
QUICK GUIDE TO USING THE *CHILD AND ADOLESCENT SYMPTOM INVENTORIES*

(excerpted from the *Child Symptom Inventory-4 Screening and Norms Manual*)

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There are Symptom Inventories for three age groups: *Early Childhood Inventory-4* (ECI-4; 3 to 5 year olds living at home or attending early childhood programs), *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). 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. This **Quick Guide**, excerpted from the *Child Symptom Inventory Screening and Norms Manual* (Gadow & Sprafkin, 2002), provides a brief overview of the scoring procedures for the CSI-4. 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 Symptom Inventory-4* (CSI-4) provides an efficient and cost effective method to screen for emotional and behavioral problems in children 5 to 12 years old. Items in the CSI-4 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 CSI-4 are highly similar and only take between 10 and 15 minutes to complete. We believe that the CSI-4 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 CSI-4 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 CSI-4 must be interpreted with caution. The CSI-4 is a screening device that can be used as a basis for making referrals to clinicians specializing in these disorders and as a guide for conducting clinical interviews.

We developed both a teacher and a parent version of the CSI-4 because it is not uncommon for a child 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 CSI-4 in identifying behavioral and emotional disorders depends, in part, on which version(s) (parent and/or teacher) of the CSI-4 the clinician is using.

GENERAL GUIDELINES

In a mental health setting, the psychiatrist, psychologist, or social worker can use the CSI-4 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 CSI-4 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 CSI-4 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 CSI-4 to screen for the presence of emotional and behavioral symptoms in children who are being considered for special services. The CSI-4 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

As previously discussed, there are two different ways to score the CSI-4: **Symptom Count scores** and **Symptom Severity scores**. **Except where noted on the Score Sheet**, the weights assigned to response choices are as follows:

Symptom Count: Never=0, Sometimes=0, Often=1, Very often=1 [No=0, Yes=1]
 Symptom Severity: Never=0, Sometimes=1, Often=2, Very often=3 [No=0.5, Yes=2.5]

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 child 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.

SYMPTOM SEVERITY SCORES

Symptom severity scores measure the degree of behavioral deviance compared with a normative sample. To determine the severity of a child's symptoms, individual scores are compared with the scores for a large group of children (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 the Symptom Severity Profile score sheet.

EXAMPLE OF SYMPTOM COUNT AND SEVERITY SCORE CALCULATIONS

In the following example of a 10-year-old male, we illustrate how the CSI-4 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 AD/HD on Page 1 of the Child Symptom Inventory-4: SYMPTOM COUNT SCORE SHEET. There are three types of AD/HD: AD/HD Inattentive type (Items #1 through #9), AD/HD Hyperactive-Impulsive type (Items #10 through #18) and AD/HD Combined type (Item #1 through Item #18). The AD/HD Combined type requires that a child have both the Inattentive type and the Hyperactive-Impulsive type.

Child Symptom Inventory-4: SYMPTOM COUNT SCORE SHEET (Page 1)

CATEGORY	DISORDER	ITEMS	CRITERION SCORE	PARENT SCORE	TEACHER SCORE	SCREENING CUTOFF SCORE	RULE OUTS
A	AD/HD, INATTENTIVE	1-9	≥ 6	7	9	YES	D THRU J
A	AD/HD, HYPER-IMP	10-18	≥ 6	4	3	NO	D THRU J
A	AD/HD, COMBINED TYPE	1-9	≥ 6	7	9	NO	D THRU J
		10-18	≥ 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
1. Fails to give close attention to details....			X	
2. Has difficulty paying attention....			X	
3. Does not seem to listen....				X
4. Has difficulty following through....				X
5. Has difficulty organizing....			X	
6. Avoids doing tasks....			X	
7. Loses things....				X
8. Is easily distracted....		X		
9. Is forgetful....	X			
10. Fidgets with hands or feet....		X		
11. Has difficulty remaining seated....		X		
12. Runs about or climbs on things....		X		
13. Has difficulty playing quietly		X		
14. Is "on the go" or....		X		

15. Talks excessively				X
16. Blurts out answers to questions			X	
17. Has difficulty awaiting turn....			X	
18. Interrupts people....			X	

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 through #18, and enter the total under Parent Score on the SYMPTOM COUNT SCORE SHEET. [*For this child the score is 4.*]
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 AD/HD Inattentive type category.

The parent Symptom Count Score for Items #10 through #18 (which=4), and the teacher Symptom Count score for Items #10 through #18 (which=3) are less than the Symptom Criterion score (≥ 6). The Screening Cutoff Score is "no" for the AD/HD 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 AD/HD Combined type is also "no" because this child did not meet both criteria (i.e., Items #1 through #9 **and** Items #10 through #18) according to either parent or teacher rating.
7. The child in this example received a Screening Cutoff Score for the AD/HD Inattentive type category. **However, only a comprehensive clinical evaluation** can determine if (a) the child really has AD/HD 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 AD/HD symptoms.
8. **The CSI-4 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 AD/HD requires information about the age at onset and duration of symptoms, extent of impairment in functioning, and exclusionary conditions and disorders.
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 CSI-4: 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 boy, select the score sheet titled *CSI-4 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, Inattentive." [*For this child, simply circle the number 18, which is his raw score.*]
2. Calculate the Symptom Severity score for Items #10 through #18, and circle the appropriate numeral in the "CAT. A, Hyper-imp" column. [*For this child, his raw score is 14.*]
3. Calculate the Symptom Severity score for AD/HD Combined type by summing Items #1 through #18, 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 AD/HD Inattentive Type, a moderate severity ranking for AD/HD Hyperactive-Impulsive Type, and a high severity ranking for AD/HD 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	Inattentive	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	16	15	29-30		
66	15	14	27-28		
64	14	13	25-26		
62	13	12	23-24		
60	12	11	21-22		
↓					

5. Follow the same procedure for the teacher-completed Checklist but use the score sheet titled *CSI-4: TEACHER SYMPTOM SEVERITY PROFILE for Boys*.

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 AD/HD or another disorder. If a thorough evaluation conducted by a qualified clinician determines that such a child does not have AD/HD 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 CSI-4. In the case of AD/HD 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 AD/HD inattentive type symptoms as occurring "often" or "very often" receives a Screening Cutoff score for the AD/HD Inattentive category of the CSI-4: 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 AD/HD.

USER QUALIFICATIONS

The CSI-4 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 Manual 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 CSI-4 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 Chapter 5 and Chapter 6, we noted the percentage of children 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 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 CSI-4. 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 CSI-4 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. However, our goal was to develop a screening instrument, not another clinical interview. The CSI-4 was intended to provide an efficient method to collect information about symptoms, but only a thorough clinical evaluation can produce a valid diagnosis.

Symptom Severity scores for the CSI-4 are treated much differently than Symptom Count scores. As noted in the Introduction, when we initially formulated the CSI-4, it was not our intention to develop a norm-referenced screening instrument. 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 AD/HD 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 AD/HD 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 AD/HD. Alternatively, the clinician might diagnose AD/HD 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 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 child does in fact have an emotional or behavioral disorder.

APPLICATIONS AS A SCREENING INSTRUMENT

As a screening instrument for emotional and behavioral disorders, scores from the CSI-4 can be used to make decisions about children who are in need of a more detailed clinical evaluation. Before proceeding to clinical considerations for specific disorders, several more general issues are listed in Table 7-4. 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 CSI-4. Two, because the symptoms of the various disorders that are assessed by the CSI-4 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 children 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 CSI-4 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 for emotional and behavioral disorders. Clinicians must use their own experience with the children they serve to determine if alterations in specific cutoff scores are

necessary or desirable. Lastly, the CSI-4 lists only the behavioral symptoms of DSM-IV disorders. For each disorder, there are additional criteria that must be considered when conducting a clinical evaluation.

Table 7-4: General Clinical Considerations When Using the CSI-4 as a Screening Instrument

- In general, the accuracy of the CSI-4 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 *Child Symptom Inventory-4: Symptom Count Score Sheet*.
- Because Symptom Severity scores are based on a statistical model, it is possible that some children 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 child 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 CSI-4.
- 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 CSI-4 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 CSI-4 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.