QUICK GUIDE TO USING *CASI-4R*

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There are Symptom Inventories for three age groups: *Early Childhood Inventory-4* (ECI-4; 3 to 5 year olds), *Child Symptom Inventory-4* (CSI-4; 5 to 12 year olds in elementary school), and *Adolescent Symptom Inventory-4* (ASI-4; 12 to 18 year olds in secondary school). There is also a self-report inventory for adolescents (*Youth's Inventory-4 or* YI-4; 12 to 18 year olds) and adults (Adult Self-Report Inventory or ASRI-4; ≥ 18 years old). The Symptom Inventories are highly similar, and the major difference between them is the specific disorders included in each Inventory (i.e., that are age-appropriate). There is a separate manual for each inventory, which describes the development, research findings, scoring guidelines, and clinical applications for that instrument.

For clinicians and researchers who prefer one Symptom Inventory for both children and adolescents, we created the **Child and Adolescent Symptom Inventory-4R** or **CASI-4R**, which combines the ***Child Symptom Inventory-4*** and the ***Adolescent Symptom Inventory-4*** into one rating scale. The CASI-4R is suitable for youths in elementary school through high school (ages 5 to 18 years). The CASI-4R also includes a question about functional impairment for each Symptom category (i.e., the degree to which the behaviors in the category interfere with the youth's social or academic functioning). The CASI-4R contains all the items from both the *CSI-4* and the *ASI-4.* In the case of items that were phrased differently in the CSI-4 and ASI-4, both items appear in the CASI-4R and are clearly indicated in the CASI-4R Score Sheets. There are parent and teacher versions of the CASI-4R, with separate Score Sheets for 5 to 12 year olds and 12 to 18 year olds. **The norms and T scores are based on the CSI-4 and ASI-4**.

This **Quick Guide**, adapted from the *Child Symptom Inventory Screening and Norms Manual* (Gadow & Sprafkin, 2002), provides a brief overview of the scoring procedures for the CASI-4R. Although the scoring procedures for all the Symptom Inventories are based on the same principles, **we highly recommend that clinicians refer to the manual for each instrument for a fuller understanding of scoring procedures and clinical applications.**

The *Child and Adolescent Symptom Inventory-4R* (CASI-4R) provides an efficient and cost effective method to screen for emotional and behavioral problems in children 5 to 18 years old. Items in the CASI-4R are based on the diagnostic criteria specified in the 1994 edition of the American Psychiatric Association's *Diagnostic and Statistical Manual of Mental Disorders* (DSM-IV). The parent and teacher versions of the CASI-4R are highly similar and only take between 15 and 20 minutes to complete. We believe that the CASI-4R is useful because it saves a lot of time; offers an alternative to structured interviews which are too long, time-consuming, and expensive for clinical applications; and unlike most dimensional behavior rating scales now in use, is DSM-IV-oriented. Scoring is quick and easy with Score Sheets that provide directions, criterion scores, rule-out diagnoses, and classification of symptom severity based on *T* scores. Research supports the effectiveness of the CASI-4R as a screening instrument for a variety of child psychiatric disorders. However, we have repeatedly stated that obtained scores are NOT INTENDED TO PROVIDE A DIAGNOSIS. Furthermore, because the determination of an accurate diagnosis requires not only information about current status, but also developmental history, environmental stressors, medical history, physical health, and often, family history of psychopathology, the results of the CASI-4R must be interpreted with caution. The CASI-4R is a screening device that can be used as a basis for making referrals to clinicians specializing in these disorders, as a guide for conducting clinical interviews, and as a research tool.

We developed both a teacher and a parent version of the CASI-4R because it is not uncommon for a youth to exhibit behavioral or emotional problems in the school setting but not the home and vice versa. This can often be explained in terms of one of many environmental variables that typically influence both the expression

and severity of child symptoms. By obtaining information about behavior in both settings, the clinician can more effectively target interventions for situations that create the greatest difficulty for the youth. An equally important rationale for collecting information from multiple sources is the fact that a specific source may not provide an accurate description of the presence of symptoms or their severity. There are many reasons why parent reports, for example, might be inaccurate: absence of a normative group (e.g., siblings, neighborhood youths, nieces or nephews, etc.) to serve as a basis for making comparison as to what is "normal" behavior for a child, standards of appropriate behavior that are markedly different from the dominant culture, denial of or refusal to accept the presence of a disability, or psychopathology in one or both parents. For these reasons, the utility of the CASI-4R in identifying behavioral and emotional disorders depends, in part, on which version(s) (parent and/or teacher) of the CASI-4R the clinician is using.

GENERAL GUIDELINES

In a mental health setting, the psychiatrist, psychologist, or social worker can use the CASI-4R as a preliminary screen for emotional and behavioral disorders. The clinician can either (a) ask the parent or teacher each question and record the respondent's answer, or more efficiently, (b) simply review the answers to the items prior to the clinical interview and ask more detailed questions about those categories that the patient's care provider has indicated are problem areas. The items in the CASI-4R are grouped according to diagnostic category, which facilitates a thorough and orderly interview and aids in the conceptualization of the clinical presentation.

In a general medical practice, the CASI-4R can help the physician to identify the specific problems that are of concern to parents. Depending on his or her professional preferences, the physician can easily decide whether the youth should be referred to a mental health professional.

In a school setting, the school psychologist can use the CASI-4R to screen for the presence of emotional and behavioral symptoms in students who are being considered for special services. The CASI-4R can also help to determine whether a youngster should be referred to a qualified mental health professional for a more in-depth evaluation.

SCORING PROCEDURE

Parent and teacher informants complete the CASI-4R by circling numbers corresponding to the frequency of occurrence for each symptom: Never=0, Sometimes=1, Often=2, and Very often=3. In addition, a few items are completed by circling “No” or “Yes.” There are two different types of scores that can be derived from the CASI-4R: **Symptom Count scores** and **Symptom Severity scores**.

The Symptom Count Score method is consistent with the model adopted by the American Psychiatric Association’s Diagnostic and Statistical Manual of Mental Disorders (DSM) in which certain symptoms and conditions must be present for an individual to be diagnosed with a mental disorder. For the Symptom Count Score method, each item (i.e., symptom) in the CASI-4R is recoded as either present (1) or absent (0), which requires a modification of item weights as follows: Never=0, Sometimes=0, Often=1, Very often=1, and No=0 and Yes=1. There are a few exceptions, which are noted on the Symptom Count Score Sheets. For example, whereas for the majority of symptoms, responses of *Sometimes* are not considered serious enough to count as a clinically significant symptom, several items in the Conduct Disorder symptom category are deemed significant if they occur *Sometimes* (e.g., deliberately starting fires).

The Symptom Severity Score method is consistent with the dimensional model of assessment, which is based on comparisons with the scores for a normative sample. For the Symptom Severity Score method, the full range of item weights (0, 1, 2, 3) is used: Never=0, Sometimes=1, Often=2, and Very often=3. The only exception is for No/Yes items, where No=0.5 and Yes=2.5.

Both the parent and teacher versions of the CASI-4R can be scored using the Symptom Count score method and the Symptom Severity score method. It should be pointed out that the parent and teacher versions of the CASI-4R contain virtually identical items except that several items were omitted from the teacher version if the behaviors do not occur in the school setting (e.g., sleep habits, running away from home overnight, etc.). In order to simplify the scoring procedure, we maintained parallel item structures between the parent and teacher versions, i.e., the numbering of the teacher checklist is missing these omitted items.

The CASI-4R combines the Child Symptom Inventory and the Adolescent Symptom Inventory, i.e., all of the items from both measures are included in the CASI-4R. There is considerable overlap in items between the two measures, but there are some items that are phrased differently for the two age groups and some categories appear in only one age group. Where there is a significant difference in wording, both items appear in the CASI-4R. For example, for ADHD (Category A), the DSM-IV symptom, *Often runs about or climbs excessively in which it is inappropriate (in adolescents or adults, may be limited to subjective feelings of restlessness*), is phrased differently for children and adolescents, and appears as 12a (*Runs about or climbs on things when asked not to do so*) for children and 12b (*Seems restless or jittery*) for adolescents. The Score Sheets and Profiles for the two age groups indicates the relevant item for each age group (i.e., only one item is scored for an individual youngster although both were rated by the informant). Similarly, some categories are scored only for adolescents (e.g., eating disorders, manic episode, substance use) or only for children (e.g., pervasive developmental disorder).

IMPORTANT: There is currently no scoring software or computer presented version of the CASI-4R.

SYMPTOM COUNT SCORES

DSM-IV describes the symptoms of emotional and behavioral disorders and specifies the minimum number of symptoms necessary for making a diagnosis. The minimum number of symptoms is the **Criterion Score**. If a youth exhibits the minimum number of symptoms necessary for a diagnosis of a disorder, the child receives a **Screening Cutoff Score** of "yes," which indicates that a more in-depth clinical evaluation may be warranted. There are separate Symptom Count score sheets for 5-to-12 year olds and 12-to-18 year olds.

SYMPTOM SEVERITY SCORES

Symptom severity scores measure the degree of behavioral deviance compared with a normative sample. To determine the severity of a youth's symptoms, individual scores are compared with the scores for a large group of youth (normative sample). We adopted the widely applied standard deviation approach where symptom severity scores between one and two standard deviations above the mean (i.e., *T* scores from 60 to 69) denote symptoms of moderate severity, and scores two or more standard deviations above the mean (*T* scores of 70 and above) indicate high symptom severity. The calculation of Symptom Severity scores is made easier with the use of Symptom Severity Profile score sheets. There are separate Symptom Severity Profile score sheets for ratings by parents and teachers and for children (5-to-12 year olds) and adolescents (12-to-18 year olds). Each Profile presents the scoring templates for males on one side and for females on the reverse side. Normative distributions are presented for categories containing at least three items.

EXAMPLE #1 OF SYMPTOM COUNT AND SEVERITY SCORE CALCULATIONS

In the following example of a 10-year-old male, we illustrate how the CASI-4R is scored using both the Symptom Count and the Symptom Severity procedures. Although both approaches to the assessment of symptoms can be used conjointly, they are based on very different theories of psychopathology and treatment. It is our position that when information from both models are considered, it is possible to draw more accurate conclusions, especially in borderline cases or for disorders with marked gender differences in the pattern and severity of symptoms.

Directions for Symptom Count Scoring

1. Read the scoring guidelines for ADHD on the *CASI-4R SYMPTOM COUNT SCORE SHEET for Children (ages 5-12 years)*. There are three types of ADHD: ADHD Inattentive type (Items #1 through #9), ADHD Hyperactive-Impulsive type (Items #10, #11, #12a, #13 through #18) and ADHD Combined type (Item #1 through Item #9 and Items #10, #11, #12a, #13 through #18). The ADHD Combined type requires that a child have both the Inattentive type and the Hyperactive-Impulsive type.

CASI-4R SYMPTOM COUNT SCORE SHEET *for Children (ages 5-12 years)*

CATEGORY	DISORDER	ITEMS	CRITERION SCORE	PARENT SCORE	TEACHER SCORE	SCREENING CUTOFF SCORE	RULE OUTS
A	ADHD, INATTENTIVE	1-9	≥ 6	7	9	YES	D- G,J,K,M
A	ADHD, HYPER-IMP	10,11,12a, 13-18	≥ 6	4	3	NO	D-G,J,K,M
A	ADHD, COMBINED TYPE	1-9	≥ 6	*7*	*9*	NO	D-G,J.K.M
		10,11,12a, 13-18	≥ 6	*4*	*3*		

ATTENTION-DEFICIT/HYPERACTIVITY DISORDER (CATEGORY A), PARENT CHECKLIST

CATEGORY A (NOTE: The following items are abridged versions of the actual items.)	Never	Some-times	Often	Very Often
A1. Does not pay close attention to details….	0	1	2	3
A2. Has difficulty paying attention….	0	1	2	3
A3. Does not seem to listen….	0	1	2	3
A4. Has difficulty following through….	0	1	2	3
A5. Has difficulty organizing….	0	1	2	3
A6. Avoids doing tasks….	0	1	2	3
A7. Loses things….	0	1	2	3
A8. Is easily distracted….	0	1	2	3
A9. Is forgetful….	0	1	2	3
A10. Fidgets with hands or feet….	0	1	2	3
A11. Has difficulty remaining seated….	0	1	2	3
A12a. Runs about or climbs on things….	0	1	2	3
A12b. Seems restless …	0	1	2	3

A13. Has difficulty playing quietly …	**0**	**1**	**2**	**3**
A14. Is "on the go" or….	**0**	**1**	**2**	**3**
A15. Talks excessively	**0**	**1**	**2**	**3**
A16. Blurts out answers to questions ….	**0**	**1**	**2**	**3**
A17. Has difficulty awaiting turn….	**0**	**1**	**2**	**3**
A18. Interrupts or intrudes….	**0**	**1**	**2**	3
Ax. How often do the behaviors in Category A interfere with youth's ability to do schoolwork …	**0**	**1**	**2**	3

2. Count the number of "often" and "very often" responses in Items #1 through #9, and enter the total under Parent Score on the SYMPTOM COUNT SCORE SHEET. [*For this child, the score is 7.*]

3. Count the number of "often" and "very often" responses for Items #10, #11, #12a, #13 through #18, and enter the total under Parent Score on the SYMPTOM COUNT SCORE SHEET. [*For this child, the score is 4.*] Note that Item #12b is not included in the scoring for this child; it is an item that is scored only for adolescents.

4. Enter the Symptom Count scores for the AD/HD Combined type category in the appropriate boxes on the SYMPTOM COUNT SCORE SHEET.

5. After scoring the parent-completed Checklist, score the teacher-completed Checklist following the same steps. [*For our example, scores for the teacher-completed Checklist have been filled in on the SYMPTOM COUNT SCORE SHEET under the Teacher Score column.*]

6. To derive the **Screening Cutoff scores**, the parent and teacher Symptom Count scores are compared with the **Symptom Criterion score**. In this example, the parent Symptom Count score for Items #1 through #9 (which=7) is greater than the Criterion Score (which ≥6). The teacher Symptom Count score for Items #1 through #9 (which=9) is also greater than the Symptom Criterion Score. When **either** the parent Symptom Count score **or** the teacher Symptom Count score is equal to or greater than the Symptom Criterion score, the Screening Cutoff score is "yes." Therefore, this child receives a Screening Cutoff score of "yes" for the ADHD Inattentive type category.

The parent Symptom Count Score for Items #10, #11, #12a, and #13 through #18 (which=4), and the teacher Symptom Count score for these items (which=3) are less than the Symptom Criterion score (≥6). The Screening Cutoff Score is "no" for the ADHD Hyperactive-Impulsive type category because neither the parent Symptom Count score nor the teacher Symptom Count score is equal to or greater than the Symptom Criterion score. The Screening Cutoff score for the ADHD Combined type is also "no" because this child did not meet both criteria (i.e., Items #1 through #9 **and** Items #10, #11, #12a, #13 through #18) according to either parent or teacher rating.

7. The child in this example received a Screening Cutoff Score for the ADHD Inattentive type category. **However, only a comprehensive clinical evaluation** can determine if (a) the child really has ADHD Inattentive type, (b) some other variable (e.g., environmental stressor) can explain the symptoms, or (c) another disorder (such as those indicated in the RULE OUTS column) can account for the ADHD symptoms.

8. **The CASI-4R does not provide diagnoses,** it is simply a screening instrument. Screening Cutoff

scores cannot be interpreted as verifying the presence or absence of specific disorders. If the Screening Cutoff Score is "yes," a qualified clinician can determine whether the child meets all DSM-IV criteria for the disorder. For example, a diagnosis of ADHD requires information about the age at onset and duration of symptoms, extent of impairment in functioning, and exclusionary conditions and disorders. The impairment item (Ax) provides some information about functional impairment.

9. Discrepancies between parent scores and teacher scores may indicate that either the child's behavior is different in the two settings or one of these care providers is a more accurate informant about certain behaviors. Because this is a screening instrument, a Screening Cutoff Score of "yes" should be investigated further if the child's problems are serious enough to warrant an in-depth clinical evaluation.

Directions for Symptom Severity Scoring

The following scoring directions refer to the CASI-4R: Parent Checklist for the same 10 year old in the previous example.

1. Calculate the Symptom Severity score for Items #1 through #9. Remember, for this method of scoring, Never=0, Sometimes=1, Often=2, and Very often=3. Enter the score for each item in the appropriate column at the bottom of the SYMPTOM SEVERITY PROFILE. Because the example case is a 10-year-old boy, select the score sheet titled *CASI-4R PARENT Checklist SYMPTOM SEVERITY PROFILE for BOYS (5 to 12 years)*. Generate a summary raw score (Ttl) by simply adding up the scores for Item #1 through Item #9. Enter this score on the top portion of the SYMPTOM SEVERITY PROFILE in the column directly above labeled "CAT. A, Inatten." [*For this child, simply circle the number 18, which is his raw score.*]

2. Calculate the Symptom Severity score for Items #10, #11, #12a, #13 through #18, and circle the appropriate numeral in the "CAT. A, Hyper-imp" column. [*For this child, his raw score is 14.*] Note that Item #12b is not included in the scoring for this child; it is an item that is scored only for adolescents.

3. Calculate the Symptom Severity score for ADHD Combined type by summing the two ADHD total scores, and circle the appropriate numeral in the "Cat. A, Combined" column. [*For this child, his raw score is 32.*]

4. The overall severity rating for each Symptom Severity score is indicated in the margins of the score sheet: the low severity range (*T* scores below 60), the moderate severity range (*T* scores between 60 and 69), and the high severity range (*T* scores of 70 and above). *[For this example, the boy received a high severity ranking for ADHD Inattentive Type, a moderate severity ranking for ADHD Hyperactive-Impulsive Type, and a high severity ranking for ADHD Combined Type category.]*

CSI-4 PARENT Checklist SYMPTOM SEVERITY PROFILE for BOYS (5 to 12 years):

	CAT. A	CAT. A	CAT. A	CAT. B	CAT. C
T score	Inatten.	Hyper-imp	Combined	ODD	Conduct
↑					
78	21+	20+	38-39+		
76	20	19	36-37		
74	19	18	34-35		
72	18	17	32-33		
70	17	16	31		

68 66 64 62 60 ↓	16 15 14 13 12	15 14 13 12 11	29-30 27-28 25-26 23-24 21-22		

5. Follow the same procedure for the teacher-completed Checklist but use the score sheet titled *CASI-4R TEACHER Checklist SYMPTOM SEVERITY PROFILE for Boys (5 to 12 years)*.

6. Discrepancies between parent and teacher Symptom Severity scores may indicate that either the child's behavior is different in the two settings or one of these care providers is a more accurate informant about certain behaviors.

7. To interpret Symptom Severity scores, we adopted the widely applied standard deviation approach where scores between one and two standard deviations above the mean (i.e., *T* scores from 60 to 69) and scores two or more standard deviations above the mean (*T* scores of 70 or more) indicate symptoms of moderate and high severity, respectively. For children whose caregivers are concerned about social or academic functioning, scores in the moderate and high severity range indicate that a more thorough evaluation may be warranted. Because Symptom Severity scores are based on a statistical model, it is possible that some children will receive Symptom Severity scores of moderate or high severity, and yet not have a Screening Cutoff score for ADHD or another disorder. If a thorough evaluation conducted by a qualified clinician determines that such a child does not have ADHD or another disorder, he or she may still be in need of appropriate medical, psychological, or educational intervention.

8. It is important to note that there are important gender and rater differences for certain symptom categories of the CASI-4R. In the case of ADHD Symptom Severity scores, males receive higher scores than females, and teachers give slightly higher ratings to males than do parents. The following example may help to illustrate the significance of these facts. A boy whose teacher rated six ADHD inattentive type symptoms as occurring "often" or "very often" receives a Screening Cutoff score for the ADHD Inattentive category of the CASI-4R Teacher Checklist. However, his Symptom Severity score (which is 12) indicates that his symptoms are of low severity (*T* score=56, which is approximately the 76th percentile). A girl, however, with the exact same Symptom Count score (i.e., six symptoms rated "often" or "very often" and exact same Symptom Severity score (i.e., 12), is considered to have symptoms of moderate severity (*T* score=64, which is approximately the 89th percentile). This example highlights some of the important conceptual differences between the categorical and the dimensional approach as they are currently applied to ADHD.

EXAMPLE #2 OF SYMPTOM COUNT AND SYMPTOM SEVERITY SCORE CALCULATIONS

The following is an example of how to score Category D of the CASI-4R Teacher Checklist for a 16-year-old female.

GENERALIZED ANXIETY DISORDER (CATEGORY D), TEACHER CHECKLIST

	Never	Some-times	Often	Very often
D47. Is overconcerned about abilities in school, athletic…	**0**	**<u>1</u>**	**2**	**3**
D48. Has difficulty controlling worries	**<u>0</u>**	**1**	**2**	**3**
D49. Acts restless…	**0**	**1**	**<u>2</u>**	**3**
D50. Is irritable	**0**	**<u>1</u>**	**2**	**3**

D51. Is extremely tense…	0	<u>1</u>	2	3
Dx. How often do the behaviors in Category D interfere…	0	<u>1</u>	2	3

Directions for Symptom Count Scoring

1. Read the scoring guidelines for Category D (Generalized Anxiety Disorder) on the CASI-4R SYMPTOM COUNT SCORE SHEET for Adolescents (ages 12-18 years). There are three criteria that must be met for a diagnosis of generalized anxiety disorder: criterion a (Item #47), criterion b (Item #48), and criterion c (Items #49-52, A2, and K88), each of which has a specific Criterion Score.

2. *SYMPTOM COUNT SCORE SHEET*

CAT	DISORDER	ITEMS	CRITERION SCORE	TEACHER SCORE	SCREENING CUTOFF	
D	GENERALIZED ANXIETY DISORDER	a. 47	=1	0	No	
		b. 48	=1	0		
		c. 49-52, A2, K88	≥3	3		

3. The Score Sheet indicates that *both* Items #47 and #48 must be scored "1" (*Often* or *Very often*). For this youth, neither item was rated as occurring at least *Often*. For the third criterion, the Score Sheet indicates that at least three of the following items must be rated *Often* or *Very often*: Items #49-52, A2, and K88. We can see that Item #49 was rated *Often*. In addition, the teacher rated Item #2 from Category A and Item #88 from Category K as occurring *Often*, making the score for Criterion c =3.

4. To derive the **Screening Cutoff score**, the Teacher Score is compared with the **Criterion score**. In this example, there are three Criterion Scores. When all components of the Teacher Score are equal to or greater than the Criterion score, the Screening Cutoff score is "yes." If any component of the Teacher Score is less than the Criterion score, the Screening Cutoff score is "no." Therefore, this youth receives a Screening Cutoff Score of "no" for the Generalized Anxiety Disorder category based on the teacher ratings because she failed to meet the Criterion score for all three components. However, if she met all three Criterion scores based on the Parent Checklist, the Screening Cutoff score would be "yes" because if all the criteria are met for *either* informant, the youngster gets a Screening Cutoff score for that category.

5. It should be noted that the Score Sheet includes Item #52 for Category D; however, this item only appears on the Parent Checklist. Items that are missing from the Teacher Checklist are only scored for the Parent Checklist.

Directions for Symptom Severity Scoring

The following are the CASI-4R findings for the same 16-year-old female using the *CASI-4R TEACHER CHECKLIST: SYMPTOM SEVERITY PROFILE for Females (12 to 18 years):*

1. Calculate the Symptom Severity score for Category D: Generalized Anxiety. Remember, for this method of scoring, Never=0, Sometimes=1, Often=2, and Very Often=3. Enter the score for each item in the

appropriate column on the lower half of the *Symptom Severity Profile*. Generate a summary raw score (Ttl) by simply adding up the scores for the seven items listed under the category. [The responses for Items #2 and #88 (from other categories) were both Often or “2”] Circle this score on the top portion of the score sheet in the column directly above, labeled "CAT. D, Generalized Anxiety Disorder. [*For this youth, simply circle the number 9 under the 15-18 year column, which is her raw score*.]

2. The overall severity rating for each Symptom Severity score is indicated in the margins of the Profile: the low severity range (*T* scores below 60), the moderate severity range (*T* scores between 60 and 69), and the high severity range (*T* scores of 70 and above). *[For this example, the youth obtained a high severity ranking for the GAD category.]*

3. In this case, the youngster did not receive a Screening Cutoff score for the GAD category but her Symptom Severity score was in the high severity range. The interpretation of these findings requires consideration of a number of other factors, including the degree of functional impairment (which was rated as *Sometimes* by her teacher), the report of her parents, her self report, the onset, course, and duration of the symptoms, and other disorders or conditions that can account for the symptoms (i.e., differential diagnosis), to name just a few.

Directions for Scoring the Impairment Item

Unlike the CSI-4 and the ASI-4, the CASI-4R includes a question about functional impairment for each symptom category, specifically how often the behaviors in the category interfere with the youth’s ability to do schoolwork or get along with others. The impairment item is rated on the same scale as the symptom-based items (Never, Sometimes, Often, Very often), but it is scored on the same scale as Symptom Count scores (Never=0, Sometimes=0, Often=1, and Very often=1). The Impairment scores can be used to derive the Clinical Cutoff score for each category. If a youth receives a Screening Cutoff score for a category and an Impairment score of 1 (Impairment item rated Often or Very often), the youth receives a Clinical Cutoff score as well, indicating that the youth has the prerequisite symptoms of the disorder *and* is impaired. This is important because DSM-IV requires that an individual show impairment in social, academic, or vocational functioning to meet the criteria for a diagnosis. Thus, the Clinical Cutoff score most closely approximates the findings of a structured psychiatric interview. It should be noted that it is possible for a youth to receive a Screening Cutoff score for a disorder category but not to be rated as impaired or to be rated as impaired for a disorder category but not receive a Screening Cutoff score for that category. There are many reasons for such discrepancies between ratings of symptom severity and impairment including various types of rater bias. For example, a teacher in a school for behavior disordered children may rate a child as impaired on the ADHD category but fail to endorse sufficient ADHD items at the Often or Very Often level for the child to receive a Screening Cutoff score for ADHD. In this case, the teacher’s frame of reference for rating behavior would likely be different than for a teacher in a regular education setting. Setting differences may impact ratings of symptom severity and impairment differently. Nevertheless, the Impairment scores provide the clinician with additional information about the perceived impact of each of the symptom areas.

USER QUALIFICATIONS

The CASI-4R is intended for use only by qualified, licensed clinicians in the areas of medicine, psychology, social work, education, or an allied field when used as part of a clinical interview. Users should have a basic understanding of the principles and limitations of psychological and psychiatric assessment and be familiar with the ethical and professional standards of psychological testing and test interpretation. Users must also have a basic understanding of, and specific postgraduate training in child and adolescent psychiatric disorders and diagnostic procedures. Reading this Quick Guide in and of itself does not constitute sufficient training in testing procedures, test interpretation, or clinical assessment. Because the determination of an accurate diagnosis requires not only information about current status, but also developmental history, environmental stressors, medical history, physical health, family history of psychopathology, and cognitive functioning, the results of the CASI-4R must be interpreted in the context of these additional sources of

information. Only qualified professionals can render diagnoses after a thorough evaluation.

SCORE INTERPRETATION

By far the easiest interpretation guidelines are for Symptom Count scores because they are simply based on DSM-IV guidelines. In the manuals for the Child Symptom Inventory and the Adolescent Symptom Inventory, we noted the percentage of youths who scored above cutoff (i.e., who exhibited the prerequisite number of symptoms according to DSM-IV) for each disorder whose symptoms are listed in the Parent and Teacher Checklists, respectively, but we do *not* make suggestions for different cutoff scores based on our notions of the "true" prevalence of these disorders. Rather, we compared the Symptom Count scores of child patients referred to a child and adolescent psychiatry outpatient service for psychiatric evaluation with data-based child psychiatric diagnoses. For some disorders, we modified the scoring criteria to increase the accuracy of the CASI-4R. The major problem with establishing scoring guidelines based on patients referred for psychiatric evaluation is that for many disorders, parents and teachers simply do not agree on the presence or severity of symptoms. Therefore, false negatives for one Checklist (e.g., parent) are often true positives for the other Checklist (e.g., teacher). We could have lowered the Symptom Criterion score for one of the Checklists (e.g., parent) to "capture" true positives (and increased sensitivity), but prefer to recommend that clinicians consider both parent and teacher responses to the CASI-4R when conducting screening evaluations for the presence of emotional and behavioral disorders.

In clinical samples, false positives are generally children whose symptoms are part of the clinical picture of another disorder (i.e., the issue of differential diagnosis). This is due, in part, to the fact that (a) the symptoms of various disorders overlap and therefore cannot be considered to be pathognomonic for a specific disorder, and (b) the symptoms of one disorder can result in behaviors that are considered to be symptoms of another disorder. One possible solution to this problem is to add additional criteria and clinically relevant questions to enable greater precision in identifying specific disorders. In the CASI-4R, we added the Impairment items due to the importance of functional impairment in the diagnostic process. However, with regard to the other criteria, our goal was to develop a screening instrument, not another clinical interview. The CASI-4R was intended to provide an efficient method to collect information about symptoms and impairment, but only a thorough clinical evaluation can produce a valid diagnosis.

Symptom Severity scores for the CASI-4R are treated much differently than Symptom Count scores. When we initially formulated the Symptom Inventories, it was not our intention to develop norm-referenced screening instruments. Rather, we were perfectly content with a symptom checklist. However, there appeared to be clinical situations in which it would be useful to have norm-referenced Symptom Severity scores. For example, if a girl did not receive a Screening Cutoff score for ADHD but problem behaviors seemed to interfere with her classroom functioning, it would be useful to know how her behavior compared with girls in a norm sample. If her ADHD Symptom Severity score was at the 90th percentile, this could justify educational interventions to enhance her school performance even in the absence of a Screening Cutoff score for ADHD. Alternatively, the clinician might diagnose ADHD in this child (i.e., borderline case) assuming that she meets the other criteria for the disorder. As opportunities for collecting normative data presented themselves to us, we decided to formulate norms for Symptom Severity scores only, thus preserving the intent of the Symptom Count scores. To interpret Symptom Severity scores, we adopted the widely applied standard deviation approach where scores between one and two standard deviations above the mean (i.e., *T* scores from 60 to 69) and scores two or more standard deviations above the mean (*T* scores of 70 or more) indicate symptoms of moderate and high severity, respectively. For children and adolescents whose caregivers are concerned about social or academic functioning, scores in the moderate and high severity range indicate the need to conduct a more thorough evaluation to determine if the youngster does in fact have an emotional or behavioral disorder.

It should be noted that in addition to the symptom categories that contain all of the behavioral symptoms of a disorder, the CASI-4R also contains a number of single-item screens. For example, Category E contains single items for specific phobia, obsessions, compulsions, panic attacks, posttraumatic stress

disorder, motor tics, and vocal tics. The Symptom Count Score Sheet indicates that a response of at least *Sometimes* results in a Screening Cutoff score for these items. The purpose of such a low threshold for these items is to cue the clinician to inquire further to determine whether these disorders should be further evaluated. The manuals for each age group contain tables indicating the distribution of scores for each item in normative samples by gender which can be used by clinicians to compare an individual's responses.

APPLICATIONS AS A SCREENING INSTRUMENT

As a screening instrument for emotional and behavioral disorders, scores from the CASI-4R can be used to make decisions about youths who are in need of a more detailed clinical evaluation. Several more general issues are listed in the table below. One, as our data and the data of numerous other investigators show, parents and teachers do not always agree about the presence or severity of specific symptoms, and the degree of agreement varies for the range of emotional and behavioral disorders assessed by the CASI-4R. Two, because the symptoms of the various disorders that are assessed by the CASI-4R overlap, it is possible to mistake one disorder for another. This is the problem of differential diagnosis (i.e., trying to figure out exactly what disorder the child has.) The process of differential diagnosis is complicated by the fact that youngsters referred for clinical evaluation often have more than one disorder, which is referred to as comorbidity. (One important group of comorbid conditions that is *not* assessed by the CASI-4R are learning disabilities.) Three, in general DSM-IV lists one set of symptoms and one Symptom Criterion score for all childhood disorders, regardless of age or gender. (Mention is made, however, of gender differences in the prevalence of various disorders and age-appropriate differences in symptoms.) Four, we recommend that scoring procedures based on our normative data and outpatient clinic sample be used only as a general guideline for screening children and adolescents for emotional and behavioral disorders. Clinicians must use their own experience with the youngsters they serve to determine if alterations in specific cutoff scores are necessary or desirable. Lastly, the CASI-4R lists only the behavioral symptoms of DSM-IV disorders and related impairment. For each disorder, there are additional criteria that must be considered when conducting a clinical evaluation.

General Clinical Considerations When Using the CASI-4R as a Screening Instrument
● In general, the accuracy of the CASI-4R as a screening instrument is improved when one considers a Screening Cutoff score from either parent or teacher as indicating the potential presence of a disorder.
● The symptoms of many disorders overlap, to some degree, with another disorder(s), and DSM-IV notes which disorders need to be considered for differential diagnosis. These disorders appear in the "Rule Outs" column of the *CASI-4R Symptom Count Score Sheets*.
● Because Symptom Severity scores are based on a statistical model, it is possible that some children and adolescents will receive a Symptom Severity score of moderate or high severity, and yet not have a DSM-IV-based Screening Cutoff score for a particular disorder. If a thorough evaluation conducted by a qualified clinician determines that the youth does not meet criteria for the disorder, he or she may still be in need of appropriate medical, psychological, or educational intervention.
● Although DSM-IV uses one set of criteria for boys and girls and for all informants, there are important gender and rater differences in Symptom Severity scores for certain symptom categories of the CASI-4R.
● Because the population of children with whom you are going to use this screening instrument may differ in important ways from the normative sample or the outpatient clinic sample, it is important to adjust cutoff scores and diagnostic criteria to your own clinical setting.

- Users of the CASI-4R should have an understanding of the basic principles and limitations of psychological/psychiatric screening and diagnostic procedures. Only qualified professionals can render diagnoses after a thorough evaluation.

Additional DSM-IV Criteria: The CASI-4R includes primarily the behavioral symptoms of emotional and behavioral disorders. However, DSM specifies additional criteria (e.g., age at onset of symptoms, duration of the disorder, etc.) for all disorders. Clinicians must consider these other criteria when making a diagnosis.