), and SAD (.83), but lower for depressive disorders (.59 to .68). Teacher ratings were similar:  $>.84$  for the disruptive behavior disorders and Autistic Disorder, and .42 to .54 for depressive disorders. The ECI-4 demonstrated adequate criterion validity for the most common disorders (attention-deficit/hyperactivity disorder, oppositional defiant disorder, pervasive developmental disorder) when compared with data-based psychiatric diagnoses and correlated well with relevant scales of the *Child Behavior Checklist*, *Teacher's Report Form*, and the *IOWA Conners*. For example, ECI-4 ODD symptom category was highly correlated with the IOWA Aggression (AG) scale ( $r=.84$ ), but not the IOWA Inattention-Overactivity (IO) scale the ( $r=.27$ ). Conversely, the ECI-4 ADHD:Inattention category correlated .75 and .16 with the IO and AG scales, respectively. Pearson correlations between parent and teacher ratings (Symptom Severity scores) indicated moderate agreement for the ADHD and PDD symptom categories: ADHD:I ( $r=.40$ ), ADHD:HI ( $r=.42$ ), ADHD:C ( $r=.40$ ), and PDD ( $r=.59$ ). For the remaining symptom categories, the degree of agreement was low: ODD ( $r=.27$ ), CD ( $r=.27$ ), MDD ( $r=.16$ ), and Dysthymic Disorder ( $r=.21$ ). Conclusion: The ECI-4 appears to be a useful screening measure for certain disorders in clinically referred children, but continued research is needed to determine its value in other settings (e.g., school and community), and its validity with other measurement methodologies.

- 02-20. Strayhorn, J.M., & Bickel, D.D. (2002). Reduction in children's symptoms of attention deficit hyperactivity disorder and oppositional defiant disorder during individual tutoring compared with classroom instruction. *Psychological Reports*, 91, 69-80.

Objective: Children who display the symptoms of attention-deficit/hyperactivity disorder (ADHD) in classrooms are reputed to display fewer symptoms in one-to-one interaction. We tested the hypothesis with children who received individual tutoring for reading and behavior problems. Method: We selected 30 children whose teacher-rated **ADHD Symptom Checklist-4 (ADHD-SC4)** score was consistent with DSM-IV criteria. Teachers completed the ADHD-SC4 before and after tutoring, and tutors completed the ADHD-SC4 after tutoring sessions. Results: ADHD and oppositional defiant disorder symptoms were lower in tutoring versus classroom. The confound of two different raters for two different settings must be resolved by another study with a new design.

- 02-21. Thuppai, M., Carlson, G.A., et al. (2002). Correspondence between adolescent report, parent report and teacher report of manic symptoms. *Journal of Child and Adolescent Psychopharmacology*, 12, 27-35.

Objective: To examine differences between source-specific manic symptoms. Method: In total, 104 consecutive adolescent outpatient referrals were evaluated for their psychiatric status using parent and teacher versions of the **Adolescent Symptom Inventory-4** and the **Youth's Inventory-4**, DSM-IV-referenced rating scales. Results:



Approximately one third of the youths met symptom criteria for mania by at least one informant; however, only 38% of these met criteria by at least two informants. Youths who had manic symptoms according to two informants were significantly more symptomatic both on mental status exam and in other dimensions of psychopathology than youths who did not have corroborated manic symptoms. Cross-informant agreement was generally poor when symptoms were scored dimensionally. Conclusion: Manic symptoms are relatively nonspecific in outpatient samples. Using more than one informant increases the likelihood of selecting subjects with serious and possibly manic disorders.

- 02-22. Verhulst, F.C., & Van der Ende, J. (in press). Screening questionnaires. In M. Rutter & E. Taylor (Eds.), *Child and adolescent psychiatry: Modern approaches (4th ed.)*. Oxford, UK: Blackwell Scientific.

This book chapter reviews 12 different psychometrically sound screening questionnaires for the assessment of child and adolescent psychopathology. They include the **Child Symptom Inventories**, the *Achenbach System of Empirically Based Assessment*, the *Conners Scales*, the *BASC*, the *Devereux Scales of Mental Disorders*, etc. The chapter presents a general (table) and more detailed (appendix) overview of the characteristics of each instrument. The authors describe two basic approaches for combining items to measure an underlying aspect of functioning: empirical-qualitative (multivariate statistical techniques) and theoretical (DSM, ICD). The advantages and disadvantages of both approaches are discussed. One advantage of the empirical approach is that it "facilitates communication across researchers and clinicians" because the diagnostic systems on which they are based are widely used. The authors "hold the view that both approaches are needed, and that combining both approaches by adding information from one approach that is not captured by the other, may aid in increasing our knowledge of psychopathology."

## YEAR: 2001

- 01-1. Beauchaine, T.P., Katkin, E.S., Strassberg, Z., & Snarr, J. (2001). Disinhibitory psychopathology in male adolescents: Discriminating conduct disorder from attention-deficit/hyperactivity disorder through concurrent assessment of multiple autonomic states. *Journal of Abnormal Psychology*, 110, 610-624.

Objective: T.P. Beauchaine (2001) recently proposed a model of autonomic nervous system functioning that predicts divergent patterns of psychophysiological responding across disorders of disinhibition. This model was tested by comparing groups of male adolescents with attention-deficit/hyperactivity disorder (ADHD) and ADHD plus conduct disorder (ADHD+CD) with controls. Method: Groups were configured on the basis of Screening Cutoff scores for the parent-completed **Adolescent Symptom Inventory-4** and *T* scores for the *Child Behavior Checklist*. Participants performed a repetitive motor task in which rewards were administered and removed across trials. Participants then watched a videotaped peer conflict. Electrodermal responding (EDR), cardiac preejection period (PEP), and respiratory sinus arrhythmia (RSA) were monitored. Results: Compared with controls, the ADHD and ADHD+CD participants exhibited reduced EDR. The CD+ADHD group was differentiated from the ADHD and control groups on PEP and from control group on RSA. Findings are discussed in terms of motivational and regulational systems indexed. Implications for understanding rates of comorbidity between CD and ADHD are considered.

- 01-2. Forness, S.R., & Kavale, K.A. (2001). Ignoring the odds: Hazards of not adding the new medical model to special education decisions. *Behavioral Disorders*, 26, 269-281.

Although the traditional medical model has been vilified by special educators, new evidence on treatment and comorbidity of psychiatric disorders suggests a more relevant and effective version of this model. The evidence reviewed briefly with the purpose of suggesting odds that a child with behavioral disorders may indeed have a disorder that is responsive to psychopharmacological treatment. Merging the medical and behavioral models is suggested as critical to certain special education decisions in functional behavioral analyses and positive behavioral intervention. **[The authors' note the *Child Symptom Inventory-4* is a suitable screen for psychiatric disorders in children with attentional problems and behavioral disruptions that are not responsive to standard behavioral intervention.]**

- 01-3. Gadow, K.D., Sprafkin, J., & Nolan, E.E. (2001). DSM-IV symptoms in community and clinic preschool children. *Journal of the American Academy of Child and Adolescent Psychiatry*, 40, 1383-1392.

Objective: Relatively little is known about the prevalence of psychiatric symptoms or the validity of DSM-IV diagnostic criteria for emotional and behavioral disorders in young children (< 7 years). This study describes and compares ratings of psychiatric symptoms in community and clinic samples (ages 3 to 6 years) using the **Early Childhood Inventory-4 (ECI-4)**, a DSM-IV-referenced rating scale. Method: Parent (/and teacher) ratings were obtained for community (N=531/398) and special education (N=64/140) samples (1995 to 1997) and an outpatient clinic (N=224/189) sample (1994 to 1996). Results: Cronbach's alpha for parent/teacher ratings indicated satisfactory internal consistency for the ADHD:I (.87/.95), ADHD:HI (.87/.94), oppositional defiant disorder (ODD; .87/.95), conduct disorder (CD; .78/.93), generalized anxiety disorder (GAD; .63/.74), separation anxiety disorder (SAD; .81), major depressive disorder (MDD; .77/.75), Dysthymia (.72/.66), and Autistic Disorder (.83/.89) symptom categories and ECI-4 Developmental Deficits index (.75/.95). Age and socioeconomic status were only minimally ( $r < .20$ ) correlated with ratings of psychopathology and developmental deficits. Psychotropic drug prescribing for the community sample was uncommon, at least when compared with other age groups. The most commonly endorsed symptom categories were ADHD, ODD, anxiety disorder, CD (teacher), and pervasive developmental disorder (clinic). Groups were easily differentiated in terms of the rate and severity of symptoms (clinic>special education>community). Males generally received higher scores than females (especially teacher ratings), but the magnitude of these differences for the community sample was small, with the exception of teacher ratings of ADHD behaviors. Children with ADHD symptoms had higher ratings of impairment (developmental deficits) than the nonADHD group. Teacher ratings completed 8 months apart (different school years) indicate considerable stability for disruptive behavior, but not attention, mood or anxiety symptoms in children receiving intensive special education services: ADHD:I ( $r=.26$ ), ADHD:HI ( $r=.61$ ), ADHD:C ( $r=.46$ ), ODD ( $r=.56$ ), CD ( $r=.41$ ), Peer Conflict Scale ( $r=.47$ ), Social Phobia ( $r=.59$ ), GAD ( $r=.22$ ), MDD ( $r=.17$ ), Dysthymic Disorder ( $r=.13$ ), Autistic Disorder ( $r=.35$ ), and Asperger's Disorder ( $r=.17$ ). Conclusion: Although these findings share a number of similarities with studies of older children, there are also differences which attest to the uniqueness of this age group.

- 01-4. Garland, E.J., & Garland, O.M. (2001). Correlation between anxiety and oppositionality in a children's mood and anxiety disorder clinic. *Canadian Journal of Psychiatry*, 46, 953-958.

Objective: Whereas parents and clinicians have described oppositional features as interfering with the management of children with anxiety, research on this relation is lacking. This study was designed to investigate the presence of oppositional defiant disorder (ODD) symptoms in children presenting with mood and anxiety symptoms. Method: In a mood and anxiety disorders clinic, the DSM-IV-referenced **Child Symptom Inventory-4 (CSI-4)** was used to document the presence and correlates of oppositional defiant symptoms in 145 preadolescents assessed during a 2-year period. Results: Clinicians did not commonly diagnose ODD despite the presence of symptoms. Teacher Screening Cutoff scores showed greater convergence with clinic diagnoses of ODD than parent scores. ODD Symptom Severity scores correlated with generalized anxiety symptom scores for both parent ( $r=.36$ ) and teacher ( $r=.39$ ) CSI-4 ratings. Correlations remained significant after controlling for the severity of ADHD symptoms: parent ( $r=.23$ ) and teacher ( $r=.23$ ) CSI-4 ratings. Parents rated children more severely ODD than teachers, and there was little overlap between parent- and teacher-defined ODD groups. Parents found both boys and girls to be equally oppositional, whereas teachers rated boys to be significantly more oppositional than girls. Conclusion: Oppositional features are found in clinically referred children with anxiety and are potentially significant for treatment and prognosis of anxiety disorders in children.

- 01-5. Hartman, C.A., Hox, J., Mellenbergh, G.J., et al. (2001). DSM-IV internal construct validity: When a taxonomy meets data. *Journal of Child Psychology and Psychiatry*, 42, 817-836.

Objective: The use of DSM-IV based questionnaires in child psychopathology is on the increase. Method: The internal construct validity of a DSM-IV based model of ADHD, conduct disorder (CD), oppositional defiant disorder (ODD), generalized anxiety disorder (GAD), and depression was investigated in 11 samples from three countries by confirmatory factor analysis. The total parent and teacher samples were 6,152 and 6,740, respectively. Three scales were studied: the *Ontario Health Study Scales-Revised* (Canada), the **Child Symptom Inventory-4 (CSI-4)** (United States), and a Dutch DSM-IV questionnaire (the Netherlands) based largely on *Child Behavior Checklist* and *Teacher Report Form* items. Results: The hypothesized DSM-IV model was corroborated by a consistent increase in model fit with the specification of additional factors in all samples. The covariance structure in the US samples (CSI-4) was most consistent with the DSM-IV model compared with the Canadian and Dutch samples.

This conclusion was based on the relatively greater improvement in model fit for the US samples over and above that of the internalizing and externalizing problem domains. The finding indicates that the evidence for ADHD as being separate from internalizing and externalizing problems, and for problems with attention, hyperactivity-impulsivity, conduct, oppositional and defiant behavior, generalized anxiety, and depression, as being separate from one another was the most pronounced for the CSI-4 in the US samples. Further research is required, however, because the DSM-IV model did not meet absolute standards of adequate model fit. Two sources of error are discussed in detail: multidimensionality of syndrome scales, and the presence of many symptoms that are diagnostically ambiguous with regard to the target syndrome dimension. It is argued that measurement precision may be increased by more careful operationalism of the symptoms in the questionnaire. Additional approaches towards improved conceptualization of DSM-IV are briefly discussed. Conclusion: A sharper DSM-IV model may improve the accuracy of inferences based on scale scores and provide more precise research findings with regard to relations with variables external to the taxonomy.

- 01-6. Kanner, A.M., & Weisbrot, D. (2001). Psychiatric evaluation of the patient with epilepsy: A practical approach for the "nonpsychiatrist" (pp. 19-30). In A.B. Ettinger & A.M. Kanner (Eds.), *Psychiatric issues in epilepsy: A practical guide to diagnosis and treatment*. Philadelphia: Lippincott Williams & Wilkins.

This book chapter provides guidelines on how to approach the evaluation of psychopathology in patients with epilepsy. The authors provide the nonpsychiatrist with a model that can be used to carry out such evaluations in the office. They also discuss the role of psychiatric rating scales in the overall assessment of the patients. Among the instruments used frequently by the authors and have been found to be of clinical value on a regular basis are the **Adult Self-Report Inventory-4** and the **Child Symptom Inventory-4**.

- 01-7. Nolan, E.E., Gadow, K.D., & Sprafkin, J. (2001). Teacher reports of DSM-IV ADHD, ODD, and CD symptoms in schoolchildren. *Journal of the American Academy of Child and Adolescent Psychiatry*, 40, 241-249.

Objective: This study examines the prevalence of DSM-IV symptoms of attention-deficit/hyperactivity disorder (ADHD), oppositional defiant disorder (ODD), and conduct disorder (CD) and age, gender, and comorbidity differences in ADHD subtypes. Method: Teachers completed either the **Early Childhood Inventory-4** (preschoolers), **Child Symptom Inventory-4** (elementary school), or the **Adolescent Symptom Inventory-4** (secondary school). The study sample was comprised of 3,006 children in preschool (3 to 5 years;  $n=413$ ), elementary school (5 to 12 years;  $n=1,520$ ), and secondary school (12 to 18 years;  $n=1,073$ ), all of whom were attending regular education programs. The rate of medication use for ADHD or another emotional or behavioral disorder was lowest for preschoolers (1 child), highest for elementary schools (4.4%), and intermediate for secondary schools (2.2%). Results: The screening prevalence rate of ADHD behaviors was 18.2% (preschool), 15.9% (elementary), and 14.8% (middle, junior, or high school); rates for individual subtypes (all ages) were 9.9% for inattentive (I), 2.4% for hyperactive-impulsive (HI), and 3.6% for combined (C). The I type was relatively uncommon in preschoolers (3.9%), whereas the HI type was least common in teenagers (0.8%). Male:female ratios for ADHD types ranged from 1:1 to 5:1 depending on type and age. Screening prevalence rates were higher for African-American (39.5%) than Caucasian (14.2%) students, but did not vary significantly ( $p<.05$ ) as a function of geographic region or socioeconomic status. ADHD subtypes were rated as more impaired than the nonADHD group on most measures and were easily differentiated on the basis of comorbid symptoms, social skill impairment, and special education services. In general, youngsters with C type symptoms had higher Symptom Severity scores than the I and HI types, and the I type was the least impaired. The screening prevalence rate of ODD behaviors was 11.1% (preschool), 4.5% (elementary), and 3.8% (middle, junior, or high school). The screening prevalence rate of CD behaviors was 9.2% (preschool), 2.5% (elementary), and 3.0% (middle, junior, or high school). Conclusions: The findings of this and similar studies show relatively high convergence for the prevalence of ADHD behaviors and differences between ADHD subtypes. Moreover, the behavior rating scale format appears to be a simple and cost-effective way to obtain information about psychiatric symptoms from school personnel.

- 01-8. Piffner, L.J., McBurnett, K., & Rathouz, P.J. (2001). Father absence and familial antisocial characteristics. *Journal of Abnormal Child Psychology*, 29, 357-367.

Objective: This study examined family antisocial characteristics according to whether biological fathers live at home and agree to be study participants. Method: Antisocial symptoms were tabulated for 161 clinic-referred

children and their parents. Antisocial personality disorder symptoms in the parent was assessed with the *Structured Clinical Interview for DSM-IV*. Child conduct disorder (CD) was assessed with the parent version of the *Diagnostic Interview Schedule for Children* and CD and oppositional defiant disorder symptoms were assessed with the parent and teacher versions of the **Child Symptom Inventory-4**. **Results:** Cronbach's alpha for the CD symptom category of the CSI-4 was .85 and .82 for teacher and parent versions, respectively. Families with fathers at home had fewer paternal, maternal, and child antisocial symptoms, and scored higher on multiple SES indicators, than did families with departed fathers. Antisocial characteristics were highest, and SES was lowest, when fathers could not be located or recruited. Results suggest that requiring father participation (as in family-trio genetic designs) screens out the more antisocial families. Of clinical interest, antisocial behavior in any family member is more likely if the father is absent and nonparticipating. The heightened antisocial behavior in children associated with absent biological fathers was not mitigated by presence of stepfathers and was not accounted for by lower SES. The ethical use of mother report on absent fathers is discussed.

- 01-9. Silverthorn, P., Frick, P.J., & Reynolds, R. (2001). Timing of onset and correlates of severe conduct problems in adjudicated girls and boys. *Journal of Psychopathology and Behavioral Assessment*, 23, 171-181.

**Objective:** An influential model for explaining the development of conduct disorder (CD) in boys proposed that there are two distinct trajectories through which boys develop CD that differ on the timing of onset, correlates, and outcome. In this study, the applicability of this two trajectory approach to the development of CD in girls was tested. **Method:** Participants were adolescents (mean=15.2"1.32 years of age) who were adjudicated for serious patterns of illegal behavior in secure detention facility, nearly all of whom (94%) met criteria for a diagnosis of CD according to their responses to the **Youth's Inventory-4**, a DSM-IV-referenced self-report rating scale. **Results:** Based on a combination of the YI-4 ratings and file interview, boys in the sample were fairly evenly split between a childhood-onset to their CD symptoms and an adolescent-onset to their symptoms. In contrast, girls more uniformly exhibited an adolescent-onset to their severe antisocial behavior. Despite this later age of onset, the antisocial girls tended to resemble the childhood-onset boys on personality traits such as showing problems of impulse control and showing combination of both callous and unemotional interpersonal style and poor impulse control. **Conclusion:** These findings suggest modifications of, or alternatives to the two-trajectory model may be needed to explain the development of CD in girls.

- 01-10. Sprafkin, J., Gadow, K.D., & Nolan, E.E. (2001). The utility of a DSM-IV-referenced screening instrument for attention-deficit/hyperactivity disorder. *Journal of Emotional and Behavioral Disorders*, 9, 182-191.

**Objective:** This study examined the clinical utility of the **ADHD Symptom Checklist-4 (ADHD-SC4)**, a screening measure for attention-deficit/hyperactivity disorder (ADHD). The objectives were to assess the scale's concurrent, differential, and predictive validity. The ADHD-SC4 contains the ADHD symptom category (18 items), the oppositional defiant disorder (ODD) symptom category (8 items), Peer Conflict Scale (10 items), and the Stimulant Side Effects Checklist (SSEC; 14 items). **Method:** Participants were 103 children between 5 and 17 years old referred to a child psychiatry outpatient service and who were diagnosed as having a variety of emotional and behavioral disorders. Children were assessed with a battery of standardized assessment instruments and clinical interviews. Clinical diagnoses were verified with an operationalized diagnostic criteria procedure. Parents and teachers completed several rating scales for each child including the ADHD-SC4, the Child Behavior Checklist (CBCL), Teacher Report Form (TRF), and the IOWA Conners Teacher's Rating Scale. **Results:** Findings support the internal consistency and validity of the ADHD-SC4 as a screening instrument for ADHD, ODD, and aggressive behavior. Coefficient alphas (internal consistency reliabilities) were adequate to high for most scales. To determine the accuracy of the ADHD-SC4 as a screening instrument, Screening Cutoff scores were compared with the data-based psychiatric diagnoses. Sensitivity for ADHD was relatively high, especially when information from both parent and teacher ratings was used to determine the presence of symptoms (sensitivity=.91, specificity=.36). For screening instruments such as the ADHD-SC4 where it is very important to minimize false negatives, and the risks associated with more detailed followup evaluations of false positives are minimal, sensitivity is the more important consideration than specificity. Eighty-five percent of children with diagnosed ADHD received high (T\$70) ADHD-SC4 Symptom Severity scores. As expected, correlations between parent and teacher ADHD-SC4 ratings were low to moderate (.23 to .51). ADHD-SC4 ADHD:I ratings were moderately to highly correlated with CBCL/TRF Attention Problems scores, whereas ADHD:HI ratings highly correlated with Aggressive Behavior scores. Conversely, ADHD:I ratings scores correlated only a modest degree with the CBCL/TRF Delinquent Behavior and Aggressive Behavior scores. Predictably, scores for the ODD category were highly correlated with

corresponding CBCL/TRF scale scores (Aggressive Behavior, Delinquent Behavior), but minimally with Attention Problems. Peer Conflict Scale ratings correlated most highly with the CBCL/TRF Delinquent Behavior and Aggressive Behavior scores. SSEC scores correlated most highly with the CBCL/TRF Anxious/Depressed scale (Mood index), Withdrawn scale (Attention-Arousal index), and Somatic Complaints scores (Physical Complaints index). Children with a clinical diagnosis of a mood or anxiety disorder ( $n=35$ ), compared with those who did not ( $n=68$ ), received significantly higher Mood index scores for both parent and teacher ratings. Conclusions: The ADHD-SC4 appears to be a clinically useful screening instrument for ADHD.

- 01-11. Vitacco, M.J., & Rogers, R. (2001). Predictors of adolescent psychopathy: The role of impulsivity, hyperactivity, and sensation seeking. *Journal of the American Academy of Psychiatry and the Law*, 29, 374-382.

Objective: Clinical applications to psychopathy encompass downward extensions to adolescent populations. In alliance with clinical practice, several prominent researchers have formulated prediction models for adolescent psychopathy that include various forms of behavioral dysregulation, including impulsivity, attention-deficit/hyperactivity disorder (ADHD), and sensation seeking. The goal of the current study was to explore these clinical constructs as predictors of psychopathy in adolescents whose cases were adjudicated. Method: As a cross-sectional study, the current investigation systematically examined behavioral dysregulation in 79 male adolescents who, as a result of adjudication, were placed in a maximum-security facility. Youths completed several measures including the **Youth's Inventory-4** to assess ADHD, ODD, and conduct disorder symptoms. Results: Adolescents with high versus low levels of psychopathy were found to have higher levels of impulsivity, CD symptoms, and ODD symptoms. Impulsivity appeared to be the best predictor of both psychopathy and conduct problems. In addition, conduct-disordered symptoms were predicted mostly by impulsivity, with minor contributions from sensation seeking and ADHD symptoms.

- 01-12. Volpe, R.J., DuPaul, G.J. (2001). Assessment with brief rating scales. In J. Andrews, H. Janzen, & D. Saklofske (Eds.), *Handbook of psychoeducational assessment* (pp.357-387). San Diego, CA: Academic Press.

This book chapter describes narrow-band rating scales completed by children and the adults who have contact with them. The psychometric properties of the **ADHD Symptom Checklist-4 (ADHD-SC4)** and other brief ADHD rating scales are reviewed.

## YEAR: 2000

- 00-1. Arnold, L.E., Aman, M.E., Martin, A., Collier-Crespin, A., Vitiello, B., Tierney, E., Asarnow, R., Bell-Bradshaw, F., Freeman, B.J., Gates-Ulanet, P., Klin, A., McCracken, J.T., McDougle, C.J., McGough, J.J., Posey, D.J., Scahill, L., Swiezy, N.B., Ritz, L., & Volkmar, F. (2000). Assessment in multisite randomized clinical trials of patients with autistic disorder: The autism RUPP network. *Journal of Autism and Developmental Disabilities*, 30, 99-111.

Assessment of autistic disorder (autism) symptoms, primary and secondary, poses more challenging problems than ordinarily found in multisite randomized clinical trial (RCT) assessments. For example, subjects may be uncommunicative and extremely heterogeneous in problem presentation, and current pharmacological treatments are not likely to alter most core features of autism. The Autism Research Units on Pediatric Psychopharmacology (RUPP Autism Network) resolved some of these problems during the design of a risperidone RCT in children/adolescents. The communication problems, compromising use of the patient as an informant, were addressed by several strategies, including careful questioning of care providers, rating scales, laboratory tests, and physical exams. This article describes the RUPP risperidone RCT assessment battery, **[which includes the Child & Adolescent Autism Symptom Inventory,]** which is comprised of the symptom categories from the *Child Symptom Inventory-4* and the *Adolescent Symptom Inventory-4*, for use as a screening measure. Also discussed are many other measurement issues addressed by this RCT.

- 00-2. Bastiaens, L., Francis, G., & Lewis, K. (2000). The RAFFT as a screening tool for adolescent substance use disorders. *American Journal on Addictions*, 9, 10-16.

Objective: The objective of this study was to measure the sensitivity and specificity of the RAFFT, a screening instrument for problematic adolescent substance use. Method: Two hundred and twenty-six adolescent patients ,

aged 13 to 18, who were referred to an emergency room or an ambulatory evaluation clinic were included. Patients answered the five questions of the RAFFT before a comprehensive psychiatric assessment was completed. Diagnoses were made according to DSM-IV, and based in part on the parent-completed **Adolescent Symptom Inventory-4**. Results: The best results were obtained with two positive answers on the RAFFT: a sensitivity of 89% and a specificity of 69% in the screening for substance abuse or dependence. Conclusion: The RAFFT performed well in this highly selected patient population.

- 00-3. Beauchaine, T.P., Gartner, J., & Hagen, B. (2000). Comorbid depression and heart rate variability as predictors of aggressive and hyperactive symptom responsiveness during inpatient treatment of conduct-disordered, ADHD boys. *Aggressive Behavior*, 26, 425-441.

The primary objective of the present study was to assess the utility of (1) comorbid depression and (2) parasympathetic influence on cardiac function as markers for treatment response among aggressive preadolescent males. Inpatient records of 53 patients with conduct disorder and attention deficit hyperactivity disorder (17 with a comorbid depressive disorder) were examined, including intake electrocardiogram and daily tallies of several indices of aggressive behavior across 3 weeks of stay. Consensus diagnoses were based, in part, on the **Child Symptom Inventory-3R**. With regard to the frequency and duration of aggression, nondepressed patients with high vagal tone deteriorated, and depressed patients with high vagal tone improved during hospitalization. No such relation was found for ADHD symptoms. Patients in the comorbid group also exhibited greater heart rate variability than their nondepressed counterparts. Furthermore, residualized heart rate was predictive of maternal substance use and paternal incarcerations. These findings suggest complex relations among treatment response, comorbid depression, and emotional regulation in male preadolescents with severe behavior disorders.

- 00-4. Dunn, D.W., Austin, J.K., Harezlak, J., & Ambrosius, W.T. (2000). Behavioral problems in childhood epilepsy. Poster presented at the annual meeting of the American Academy of Child and Adolescent Psychiatry, October 28, New York, NY.

Objective: Children with epilepsy have an increased risk of behavioral problems, but few studies have utilized both categorical and dimensional measures of psychopathology. Method: Evaluated 150 children, 9 to 14 years of age, who had epilepsy that had been treated for at least 6 months. The mother or primary caretaker completed the *Child Behavior Checklist* (CBCL), and either the **Child Symptom Inventory-4 (CSI-4)** or the **Adolescent Symptom Inventory-4 (ASI-4)**. Correlation coefficients between CBCL scores and CSI-4/ASI-4 scores were performed. Results: On the CBCL, elevated scores were found for Total, Internalizing, Attention, Social, and Somatic Problems. On the CSI-4 or ASI-4, we found the following screening prevalence rates (possible diagnoses): ADHD, inattentive (34%), ODD (21%), conduct disorder (18%), phobia (35%), PTSD (36%), tics (22%), and panic disorder (37%). Significant correlations were found between CBCL and CSI-4/ASI-4 scores. Conclusion: Children with epilepsy have more behavioral difficulties measured either dimensionally by CBCL or categorically by CSI-4/ASI-4. Current validity for the CSI-4/ASI-4 in a chronic illness sample was demonstrated.

- 00-5. Fisher, P.A., Gunnar, M.R., Chamberlain, P., & Reid, J.B. (2000). Preventive intervention for maltreated preschool children: Impact on children's behavior, neuroendocrine activity, and foster parent functioning. *Journal of the American Academy of Child and Adolescent Psychiatry*, 39, 1356-1364.

Objective: This article describes the results of a pilot study that evaluated the effectiveness of the Early Intervention Foster Care (EIFC) program in the period immediately following a child's placement in a new foster home. Method: Data were collected from an EIFC group, a regular foster care group, and a community comparison group--each with 10 participants--via questionnaires for children and their caretakers and cortisol sampling. The Total Symptom [Score of the parent-completed **Early Childhood Inventory-4 (ECI-4)** was used to assess child behavior problems.] Results: EIFC foster parents adopted and maintained positive parenting strategies; EIFC children's behavior as assessed with the ECI-4 improved; and changes occurred in several salivary cortisol measures. Moreover, regular foster care children exhibited decrements in functioning in several areas over the same time period. Conclusions: Results are discussed with regard to how such research fits into a larger program of prevention research for high-risk preschool children.

- 00-6. Frick, P.J., Bodin, S.D., & Barry, C.T. (2000). Psychopathic traits and conduct problems in community and clinic-

referred samples of children: Further development of the Psychopathology Screening Device. *Psychological Assessment*, 12, 382-393.

This study examined the structure of psychopathic traits in two samples of children. The nonreferred community sample included 1,136 children recruited from elementary schools in two school districts in the southeastern United States. The clinic sample included 160 children referred to an outpatient mental health clinic serving the same geographic region. In both samples, parent and teacher ratings of psychopathic traits were subjected to a principal-axis factor analysis, and the congruence of the factor structure across samples was examined using confirmatory factor analysis. In both samples, one dimension that consisted of the callous and unemotional traits that have been hallmarks of most clinical descriptions of psychopathology was isolated. Two other dimensions consisting of narcissistic traits and impulsivity emerged in the community sample. Both the narcissism and impulsivity dimensions were highly related to symptoms of oppositional defiant disorder, conduct disorder, and attention deficit hyperactivity disorder as assessed with the **Child Symptom Inventory-4**. However, the callous and unemotional traits were only weakly associated with these symptoms after controlling for the other dimensions of psychopathy.

00-7. Gadow, K.D. (2000). A checklist for DSM-IV disorders. *Child & Adolescent Psychopharmacology News*, 5(1), 10-12.

Briefly describes the historical development of the *Symptom Inventories* and their psychometric properties. The primary focus of the article is the use of the Symptom Inventories, particularly the *ADHD Symptom Checklist-4*, to evaluate response to medication and to assess comorbidities that may be associated with enhanced or attenuated response to treatment.

00-8. Gadow, K.D., Nolan, E.E., Litcher, L., et al. (2000). Comparison of attention-deficit/hyperactivity disorder symptom subtypes in Ukrainian schoolchildren. *Journal of the American Academy of Child and Adolescent Psychiatry*, 39, 1520-1527.

Objective: This study examined prevalence rates of attention-deficit/hyperactivity disorder (ADHD) behaviors and differences between subtypes in 10-to-12 year old Ukrainian children using a parent-completed, DSM-IV-referenced rating scale. Method: Six hundred parents and children residing in Kyiv, Ukraine, and their teachers participated in extensive clinical assessments during 1997 using standard Western measures, including the parent version of the **Child Symptom Inventory-4 (CSI-4)**, *Child Behavior Checklist (CBCL)*, and *IOWA Conners Teacher's Rating Scale*. A US normative sample for the CSI-4, which consisted of 443 children (228 boys and 215 girls) between the ages of 9.0 years and 12.9 years was used for symptom prevalence analyses. A second US sample was comprised of 101 (70 boys, 31 girls) children between 6 and 12 years old referred to a child psychiatry outpatient service for whom parents had completed the CSI-4 and CBCL. Their data were used for symptom convergence analyses. Results: The screening prevalence rate of ADHD behaviors was 19.8%: 7.2% for inattentive (I), 8.5% for hyperactive-impulsive (HI), and 4.2% for combined (C). Post hoc comparisons indicated a number of significant ( $p < .05$ ) group differences. Mothers of children with ADHD symptoms reported higher rates of disruptive behavior, negative mother-child interactions, and physical punishment than the nonADHD group. Teachers rated ADHD children as more hyperactive and inattentive, but only the HI subtype was rated more oppositional than nonADHD students. The I subtype was less academically proficient and socially adept (but less likely to have behavior problems). The C subtype was the most behaviorally disruptive (mother ratings), and their fathers were more likely to be aggressive and abuse alcohol. The HI subtype also had problems with disruptive behavior, but were less socially impaired. CSI-4 Symptom Severity scores for all three ADHD symptom categories correlated most highly with the CBCL Attention Problems, Social Problems, and Aggressive Behavior scales, with the exception of ADHD:HI and Social Problems scores. ADHD:HI and ADHD:C symptoms scores correlated most highly with the CBCL Aggression Problems scale. For the most part, the pattern of correlations was similar for the two countries, but the magnitude of significant relations was higher for the clinic-referred US sample. Conclusions: Although symptom prevalence rates are higher in Ukraine than the United States, this study provides additional evidence supporting DSM-IV ADHD subtypes as distinct clinical entities. Observed differences between ADHD subtypes support the importance of differential diagnosis and underscore the need to document (a) target behaviors (symptoms); (b) performance deficits in behavioral, emotional, academic, and social functioning; and (c) the impact of symptoms on caregiver behavior when formulating treatment plans.

- 00-9. Hartman, C. (2000). *Changing Concepts of Child Psychopathology*. TT-Publications: Amsterdam.

Describes the findings of a study that examined the internal validity of the *Child Behavior Checklist* (CBCL) and the *Teacher's Report Form* (TRF) and the internal validity of parent- and teacher-completed DSM-referenced behavior rating scales. The total CBCL and TRF sample was 13,226 and 8,893, respectively, which were collected in seven different countries. The construct representation of the cross-informant model of the CBCL and the TRF was evaluated using confirmatory factor analysis. The adequacy of fit for the cross-informant model was established on the basis of three approaches: conventional rules of fit, simulation and comparison with other models. The central question is: Is there sufficient evidence for the factorial validity of the empirically defined taxonomy of the CBCL and TRF to justify its use and interpretation? The results indicated that the cross-informant model fit these data poorly. These results were consistent across countries, informants, and both clinical and population samples. Since inadequate empirical support for the cross-informant syndromes and their differentiation was found, the construct validity of CBCL/TRF syndrome dimensions is questioned. The internal construct validity of a DSM-IV based model of ADHD, conduct disorder, oppositional defiant disorder, generalized anxiety disorder and depression was investigated in 11 samples from three countries by confirmatory factor analysis. The total parent and teacher samples were 6,152 and 6,740, respectively. Three scales were studied: the *Ontario Health Study Scales-Revised* (Canada), the ***Child Symptom Inventory-4*** (United States), and a Dutch DSM-IV questionnaire (the Netherlands) based largely on CBCL and TRF items. The factorial structure of these syndromes was supported by the data. However, the model did not meet absolute standards of good fit. It is argued that measurement precision may be increased by more careful operationalism of the symptoms in the questionnaire. Sharper DSM-IV models may improve the accuracy of inferences based on scale scores and provide more precise research findings with regard to relations with variables external to the taxonomy. It was concluded that the DSM-IV syndromes show more consistency with the covariance structure of the data than the CBCL syndromes and this is attributed in the present thesis to the different methods used for the derivation of the CBCL and the DSM taxonomies.

- 00-10. Mattison, R.E. (2000). School consultation: A review of research on issues unique to the school environment. *Journal of the American Academy of Child and Adolescent Psychiatry*, 39, 402-413.

The objective of this review is to provide clinicians with current information to assist in their consultations to schools on four major topics that are unique to the school environment and of serious concern to educators: absenteeism, disciplinary referrals, retention (nonpromotion), and dropping out. Computer literature searches and the major journals of the various school disciplines were used to identify empirically based articles with sound methodology. With regard to the ***Child Symptom Inventory-4*** (CSI-4), the author states that "a behavioral screen could survey an identified student's teacher(s)...to pinpoint serious signs of classroom dysfunction, which then optimally could be followed by a more general screen for psychopathology such as the *Teacher's Report Form* for dimensional scales/syndromes or the teacher version of the CSI-4 for DSM-IV disorders" (p. 411-412).

- 00-11. Weiss, M., Jain, U., & Garland, J. (2000). Clinical suggestions for management of stimulant treatment in adolescents. *Canadian Journal of Psychiatry*, 45, 717-723.

Children with attention-deficit hyperactivity disorder (ADHD) do not typically outgrow this condition in adolescence, which is a challenging period of development. Management of ADHD in adolescence requires specific accommodations. These include providing adolescents with as much control over treatment as possible, so that they perceive treatment to be widening their autonomy rather than limiting it. Wherever possible, medication needs to be long-acting to facilitate compliance and to minimize problems with rebound misbehavior and moodiness. Comorbid psychiatric symptoms and syndromes need to be evaluated carefully both pre- and posttreatment. Ongoing psychoeducation and support can help restructure the demands that an adolescent with ADHD faces at home and at school so that they are more manageable. With active treatment it may be possible to prevent serious morbidity associated with ADHD during this period and to lay a foundation for adulthood. "Psychiatric side effects [of medication] are also more important in adolescence because other psychiatric comorbidities often first present during this period of development....This makes differential diagnosis more difficult, and it also means that assessment for a wide range of psychiatric symptoms pre- and posttreatment is needed....Two useful scales specifically designed for use with adolescents are now available, the *Brown Attention-Deficit Disorder Scales* and the ***Adolescent Symptom Inventory-4***. Both of these rating scales are sensitive to, change and therefore can be used to assess change in symptoms with treatment" (p. 722).



## YEAR: 1999

- 99-1. Gadow, K.D., Sverd, J., Sprafkin, J., Nolan, E.E., & Grossman, S. (1999). Long-term methylphenidate therapy in children with comorbid attention-deficit hyperactivity disorder and chronic multiple tic disorder. *Archives of General Psychiatry*, 56, 330-336.

Background: This study examined changes in ADHD behaviors and motor and vocal tics during long-term treatment with methylphenidate. Method: Subjects, 34 prepubertal children with ADHD and chronic multiple tic disorder (who had participated in an 8-week double-blind placebo-controlled methylphenidate evaluation) were evaluated at 6-month intervals for 2 years as part of a prospective, nonblind followup study. Treatment effects were assessed using direct observations of child behavior in a simulated (clinic-based) classroom and behavior rating scales completed by parents (e.g., **Child Symptom Inventory-3R**, **Peer Conflict Scale**, **Stimulant Side Effects Checklist**) and physician. Videotapes of the simulated classroom were scored by coders who were "blind" to treatment status. Results: There was no evidence (group data) that motor tics or vocal tics changed in frequency or severity during maintenance therapy compared with diagnostic or initial double-blind placebo evaluations. Behavioral improvements demonstrated during the acute drug trial were maintained during followup. There was no evidence (group data) of clinically significant adverse drug effects on cardiovascular function or growth at the end of 2 years of treatment. Conclusion: Long-term treatment with methylphenidate seems to be safe and effective for the management of ADHD behaviors in many (but not necessarily all) children with mild to moderate tic disorder. Nevertheless, careful clinical monitoring is mandatory to rule out the possibility of drug-induced tic exacerbation in individual patients.

- 99-2. Nolan, E.E., Gadow, K.D., & Sprafkin, J. (1999). Stimulant medication withdrawal during long-term therapy in children with comorbid attention-deficit hyperactivity disorder and chronic multiple tic disorder. *Pediatrics*, 103, 730-737.

Objective: This study examined changes in attention-deficit hyperactivity disorder (ADHD) behaviors and motor and vocal tics during withdrawal from long-term maintenance therapy with stimulant medication. Method: Subjects were 19 prepubertal children with ADHD and chronic tic disorder who had received methylphenidate ( $n=17$ ) or dextroamphetamine ( $n=2$ ) for a minimum of 1 year. Children were switched to placebo under double-blind conditions. Treatment effects were assessed using direct observations of child behavior in a simulated (clinic-based) classroom and behavior rating scales completed by parents (e.g., **Child Symptom Inventory-3R**, **Peer Conflict Scale**, **Stimulant Side Effects Checklist**) and clinician. Results: There was no change (group data) in the frequency or severity of motor tics or vocal tics during the placebo condition compared with maintenance dose of stimulant medication (i.e., no evidence of tic exacerbation while receiving medication or of a withdrawal reaction). There was no evidence of tic exacerbation in the evening as a rebound effect. Treatment with the maintenance dose was also associated with behavioral improvement in ADHD behaviors, indicating continued efficacy. Conclusions: Abrupt withdrawal of stimulant medication in children receiving long-term maintenance therapy does not appear to result in worsening of tic frequency or severity. Nevertheless, these findings do not preclude the possibility of drug withdrawal reactions in susceptible individuals.

- 99-3. Nolan, E.E., Volpe, R.J., Gadow, K.D., et al. (1999). Developmental, gender, and comorbidity differences in clinically referred children with ADHD. *Journal of Emotional and Behavioral Disorders*, 7, 11-20.

Attention-deficit/hyperactivity disorder (AD/HD) is the most prevalent child psychiatric disorder, and the current version of the DSM recognizes three subtypes: predominantly inattentive, predominantly hyperactive-impulsive, and combined (inattentive and hyperactive-impulsive). This study examined age, gender, and comorbidity differences in AD/HD subtypes, using the **Child Symptom Inventory-4**, a screening checklist based upon DSM-IV criteria. Parent- and teacher-completed checklists were obtained for clinic-referred children and adolescents between the ages of 3 and 18 years. Findings indicated that few youngsters exhibited symptoms of hyperactivity/impulsivity in the absence of inattention. Hyperactive-impulsive behavior was more common in the youngest age group (3 to 5 years), whereas inattention was more common in adolescents. Males were over-represented for each subtype of AD/HD, however, the proportion of males to females did not differ for the different subtypes. Youngsters who exhibited symptoms of both hyperactivity-impulsivity and inattention were more likely to

show oppositional and conduct disorder behaviors and anxiety than those who were only inattentive. The findings from this study suggest that even among children who meet criteria for one of the subtypes of AD/HD, age and gender differences may be important variables in diagnosis.

- 99-4. Weiss, M., Hechtman, L.T., & Weiss, G. (1999). *ADHD in adulthood: A guide to current theory, diagnosis, and treatment*. Johns Hopkins University Press: Baltimore, MD.

This book recommends the use of the *Adult Self-Report Inventory-4* (for the patient) and the *Adult Inventory-4* (for caregiver or partner who knows patient well) in the assessment of adults who may have ADHD. Specifically, they authors state the following:

Checkmate Plus is currently developing an adult symptom checklist that is uniquely suited to assessment of ADHD and its comorbidity by clinicians (Gadow et al., 1998). Field test versions of the self-report (***Adult Self-Report Inventory-4***) and other-report (***Adult Inventory-4***) forms of this checklist appear in Appendixes 1 and 2 to this book and are reprinted with permission of the authors. The instrument is unique in that it can be scored either categorically, to indicate the presence or absence of a particular disorder, or dimensionally, to provide a symptom severity score for each disorder. The instrument contains the symptoms of over two dozen *DSM-IV* disorders, making it easy for the clinician to visualize areas of difficulty, even without formal scoring. In addition, it includes symptoms of disorders that are not typically included in adult checklists (e.g., oppositional defiant disorder, conduct disorder, Tourette syndrome, and borderline personality disorder) but that facilitate comparative assessment across the life span. The distinct inclusion of the nine symptoms of inattention and nine symptoms of hyperactivity/impulsivity allows the clinician to provide a symptom severity score for each dimension in its own right, as well as for ADHD as a whole. These forms are an excellent baseline for further evaluation. Obtaining both the patient's symptom inventory and a report from a parent or spouse who knows the patient well provides an excellent screen for both ADHD and the most relevant comorbid diagnoses across different settings and from different informants. (p. 61-62)

## YEAR: 1998

- 98-1. Ammerman, R.T., Kane, V.R., Slomka, G.T., Reigel, D.H., Franzen, M.D., & Gadow, K.D. (1998). Psychiatric symptomatology and family functioning in children and adolescents with spina bifida. *Journal of Clinical Psychology in Medical Settings*, 5, 449-465.

The purpose of this study was to (a) examine the occurrence of psychiatric symptomatology in children and adolescents with spina bifida, (b) investigate the relationship between psychiatric features and aspects of disability, and (c) explore the impact of spina bifida and psychiatric status on family functioning. Fifty-four children and adolescents ages 6 to 18 years ( $M=12.94$ ,  $SD=3.59$ ) were examined. Parents completed the ***Child Symptom Inventory-4*** (CSI-4) and the Family Assessment Device (FAD). Using the CSI-4, a psychiatric diagnostic screen, 43% of the sample obtained one, and 13% obtained two or more screening cutoff scores reflective of psychiatric diagnoses (Screening Cutoff scores). The two most prevalent diagnostic categories were attention-deficit/hyperactivity disorder (33%) and oppositional defiant disorder (13%). The sample as a whole exhibited elevated levels of clinical symptoms (i.e., Symptom Severity scores, total number of symptoms rated as occurring "often" or "very often"), with internalizing symptoms (i.e., CSI-4 anxiety disorder and depressive disorder symptoms) more prominent than externalizing symptoms (i.e., CSI-4 Oppositional Defiant Disorder and Conduct Disorder categories). No differences in diagnostic categories or overall symptomatology were found based on age, gender, ambulation status, or lesion level. Overall symptom counts were [positively correlated with scales on the FAD reflecting problematic family functioning (.42-.65)]. Results suggest that psychiatric symptomatology occurs at a high rate in children and youth with spina bifida. Although ADHD was the modal diagnostic category, the sample as a whole exhibited extensive psychiatric symptoms independent of specific diagnostic categories. psychiatric symptoms were also associated with increased problematic functioning in families.

- 98-2. Block, S.L. (1998). Attention-deficit disorder: A paradigm for psychotropic medication intervention in pediatrics. *Pediatric Clinics of North America*, 45, 1053-1083.

"Some of the newer validated, reliable behavioral checklists incorporating DSM-IV are listed in Table 1. The two-page ***ADHD Symptom Checklist-4*** (SC-4) fulfills all the aforementioned criteria by evaluating for both ADD-H

[hyperactive-impulsive type] and ADD-I [inattentive type], providing norms for age and gender, coupled with validated scales for aggression and oppositional defiance, and for assessing medication adverse effects (AEs) to compare pretherapy and post-therapy. For follow-up visits of children without comorbidities who are stable on their titrated dose, the front page alone may be used to enhance compliance of return of the forms....For adolescents...[the] *Adolescent Symptom Inventory-4* may be preferred for the first visit. Subsequent visits may require only the first...two pages of the form (p. 1060)."

- 98-3. Carlson, G.A., & Kelly, K.L. (1998). Manic symptoms in psychiatrically hospitalized children-what do they mean? *Journal of Affective Disorders*, 51, 123-135.

Objective: To examine the clinical implications of manic symptoms in psychiatrically hospitalized children aged 5-12. Method: DSM-III-R manic symptoms, along with symptoms of other psychiatric disorders, were rated by parents and teachers on the **Child Symptom Inventory-3R** (CSI-3R) prior to hospitalization. The *Child Behavior Checklist* (CBCL) was also completed. During hospitalization children were evaluated by structured interview (K-SADS-E) and numerous rating scales weekly. Using the parent-completed CSI-3R to define diagnostic groups, children with symptoms of mania (mania criteria with/without episodes) were compared to those without mania. Severity of attention deficit disorder (ADHD), oppositional defiant disorder (ODD), depression, CBCL factors, and comparable factors from teacher and parent inpatient rating scales were examined. Finally, a subgroup of both groups of children treated with stimulants were compared at baseline and at least two weeks of treatment. Results: Children with manic symptoms had more severe ADHD, ODD, and depressive symptoms. CBCL scores on aggression, social and thought problems were higher. Teacher and nursing staff made similar observations. Symptom Severity scores for the Manic Disorder category of the CSI-3R were significantly correlated with comparable scores for the ADHD ( $r=.42$ ) and Oppositional Defiant Disorder ( $r=.47$ ) categories. Time in hospital was greater for children with manic symptoms. Both groups improved significantly on stimulant medication though reduction in overall psychopathology was often modest. Conclusion: Manic symptoms, regardless of whether or not they represent bipolar disorder, are a marker of serious psychopathology and treatment resistance.

- 98-4. Drabick, D.A.G., Nolan, E.E., Gadow, K.D., et al. (1998). Inter-rater agreement of psychiatric symptomatology in attention-deficit/hyperactivity disorder and epilepsy [abstract]. In *Scientific Proceedings of the Annual Meeting of the American Academy of Child and Adolescent Psychiatry*, 14, 89-90.

Objective: This study compares patient, parent, and teacher inter-rater agreement of psychiatric symptoms between two referred samples of children and adolescents. Patients were diagnosed either with attention-deficit/hyperactivity disorder (ADHD) or epilepsy. Method: Data obtained from parent and teacher versions of the **Child Symptom Inventory-4** and **Youth's Inventory-4** for patients with ADHD ( $N=75$ ) and epilepsy ( $N=43$ ) are presented. Results: Correlations between self-report and parent report of internalizing disorders are significantly ( $p<.05$ ) higher for epileptic than ADHD patients. Correlations for epilepsy and ADHD, respectively, were as follows: Major Depressive Disorder category ( $r=.68$ ,  $r=.32$ ), Dysthymic Disorder category ( $r=.65$ ,  $r=.37$ ), Generalized Anxiety Disorder category ( $r=.67$ ,  $r=.34$ ), and Posttraumatic Stress Disorder category ( $r=.41$ ,  $r=.04$ ). Both groups of patients evidenced low to moderate patient-parent agreement for disruptive behavior categories ( $r=.28$  to  $r=.41$ ). In general, parent-teacher and patient-teacher correlations were higher for the epilepsy group ( $r=.00$  to  $r=.77$ ) than for the ADHD group ( $r=.00$  to  $r=.38$ ), although not significantly so. Conclusion: Parents of youngsters with epilepsy are more likely to be aware of internalizing symptoms than parents of ADHD patients. Among the raters, parent-youth agreement is highest, although the magnitude of agreement is significantly higher in the epilepsy group.

## YEAR: 1997

- 97-1. Ammerman, R.T., Slomka, G., Reigel, D.H., Zapadka, M.E., & Kane, V. (1997). Neurocognitive and neurosurgical correlates of psychiatric symptomatology in spina bifida [abstract]. In: *Scientific Proceedings of the Annual Meeting of the American Academy of Child and Adolescent Psychiatry*, 13, 12.

Objective: This study examines (1) the relationship between psychiatric symptoms and parameters of neurosurgical history in children and adolescents with spina bifida; (2) association between psychiatric symptoms and IQ and academic achievement; and (3) construct validity of the **Child Symptom Inventory-4** (CSI-4) in this population. Method: Mothers of 34 children and adolescents (mean age=13.06) completed the CSI-4, *Child*

*Behavior Checklist* (CBCL), and *Personality Inventory for Children* (PIC). Results: Patients with a history of infection and/or seizure disorder were less likely to exhibit psychiatric symptoms or disorders than those without such a history. This pattern was less consistent and robust for summary scales of the CBCL and PIC. CSI-4 scores were not associated with IQ or measures of academic achievement. CSI-4 scores were moderately correlated with the CBCL and PIC, with more positive correlations obtained with the PIC. Conclusion: Several neurosurgical history variables are important in the expression of psychiatric symptomatology. Psychiatric symptoms are unrelated to neurocognitive functioning and academic achievement. The CSI-4 displays adequate construct validity in this population.

- 97-2. Livingston, R. (1997). Ethnocultural differences in parent-reported symptoms and comorbidity in ADHD. [abstract]. In: *Scientific Proceedings of the Annual Meeting of the American Academy of Child and Adolescent Psychiatry*, 13, 147.

Objectives: The paper compares comorbidity, severity and types of symptoms of attention-deficit/hyperactivity disorder (ADHD) in an ethnically diverse ADHD clinic. Method: The **Child Symptom Inventory-4** (CSI-4) was completed by parents of 150 children and adolescents consecutively evaluated in our ADHD clinic; 144 met DSM-IV criteria for ADHD and were accepted for this study. Results: All families had at least one parent employed and had medical insurance. African-American children in this clinic were significantly younger. After adjusting for age, Caucasian children (N=84) still had significantly more inattention problems ( $p=.015$ ) and comorbid mood disorders ( $p=.003$ ) than African-American children (N=60). Groups did not differ in total severity of ADHD nor in hyperactive-impulsive symptoms or in comorbid oppositional, conduct or anxiety disorders. Among the Caucasian children, 22/30 cases of comorbid mood disorder were in Hispanic (13 cases/34 children) or Orthodox Jewish (9 cases/17 children) children ( $p=.05$ ). Conclusions: These observed differences should be replicated in a study using multiple informants. If replicable, they suggest ethnocultural groups may have some differences in ADHD-related risks and therefore in need for services and treatment.

- 97-3. Nolan, E.E., Gadow, K.D., et al. (1997). Developmental changes and gender differences in inattention and hyperactivity-impulsivity [abstract]. In: *Scientific Proceedings of the Annual Meeting of the American Academy of Child and Adolescent Psychiatry*, 13, 106.

Objective: This study examined: (1) prevalence rates for the subtypes of attention-deficit/hyperactivity disorder (ADHD) in a non-referred sample, (2) gender differences and developmental changes in ADHD subtypes, and (3) ADHD subtypes in terms of co-existing psychiatric problems. Method: Data obtained from **Early Childhood Inventories-4** (ECI-4): Teacher Checklists and **Child Symptom Inventories-4** (CSI-4): Teacher Checklists for 1,721 children in public schools and preschools are presented. Results: Gender and age were significantly related to the prevalence of ADHD. Males had higher rates of all types of ADHD at all ages, but the gender discrepancy varied for different age groups. The minimum Symptom Severity score necessary for inclusion in a "risk" range for the ADHD subtypes varied according to age and gender. ADHD was much more likely to co-occur with another psychiatric problem for boys and for girls. Conclusion: Findings are discussed with respect to the selection of cutoff scores for assessment instruments in child psychopathology.

- 94-4. Reebye, P. (1997). Diagnosis and treatment of ADHD in preschoolers [abstract]. In: *Scientific Proceedings of the Annual Meeting of the American Academy of Child and Adolescent Psychiatry*, 13, 87.

Objective: The assessment of ADHD in preschoolers and current approaches to treatment are reviewed. Method: The diagnostic procedures which are reviewed include: (1) the developmental history including temperament and attachment experiences; (2) structured and unstructured observation of the toddler with various caregivers; (3) specific structured assessment tools such as *Denver 2*, *Toddler Temperament scales*, **Early Childhood Inventory-4**, *Functional Emotional Assessment* (Stanley Greenspan); and (4) milieu assessment. Current treatment research and the clinical experience of an ADHD infant clinic are reviewed. Results: Demographic, diagnostic and treatment data on a series of 300 ADHD preschoolers are presented. Conclusion: ADHD can be rigorously diagnosed and effectively treated in the preschool population, thus preventing some of the serious family and secondary problems which might otherwise develop.

- 97-5. Vitale, S.A., Weisbrot, D.M., Gadow, K.D., Nolan, E.E., Lenn, N.J., Andriola, M.R., Eng, W., Augustine, A., Hermann, B.P., & Ettinger, A.B. (1997). Parental perceptions of adolescent self-report of psychiatric

disturbance in pediatric epilepsy and in attention-deficit/hyperactivity disorder [Abstract]. *Epilepsia*, 38 (Suppl. 8), 152.

Objective: To assess the level of agreement between parents and children and their perceptions of psychological distress experienced by pediatric epilepsy (EPI) patients or by pediatric patients with attention-deficit/hyperactivity disorder (ADHD). Method: Administration of **Child Symptom Inventory-4** (CSI-4) and **Youth's Inventory-4** (YI-4) to adolescent patients with EPI ( $n=19$ ) or ADHD ( $n=24$ .) Results: On the CSI-4, symptoms suggesting depression occurred in 25% of EPI patients versus 10% in ADHD. Anxiety symptoms were endorsed by 11% EPI and 4.5% ADHD patients. Pearson correlation coefficient between parental and patient surveys ranged between 0.4 and 0.8 for most categories except separation anxiety ( $r=.21$ ). Parents and youth were in most agreement for anxiety symptoms ( $r=.78$ ) and depression ( $r=.66$ ). Pearson correlation coefficients ranged between 0.4 and 0.5 for most categories in the ADHD group. For most other categories, correlations between youth and parent scores were higher in the EPI group. Conclusions: on the CSI-4 and YI-4, parental ratings of their children's psychiatric disturbance correlate reasonably well with ratings of pediatric patients with epilepsy or with ADHD, with higher correlation in the EPI group.

## YEAR: 1996

- 96-1. Aman, M.G., Pejeau, C., Osborne, P., Rojahn, J., & Handen, B. (1996). Four-year follow-up of children with low intelligence and ADHD. *Research in Developmental Disabilities*, 17, 417-432.

Twenty-six of 30 participants (87%) who took part in a medication study for treatment of ADHD were followed up 2.9 to 4.8 years (mean=3.9 years) later. Parent ratings on the *Aberrant Behavior Checklist-Community* (ABC-C) (Aman & Singh, 1994) indicated continued problems on the acting-out subscales, and parent assessments on the **Child Symptom Inventory-3R** (CSI-3R) showed a high rate of difficulty on domains called ADHD, Conduct Disorder, and Separation Anxiety Disorder. A high percentage of children (69%) were taking psychotropic drugs, substantial numbers of their families had sought nonmedical treatments, friendships were often rudimentary, and a significant minority of children had disciplinary problems in school or difficulty with the law. Using Pearson correlations, we identified a number of initial variables that predicted follow-up parent ratings on the ABC-C and CSI-3R. The ABC-C Irritability subscale was useful in predicting both internalizing and externalizing problems at follow-up, whereas parent and teacher hyperactivity subscales failed to predict later hyperactivity. Children identified with both mental retardation and ADHD appear to have significant behavioral and emotional problems in their early adolescence, and there appear to be some important qualitative differences in the outcome of these youngsters as compared with children identified with ADHD and normal IQ.

- 96-2. Aneshensel, C.S., & Sucoff, C.A. (1996). The neighborhood context of adolescent mental health. *Journal of Health and Social Behavior*, 37, 293-310.

Mental health disorders in adolescence are pervasive, often carry into adulthood, and appear to be inversely associated with social status. We examine how structural aspects of neighborhood context, specifically, socioeconomic stratification and racial/ethnic segregation, affect adolescent emotional well-being by shaping subjective perceptions of their neighborhoods. The subjects were a community-based sample of 877 adolescents in Los Angeles County. Dependent measures of child psychopathology were the *Children's Depression Inventory*, the *Hopkins Symptom Checklist* (anxiety symptoms), and the Conduct Disorder and Oppositional defiant Disorder categories of the **Child Symptom Inventory-3R**. Results indicated that youth in low socioeconomic status (SES) neighborhoods perceive greater ambient hazards such as crime, violence, drug use, and graffiti than those in high SES neighborhoods. The perception of the neighborhood as dangerous, in turn, influences the mental health of adolescents: the more threatening the neighborhood, the more common the symptoms of depression, anxiety, oppositional defiant disorder, and conduct disorder. Social stability and to a lesser extent, social cohesion, also emerge as contributors to adolescent disorder. This investigation demonstrates that research into the mental health of young people should consider the socioeconomic and demographic environments in which they live. Findings also indicate ethnic/racial differences in the distribution of symptoms of psychopathology. For example, the symptoms of oppositional defiant disorder were extremely low in working-class African-American communities and somewhat high in middle-class communities with dense concentrations of non-Hispanic Whites and Latinos, whereas the behavioral symptoms of conduct disorder were most common in underclass African-American neighborhoods and least common in impoverished Latinos living in Latino neighborhoods.

- 96-3. Kronenberger, W.G. (1996). Updates in psychological testing: The *Child Symptom Inventory-4*. *Indiana Psychologist*, 55(2), 11-12.

Presents a brief overview of the **Child Symptom Inventory-4** (CSI-4). Topics include the rationale for the instrument, administration and scoring, psychometric properties, and recommendations for use. The author concludes that "Despite these caveats, the CSI-4 is extremely useful in clinical practice. It is very easy to administer, since parents or teacher merely read the items and indicate the frequency of the behaviors. Because the CSI-4 takes most parents about 10 minutes to complete, it can be given to parents prior to the intake interview and then used to suggest directions for additional probing. Scoring is extremely simple, since items are already grouped into diagnostic categories; scoring is further simplified by an organized scoring sheet. As noted above, the CSI-4 is NOT a substitute for a clinical interview; rather, it can be used to structure the interview and to easily rule out some diagnoses, while providing structured, quantifiable data."

- 96-4. Tyler, A.L. (1996). *The contribution of hyperactivity-impulsivity, inattention, and aggression-oppositionality to children's peer and friendship relations*. Department of Psychology, University of Alabama, Tuscaloosa. Unpublished doctoral dissertation.

The current study investigated the impact of age and attributes of Attention-Deficit/Hyperactivity Disorder (ADHD) on children's peer relations and friendships. One hundred nine boys (mean age=9 years 10 months) and their parents were recruited as subjects from clinical, school, and community settings. The boys and their parents completed Friendship Questionnaires, and parents and teachers rated the children on three attributes of ADHD (i.e., hyperactivity-impulsivity, inattention, and aggression-oppositionality) using the **Child Symptom Inventory-4**. Specifically, it was determined to what extent age, hyperactivity-impulsivity, inattention, and aggression-oppositionality contribute to children's positive and negative peer interactions, extensiveness of peer/friend network, and quality of best and good friendships. Results from hierarchical regression analyses indicated that ADHD factors generally had a negative impact on children's peer relations and friendships. Interestingly, inattention had more of a negative effect than anticipated, and hyperactivity-impulsivity and aggression-oppositionality had less negative effects than expected. The effects of hyperactivity-impulsivity and aggression-oppositionality on children's peer relations also were moderated by the child's age. However, the current results should be interpreted with caution given that no findings were replicated using more than two of the four combinations of measures. Overall, results suggest that children diagnosed with ADHD-Predominantly Inattentive Type (who have problems only with inattention) may be at risk for peer rejection just as children diagnosed with ADHD-Combined Type (who have problems with hyperactivity-impulsivity, inattention, and possibly aggression-oppositionality) have long been known to be. Implications for treatment and future research are discussed.

- 96-5. Wilson, J.M., & Marcotte, A.C. (1996). Psychosocial adjustment and educational outcome in adolescents with a childhood diagnosis of attention deficit disorder. *Journal of the American Academy Child and Adolescent Psychiatry*, 35, 579-587.

Objective: To conduct a retrospective follow-up study of psychosocial adjustment and educational outcome in adolescents with a childhood diagnosis of attention deficit disorder (ADD) and a group of clinical controls. Method: Groups included male and female subjects aged 14 to 18 years at follow-up with childhood diagnosis of ADD (cases;  $n=48$ ) versus other neurodevelopmental disorders (clinical controls;  $n=37$ ). Cases were also subdivided based on the presence of conduct disorder (CD) at followup as determined by the **Child Symptom Inventory -3R** (CSI-3R). All groups were compared on measures of academic performance, self-esteem, behavior, alcohol and substance use, and adaptive functioning. Results: Cases had significantly lower academic performance and poorer social, emotional, and adaptive functioning than clinical controls. Cases with CD had significantly lower academic performance, greater externalizing behaviors and emotional difficulties, and lower adaptive functioning than cases without CD. Cases with CD fared worse than clinical controls on self-report measures of behavior, socialization skills, and alcohol and substance use. Conclusions: These academic and psychosocial problems in adolescents with a childhood diagnosis of ADD suggest potential long-term ramifications for vocational and psychological functioning in adulthood. In addition, the presence of CD in some of these cases during adolescence appears to further increase the risk for maladaptive outcome.

- 95-1. Gadow, K.D., & Sverd, J. (1995). Efficacy of methylphenidate for attention-deficit hyperactivity disorder in children with tic disorder. *Archives of General Psychiatry*, 52, 444-455.

Thirty four prepubertal children with attention-deficit hyperactivity disorder and tic disorder received placebo and three dosages of methylphenidate hydrochloride (0.1, 0.3, and 0.5 mg/kg) twice daily for 2 weeks each, under double-blind conditions. Treatment effects were assessed using direct observations of child behavior in a simulated (clinic-based) classroom and using rating scales completed by the parents, teachers, and physician. Rating scales included the **Peer Conflict Scale (PCS)** and the **Stimulant Side Effects Checklist (SSEC)**, which are component scales of the **Early Childhood Inventory-4 (PCS)** and **ADHD-Symptom Checklist-4 (PCS, SSEC)**. Methylphenidate effectively suppressed hyperactive, disruptive, and aggressive behavior as assessed by observations and rating scales. There was no evidence that methylphenidate altered the severity of the tic disorder, but it may have a weak effect on the frequency of motor (increase) and vocal (decrease) tics. Teacher SSEC ratings indicated an improvement in the Mood Index with methylphenidate, but parent SSEC ratings indicated a worsening in the Somatic Complaints index with methylphenidate.

- 95-2. Tyler, L. (1995). Assessment of childhood emotional and behavioral disorders using the *Stony Brook Child Symptom Inventory-4*. *Child Assessment News*, 5(2), 8-10.

Presents a synopsis of the 1994 **Child Symptom Inventories** Manual. Topics include the rationale for the instrument, administration and scoring, psychometric properties, and recommendations for use. The author concludes that "Overall, the CSI-4 appears to be a good screening instrument for childhood emotional and behavioral disorders. It can be used by clinicians as part of a comprehensive psychiatric evaluation of a child. It should not be used as a sole instrument for diagnosing a child with a psychiatric disorder. Overall, the adequacy of the manual is good. The CSI-4 manual provides detailed information on CSI-4's development, content, and scoring, and it also provides information on CSI-3R."

## YEAR: 1994

- 94-1. Nolan, E.E., & Gadow, K.D. (1994). Relation between ratings and observations of stimulant drug response in hyperactive children. *Journal of Clinical Child Psychology*, 23, 78-90.

Examined the relation between ratings and observations of 34 hyperactive children in public school settings within the context of placebo-controlled, double-blind stimulant drug evaluations. The findings indicated that scores for several rating scales, including the **Peer Conflict Scale**, were significantly correlated with classroom, lunchroom, and playground observations of negativistic (e.g., aggression, noncompliance, interference) but not hyperactive (inattention, motor movement) behaviors. However, when these same data were analyzed controlling for the variance accounted for by the other dimension (partial correlations), there was clear evidence supporting the differential validity of the hyperactivity and negativistic behavior scales of the *IOWA Conners Teacher's Rating Scale* (Loney & Milich, 1982) and the *Abbreviated Teacher Rating Scales* (Conners, 1973) across settings and as measures of drug response. Test-retest reliabilities of most rating scales and classroom-observation code categories were comparable. **[The Peer Conflict Scale is one of the component scales of the ADHD Symptom Checklist-4 and the Early Childhood Inventory-4.]**

## YEAR: 1993

- 93-1. Gadow, K.D., & Nolan, E.E. (1993). Practical considerations in conducting school-based medication evaluations for children with hyperactivity. *Journal of Emotional and Behavioral Disorders*, 1, 118-126.

A continuing concern in child psychopharmacology is developing treatment evaluation procedures that are more scientifically rigorous and ecologically valid than the ones that are popularly used at the present time. One potential model for such a procedure is school-based medication evaluation (SBME). Measures include the **Child Symptom Inventory-3R (CSI-3R)**, **Stimulant Side Effects Checklist**, **Peer Conflict Scale**, and an early version of the **ADHD School Observation Code**. This article describes some of the practical considerations associated with its implementation based on experience with 35 consecutive cases over a 6-year period.

## YEAR: 1992

- 92-1. Gadow, K.D., Pomeroy, J.C., & Nolan, E.E. (1992). A procedure for monitoring stimulant medication in hyperactive mentally retarded school children. *Journal of Child and Adolescent Psychopharmacology*, 2, 131-143.

Many hyperactive mentally retarded children in public school programs receive stimulant medication, but studies indicate that treatment monitoring practices are less than adequate. Standardized drug assessment instruments rarely are used, and the school typically plays a minor role in evaluating response to treatment. To improve this situation, a procedure developed originally for nonretarded children was adapted to evaluate drug effects in mentally retarded children in public school settings. This assessment procedure generates ecologically valid data, enables a high degree of precision in specifying target symptoms and measuring the magnitude of the therapeutic effect, and appears to generate useful information for making dosage adjustment decisions. Measures include the **Stimulant Side Effects Checklist** and an early version of the **ADHD School Observation Code**. Two case studies are presented to illustrate the use of this procedure and to highlight differences in the clinical utility of data from behavior rating scales versus direct observations. Although ratings and observations sometimes reveal similar dose-response profiles, the sole reliance on rating scales can lead to gross misperceptions of drug efficacy, even when the ratings are completed by highly motivated and cooperative teachers. Our experience in evaluating mentally retarded children supports (1) the value of assessment instruments designed specifically for this patient population (e.g., Aberrant Behavior Checklist), (2) the need for evaluating a broader range of target symptoms, and (3) the importance of being alert to the somewhat greater variability of responses to stimulant drugs in these children.

- 92-2. Livingston, R., Adam, B.S., & Dykman, R.A. (1992). *Concurrent validity of the Stony Brook DSM-III-R Checklist*. Presented at the Annual Meeting of the American Academy of Child and Adolescent Psychiatry, Washington, DC, October.

The **Child Symptom Inventory-3R** (CSI-3R) is a rating scale of DSM symptoms, completed by a parent. It was designed for use as a clinical screening instrument. Comparisons were made between CSI-3R and Achenbach *Child Behavior Checklists* (CBCL) scores for 77 psychiatrically hospitalized children. It was hypothesized that CSI-3R Symptom Severity scores for the ADHD, Conduct Disorder, and Oppositional Defiant Disorders categories would predict CBCL externalizing scores, whereas CSI-3R anxiety and mood disorder scores would predict CBCL internalizing scores. These hypotheses were tested by multiple regression and both main effects were highly significant ( $p=.0000$ ). CSI-3R symptoms of ADHD accounted for about 9% of the variance in CBCL externalizing scores, conduct disorder 5%, and oppositional defiant 3%; all were statistically significant. CSI-3R Overanxious Disorder category scores contributed the most to the variance in CBCL internalizing scores (13.5%), followed by major depression (4%). The hypotheses were supported by the data. The CSI-3R was designed for a somewhat different purpose from the CBCL, but the finding that their results are broadly compatible provides some support for the validity of the CSI-3R. [Intercorrelations between CSI-3R categories are also reported.]

## YEAR: 1991

- 91-1. Gadow, K.D., Nolan, E.E., Paolicelli, L.M., et al. (1991). A procedure for assessing the effects of methylphenidate on hyperactive children in public schools. *Journal of Clinical Child Psychology*, 20, 268-276.

Describes a school-based medication evaluation (SBME) procedure that employs direct observations of child behavior and behavior rating scales. Measures include the **Child Symptom Inventory-3** (CSI-3) and early versions of the **ADHD School Observation Code** and the **Stimulant Side Effects Checklist**. Numerous survey studies of hyperactive children receiving stimulant medication during the past 20 years have found procedures for evaluating drug response to be wanting. One of the major problems in this area is the lack of precision in dosage selection. A case study is presented to illustrate the strengths of the SBME for evaluating response to methylphenidate and for determining the minimal effective dose (MED) in a 10-year-old boy with ADD. Limitations of the SBME are addressed as are alternative models for assessing drug effects.

- 91-2. Grayson, P., & Carlson, G.A. (1991). The utility of a DSM-III-R-based checklist in screening child psychiatric



patients. *Journal of the American Academy of Child and Adolescent Psychiatry*, 30, 669-673.

The **Child Symptom Inventory-3R** (CSI-3R), a parent-completed rating instrument based on DSM-III-R, was used as part of a psychiatric inpatient admission evaluation. Data were collected on 63 5- to 13-year-old children. Checklist endorsements were compared with the same parent's responses to the *Kiddie-Schedule for Affective Disorders and Schizophrenia for School-Aged Children-Epidemiologic Version* structured interview for the most frequently occurring disorders. Sensitivity scores ranged from 0.69 to 0.93. Results suggest the CSI-3R: Parent Checklist can be useful in alerting the clinician to diagnostic areas warranting further pursuit.

- 91-3. Rao, U., Carlson, G.A., & Rapport, M.D. (1991). Serum cholesterol and aggressive behavior in psychiatrically hospitalized children. *Acta Psychiatrica Scandinavica*, 83, 77-78.

The relationship between serum cholesterol and a number of measures of impulsiveness and aggression (e.g., **Child Symptom Inventory-3R** (CSI-3R)) was examined in 38 prepubertal, psychiatrically hospitalized children. Although care was taken to use reports and direct observations of both variables within 2 weeks of admission and 8 weeks later, no consistent relationship was found. The reasons for these findings are discussed.

## YEAR: 1990

- 90-1. Gadow, K.D., Nolan, E.E., Sverd, J., et al. (1990). methylphenidate in aggressive-hyperactive boys: I. Effects on peer aggression in public school settings. *Journal of the American Academy of Child and Adolescent Psychiatry*, 29, 710-718.

One of the least documented "known" effects of methylphenidate in hyperactive children is the suppression of peer aggression. In this study, 11 aggressive-hyperactive children received a low (0.3 mg/kg) and a moderate (0.6 mg/kg) dose of methylphenidate and placebo for 2 weeks each under double-blind conditions. Diagnostic measures included the **Child Symptom Inventory-3** (CSI-3) and drug response measures included the **Stimulant Side Effects Checklist**, **Peer Conflict Scale**, and an early version of the **ADHD School Observation Code**. Children were observed in public school settings during classroom seatwork activities, lunch, and recess. Results showed that methylphenidate suppressed nonphysical aggression ( $p=0.06$ ) in the classroom, and a moderate dose decreased physical aggression ( $p<0.01$ ) and verbal aggression ( $p=0.07$ ) on the playground. The effect on the rate of appropriate social interaction was variable. The majority of subjects exhibited either the same or higher levels of appropriate social interaction on the 0.6 mg/kg dose compared with placebo. In the classroom, both doses of methylphenidate also resulted in reduced levels of motor movement, off task behavior, noncompliance, and disruptiveness. Teacher ratings of hyperactivity and conduct problem symptoms revealed drug effects, whereas parallel parent instruments did not.

- 90-2. McConville, B.J., & Steichen-Asch, P. (1990). On the usefulness of the DSM-III-R versus the DSM-III for child psychiatrists. *Canadian Journal of Psychiatry*, 35, 367-375.

The purpose of this paper is to compare and contrast the disorders of infancy, childhood and adolescence in the DSM-III-R with those of its predecessor, the DSM-III. Design features of the child psychiatry sections of the DSM-III-R are described, with comparisons of reliability and validity assessments in the two classifications. Categorical and dimensional systems of psychiatric nosology are described; the DSM-III-R has features of both systems. To be most useful for child psychiatrists in ordinary clinical practice, DSM-III-R symptom criteria should be available in a standardized but brief fashion to ensure adequate data gathering from both child and parent. This avoids the problems inherent in lengthy standardized interventions based on DSM-III-R criteria; although these interviews are excellent for research purposes, clinicians tend to avoid them as clinically constraining. The commonly used alternate of clinicians' overall evaluations is of uncertain reliability and validity, since it is unclear whether all symptoms have been asked for. A symptom checklist approach is therefore suggested as an intermediate procedure to ensure that appropriate questions are asked from the parent and child, while allowing fuller exploration by the clinician. This approach also indicates parent-child variance and allows for rank ordering of diagnoses which may indicate priorities for treatment of child psychiatric disorders. Examples of such checklists are the *Diagnostic Symptom Checklist* and the **Child Symptom Inventory-3R**.

## YEAR: 1989

- 89-1. Sverd, J., Gadow, K.D., & Paolicelli, L.M. (1989). Methylphenidate treatment of attention-deficit hyperactivity disorder in boys with Tourette's syndrome. *Journal of the American Academy of Child and Adolescent Psychiatry*, 28, 574-579.

The effects of methylphenidate on four boys diagnosed as attention-deficit hyperactivity disorder (ADHD) and Tourette's syndrome (TS) were examined under single-blind, placebo-controlled conditions. Diagnostic measures included the **Child Symptom Inventory-3** (CSI-3) and drug response measures included the **Stimulant Side Effects Checklist**. Clinical ratings and playroom observations showed improvement in ADHD symptoms with methylphenidate. Results also indicated that methylphenidate had no untoward effects on the frequency of tic occurrence. In all four children, the highest dose resulted in improved classroom ratings of tics compared with initial placebo treatment. In three cases, mild tic exacerbation was reported for a lower dose. Because variability of tic status was observed in the experimental conditions, the findings suggest the possibility that tic response was independent of clinical doses of methylphenidate. The findings were also consistent with the theory that methylphenidate, a dopamine agonist, might affect tic status by altering dopamine receptor sensitivity. Further investigation of these effects is indicated, given the efficacy of methylphenidate in treating ADHD symptoms of TS patients.