

Childhood Autism Rating Scale, Second Edition

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wps
Test with Confidence

CARS2-HF

High-Functioning
Version
Rating Booklet

Name: _____ Case ID Number: _____ Test date: _____

Gender: _____ Ethnic background: _____ Rater's name: _____ Date of birth: _____

Based on information from: _____ Age: _____ years _____ months

DIRECTIONS: After rating the 15 items, transfer the ratings from the inside pages to the corresponding spaces below. Sum the ratings to obtain the Total raw score, and indicate the corresponding Severity Group. Circle the Total raw score value in the table. The number printed to the left of the value you have circled is the *T*-score.

SUMMARY

CATEGORY RATINGS

1. **Social-Emotional Understanding**
median = 2.5
2. **Emotional Expression and Regulation of Emotions**
median = 2.5
3. **Relating to People**
median = 2.5
4. **Body Use**
median = 2.0
5. **Object Use in Play**
median = 2.0
6. **Adaptation to Change/Restricted Interests**
median = 2.5
7. **Visual Response**
median = 2.0
8. **Listening Response**
median = 2.0
9. **Taste, Smell, and Touch Response and Use**
median = 2.0
10. **Fear or Anxiety**
median = 2.0
11. **Verbal Communication**
median = 2.5
12. **Nonverbal Communication**
median = 2.0
13. **Thinking/Cognitive Integration Skills**
median = 2.0
14. **Level and Consistency of Intellectual Response**
median = 2.0
15. **General Impressions**
median = 2.5

Total raw score =

Note. SEM = 0.73.

SEVERITY GROUP

- ☐ **Minimal-to-No Symptoms of Autism Spectrum Disorder**
(15–27.5)
- ☐ **Mild-to-Moderate Symptoms of Autism Spectrum Disorder**
(28–33.5)
- ☐ **Severe Symptoms of Autism Spectrum Disorder**
(34 and higher)

Symptom Level Compared to Individuals With Autism Spectrum Diagnoses

Percentile	T-score	Raw score
>97	>70	>47
97	70	47
	69	46.5
	68	46
96	67	45.5
95	66	45
93	65	44–44.5
92	64	43.5
90	63	42.5–43
88	62	41.5–42
86	61	41
84	60	40.5
82	59	39.5–40
79	58	38.5–39
76	57	38
72	56	37.5
69	55	37
65	54	36–36.5
62	53	35.5
58	52	35
54	51	34–34.5
50	50	33–33.5
46	49	32.5
42	48	32
38	47	31.5
35	46	30.5–31
31	45	30
28	44	29.5
24	43	28.5–29
21	42	28
19	41	27.5
16	40	27
14	39	26.5
12	38	26
10	37	25–25.5
8	36	24.5
7	35	24
6	34	23.5
5	33	23
4	32	22–22.5
3	31	21.5
2	30	21
	29	20.5
1	28	20
<1	27	19.5
	26	19
	25	
	24	18.5
	23	
	22	
	21	
	20	18
	<20	<18

Note. SEM = 2.8T.

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DIRECTIONS

For each category, use the space provided in the *Observations* section for taking notes concerning the behaviors relevant to that item. After you have finished observing the individual, rate the behaviors relevant to each item by circling the number that corresponds to the statement that best describes the individual. You may indicate that the individual's behavior falls between two descriptions by using ratings of 1.5, 2.5, or 3.5. Abbreviated rating criteria are presented for each item. See chapter 3 of the Manual for detailed rating criteria.

1. Social-Emotional Understanding

Social-emotional understanding addresses a person's *cognitive* understanding of others' communication, behaviors, and differing perspectives. The dimensions of social understanding that are included in this item are the ability to read the nonverbal cues of others and the ability to take another person's perspective. This item does not reflect whether someone has friends or is in a relationship. Rather, it deals with a person's ability to perceive and articulate how another person may feel or what his or her perspective may be on a given situation.

- 1** **Age-appropriate social-emotional understanding.** Clearly understands facial expressions, gestures, tone of voice, and body language of others. Able to understand that others may have a different perspective and what that perspective may be.
- 1.5
- 2** **Mildly impaired social-emotional understanding.** Responsive to most facial expressions and expressions of emotion in others' gestures and body language, but these cues may need to be slightly exaggerated. More subtle expressions such as mild sarcasm, doubt, or ambiguity are sometimes not understood. The ability to take another's perspective is inconsistent.
- 2.5
- 3** **Moderately impaired social-emotional understanding.** Shows an understanding of facial expressions, tone of voice, and body language only when these cues are exaggerated. Is likely to ignore or misunderstand expression or perspective of others.
- 3.5
- 4** **Severely impaired social-emotional understanding.** Demonstrates virtually no ability to understand appropriate facial expressions, gestures, tone of voice, or body language. Unable to recognize that the perspective, understanding, or expression of others might differ.

Observations

2. Emotional Expression and Regulation of Emotions

This item refers to the capacity to express feelings and regulate one's emotions. This item is based on both direct observation and the reports of others who have witnessed this person's behavior in other settings.

- 1** **Age-appropriate and situation-appropriate emotional response.** Shows appropriate type and degree of emotional response, both by word and behavior, including emotional variation such as happy, sad, proud, angry, scared, anxious, and related internal states.
- 1.5
- 2** **Mildly abnormal emotional response.** Emotional expressions are relatively flat, distorted, or slightly exaggerated. Nonverbal expression of emotions does not always match verbal content. Able to describe several emotions in self but limited compared to developmental level. May have intermittent emotional regulation problems.
- 2.5
- 3** **Moderately abnormal emotional response.** Expression of emotions is flat, excessive, or frequently inconsistent with situation or content of verbalized topic. May display greater emotion than expected about special interest or idiosyncratic concerns. Ability to describe or understand emotional states in self is limited. Serious problems with emotional regulation that occur frequently in at least one setting.
- 3.5
- 4** **Severely abnormal emotional response.** Extreme problems with emotional regulation that occur in more than one setting. Responses are extreme or seldom appropriate to situation or content of discussion. Shows extreme mood shifts that are difficult to change. Expresses only a few emotions in their exaggerated form, or perseverates on a particular emotion without understanding.

Observations

3. Relating to People

This item is related to the first two items, which also rate aspects of social relationships. This item differs in that it is confined to dimensions related to direct interpersonal interactions and the person's expression and reaction to another person. The two dimensions that are rated in this item are the person's initiation of interactions and the reciprocal nature of the interactions.

- 1** **No evidence of difficulty or abnormality in relating to people.** Age-appropriate *initiation of interactions* to get help, to have needs met, and for purely *social purposes*. Interactions with others are fluid and show a *reciprocal*, back-and-forth pattern.
1.5
- 2** **Mildly abnormal relationships.** Initiates interactions only to get obvious needs met or around special interests. Some give-and-take noted in interactions, but lacks consistency or fluidity or appropriateness. Aware of other people of same age and interested in interactions, but may have difficulty initiating or managing interactions. Minimal initiation for purely social purposes that does not involve special interests.
2.5
- 3** **Moderately abnormal relationships.** Initiates interactions almost totally around his or her special interests, with little attempt to engage others in these interests. Responds to overtures from others, but lacks social give-and-take or responds in ways that are unusual and not always related to original overtures. Unable to maintain an interaction beyond initial overtures.
3.5
- 4** **Severely abnormal relationships.** Does not initiate any directed interactions and shows minimal response to overtures from others. Only the most persistent attempts to get the person to engage have any effect.

Observations

4. Body Use

This item represents grossly deviant body movements and also subtler forms of fine motor and coordination problems. Any obvious current deviant behaviors—including posturing, spinning, rocking, toe-walking, and self-directed aggression—automatically merit a rating of 3 or higher, depending on the persistence of the behavior. Difficulties with handwriting and tying shoes are rated on this item, with higher ratings given for problems that are so severe that the person actively resists these tasks. While this item can be scored using another's report, it is best to base your rating on current behavior. Directly observed behaviors should be given more weight than those from another's report.

- 1** **Age-appropriate body use.** Moves with the same ease, agility, and coordination as a typical person of the same age.
1.5
- 2** **Mildly abnormal body use.** Some minor peculiarities may be present, such as clumsiness, repetitive movements, poor coordination, or poor balance. May have fine motor difficulties, such as problems with handwriting or tying shoes, compared to others at the same developmental level.
2.5
- 3** **Moderately abnormal body use.** Currently displays *any* unusual body posture or stance, hand or finger mannerism, flapping, self-directed aggression, picking at body, rocking, spinning, or toe-walking. Fine motor difficulties or obvious handwriting difficulties are present, which may result in resistance to writing tasks.
3.5
- 4** **Severely abnormal body use.** Intense or frequent movements of the type listed above are signs of severely abnormal body use.

Observations

5. Object Use in Play

This rating includes the person's interest in and use of objects. In addition to the traditional issues related to repetitive play with parts of objects, the focus of this item also includes the degree to which the person engages in imaginative symbolic play and the degree to which toy figures are used as agents. For older persons, the rating may need to be based on the parent interview. Any obvious inappropriate or repetitive use of objects or obvious interest in parts of objects as opposed to the whole should be rated 3 or higher, depending on the persistence.

1 **Appropriate interest in, and creative use of, toys and other objects.**

Able to spontaneously use toys in age-appropriate imaginative symbolic play and able to use objects to represent something else. He or she shows interest in a variety of toys and leisure materials.

1.5

2 **Mildly inappropriate interest in, or use of, toys and other objects.**

Play or imaginative themes tend to be repetitive or appear to reflect things seen in movies or on TV. Some use of toy people as agents, for example, has an action figure or doll use other play materials. Some make-believe play or use of objects to represent something else. Responds to others' attempts to engage him or her in pretend play, but limited spontaneous initiation of imaginative play. Interests may be unusual in intensity or inappropriate for age. No obvious repetitive or inappropriate use of objects, such as twirling or spinning, or interest in parts of objects at this level.

2.5

3 **Moderately inappropriate interest in, or use of, toys and other objects.**

Limited imaginative creative play, either spontaneously or in response to others. People typically not used as agents, and limited use of objects to represent other things. No original themes in play. May show some repetitive, inappropriate use of objects or interest in parts of objects. Interest in play or novelty materials restricted to a few items and may be inappropriate for age or of an unusual intensity.

3.5

4 **Severely inappropriate interest in, or use of, toys and other objects.**

No creative play. Toys or other novelty items are used in repetitive or inappropriate manner.

Observations

6. Adaptation to Change/Restricted Interests

This item includes difficulty coping with change, ritualistic behaviors, and restricted special interests. The rating is based on the most severe level of difficulty in any one specific area.

1 **Age-appropriate response to change/variety of interests.** May notice or comment on changes in routines, but accepts these changes without undue stress. Shows a wide variety of interests, with no single interest or theme predominating.

1.5

2 **Mildly abnormal adaptation to change/variety of interests.** Unusually quick to develop new routine or, when others try to change task, the person may continue the same activity or use the same materials, though he or she can be directed to change if needed. OR, person shows preference for specific activities or toys or topics of conversation, though can be directed to other topics.

2.5

3 **Moderately abnormal adaptation to change/variety of interests.** Has definite special interests or preferences for specific activities, toys, objects, or topics. Adult needs to actively work to engage him or her in other topics or activities. Shows displeasure and may resist change or try to maintain routine. May become distressed by attempts to interrupt or change topic or activity. May have rituals or routines that have to be done in a particular way. May report subjective feelings of distress about change or interruptions, or may become overly fixed on schedule, checklist, or timing of events.

3.5

4 **Severely abnormal adaptation to change/variety of interests.** Has definite special interests or preferences, or has severe reaction to change. Reacts with extreme anxiety, anger, or resistance to attempts to change activity or topic or routine.

Observations

7. Visual Response

This item covers use of vision in three areas: visual fascinations, the ease with which the person can shift visual attention, and the degree to which the person's eye contact is integrated with actions and communication.

- 1** **Age-appropriate visual response.** Visual behavior is normal and appropriate for his or her age. Eye contact is good and integrated with verbal and nonverbal communication skills. Easily shifts visual attention.
- 1.5**
- 2** **Mildly abnormal visual response.** May stare inappropriately at others. Eye contact is not consistently integrated with verbalizations. Included at this level is any inconsistency in eye contact, regardless of the proportion of time he or she makes eye contact. May show more interest than is typical in describing small details in room or in looking at specific objects, such as moving parts, lights, or mirrors.
- 2.5**
- 3** **Moderately abnormal visual response.** Eye contact is not integrated with verbalizations. Obvious visual fascination with objects, lights, mirrors, spinning toys, and so on. May use peripheral vision to look at things. Obvious difficulty shifting visual attention from high-interest items.
- 3.5**
- 4** **Severely abnormal visual response.** Persistent avoidance of eye contact. Excessive interest in looking at specific objects or in looking at objects in a peculiar way.

Observations

8. Listening Response

This rating is based on the person's response to sounds and how the listening response is coordinated with the use of other senses. The person's response to his or her own name is scored on this item. Emphasis is placed on unusual over- or underinterest in sounds, as opposed to distractibility. Older individuals should be asked directly about this item.

- 1** **Age-appropriate listening response.** Listening behavior is normal and appropriate for his or her age. Listening is used together with other senses; for example, child looks toward person who is speaking. Person responds to name.
- 1.5**
- 2** **Mildly abnormal listening response.** Some difficulty responding to verbalizations when background noise present. Responds to name after repeated attempts to get attention. There may be some lack of response or mild overreaction to certain sounds. Atypical listening responses are apparent either in direct observation or by report from outside witness, but not both.
- 2.5**
- 3** **Moderately abnormal listening response.** Responses to sounds or verbalizations are inconsistent. May show marked reaction to some sounds or complete disregard for others. Seldom responds to name as a means of getting attention. Unusual responses are obvious across settings, based on some combination of direct report of person, witness report, and direct observation.
- 3.5**
- 4** **Severely abnormal listening response.** Overreacts or underreacts to sounds to an extremely marked degree. Is noticeably less responsive to verbalizations than to noises made by objects. Does not respond to repeated attempts to get his or her attention by calling his or her name. Unusual responses are evident across settings.

Observations

9. Taste, Smell, and Touch Response and Use

This item addresses the person's response to stimulation of the near receptors of taste, smell, touch, and pain. Subtler aspects of the stimulation of these senses include responses to the texture of clothing or food such that the person wears a limited variety of clothes or eats a limited variety of foods. Self-report of issues in this area should be considered, especially for adults.

- 1** **Normal use of, and response to, taste, smell, and touch.** Explores new objects in age-appropriate way, generally by looking and feeling. Responds appropriately to pain or touch from others. Reacts to minor pains or illnesses by showing appropriate discomfort, but does not overreact. Wears a variety of textures of clothing and eats a wide variety of foods.

1.5

- 2** **Mildly abnormal use of, and response to, taste, smell, and touch.** May occasionally explore things by subtle attempts to smell or taste the object, or rub the object against part of his or her face or body. May show a mild over- or underreaction to touch or pain. May have obvious clothing or food preferences, but is easily encouraged to try new things. Unusual sensory responses are apparent in direct observation or by report from outside witness, but not both.

2.5

- 3** **Moderately abnormal use of, and response to, taste, smell, and touch.** Obviously explores objects by smelling or tasting them, or rubbing the object against part of his or her face or body. Over- or underreacts or stiffens to touch or pain to a moderate degree. *OR*, the person has limited clothing he or she will wear or food he or she will eat. Limitations in sensory areas such as clothing and/or food preferences are obvious across settings, and the person reports these difficulties or they are obvious on direct observation. Sensory issues are difficult to modify and create stress or require adaptations in the everyday environment.

3.5

- 4** **Severely abnormal use of, and response to, taste, smell, and touch.** Has extreme limits on the foods he or she eats or clothing he or she wears. *OR*, extreme reactions or underreactions to touch or pain. *OR*, he or she shows persistent preoccupation with smelling, touching, or tasting things. Near-receptor issues are a source of extreme stress for person, who puts stress on the environment to find ways to cope with these difficulties. Unusual responses are evident across settings.

Observations

10. Fear or Anxiety

This item focuses on the degree to which the person has unusual fear or anxiety compared to what is appropriate for the situation or context.

- 1** **Normal fear or anxiety.** Behavior is appropriate both to the situation and for his or her age.

1.5

- 2** **Mildly abnormal fear or anxiety.** Occasionally shows too much or too little fear or anxiety compared to the reaction of a typical person of the same age in a similar situation. The abnormal response is only evident in one setting—for example, either on direct observation or based on report from witness in another setting, but not both.

2.5

- 3** **Moderately abnormal fear or anxiety.** Shows either quite a bit more or quite a bit less fear or anxiety than is typical even for a younger person in a similar situation. The abnormal response is apparent across more than one setting, and the person either reports these difficulties or they are obvious on direct observation.

3.5

- 4** **Severely abnormal fear or anxiety.** Fear or anxiety is pervasive across all settings and persists even after repeated explanations or experiences with harmless events or objects. It is extremely difficult to calm or comfort the person. Conversely, may show persistent and pervasive disregard for hazards that others of same age avoid.

Observations

11. Verbal Communication

This is a rating of two facets of the person's speech and language skills, and is best evaluated by a direct interaction with the person. This item includes verbal oddities—such as formal language, unusual tone or inflection, and repetitive or made-up phrases—and the ability to carry on a reciprocal conversation.

- 1 Normal verbal communication, age and situation appropriate.** Able to carry on an age-appropriate conversation with another person, he or she is able to respond to others' overtures while also adding additional information in at least a four-element sequence. No evidence of unusual speech inflection, volume, or tone. No evidence of made-up words or repetitive or rote phrases.
 - 1.5
- 2 Mildly abnormal verbal communication.** Conversation exchanges are more limited than expected for this age. Occasional use of made-up words or repetitive, rote phrases. At times may display unusual vocal intonation or rate of speech. Ratings at this level indicate that the person has problems with conversation or verbal oddities, but not both.
 - 2.5
- 3 Moderately abnormal verbal communication.** Minimal initiations of conversation during direct interaction. Verbalizations include overly formal language or repetitive phrases. Little reciprocal conversation; may talk on own topic but little sense of interaction. Vocal intonation or rate of speech often unusual. Some use of unusual words or repetitive speech. Some apparent difficulties in carrying on a reciprocal conversation and displays some type of verbal oddity.
 - 3.5
- 4 Severely abnormal verbal communication.** Inability to have a conversation with another person. May respond to specific questions, but does not engage in a to-and-fro conversation. Does not initiate communication. Language may be overly formal or pedantic. Marked abnormal speech inflection or tone. Frequently uses made-up words or repetitive phrases. Significant difficulties in both areas of expressive communication—reciprocal conversation and verbal oddities.

Observations

12. Nonverbal Communication

This item rates all forms of nonverbal communication. While both use of and response to nonverbal cues are considered, greater emphasis is placed on their use. Attention is given to the use of gaze to regulate and understand interactions and the use of facial expressions and gestures in combination with verbalizations for a variety of communication functions—instrumental, descriptive, and emphatic.

- 1 Normal use of nonverbal communication, age and situation appropriate.** Uses a variety of facial expressions and instrumental, descriptive, and emphatic gestures that are well integrated with verbalizations. Responds to facial expressions and gestures from others. Gaze is used to regulate interactions with others.
 - 1.5
- 2 Mildly abnormal use of nonverbal communication.** Uses instrumental gestures such as pointing or reaching to indicate wants. Descriptive gestures are used infrequently and are not well coordinated with verbalizations. Responds to very obvious facial expressions or gestures from others. May show too little or exaggerated facial expressions at times, though generally shows appropriate expressions. Inconsistent in use of gaze to regulate interaction with others.
 - 2.5
- 3 Moderately abnormal use of nonverbal communication.** Facial expressions are often flat or exaggerated. Uses limited instrumental gestures, and these gestures are not well integrated with verbalizations. Rarely uses descriptive or emphatic gestures. Shows limited response to nonverbal communication from others. Joint attention is rare, as the person seldom uses or responds to gaze or gesture as a means of sharing attention to an object or activity.
 - 3.5
- 4 Severely abnormal use of nonverbal communication.** Facial expressions are either flat or exaggerated. Does not use instrumental, descriptive, or emphatic gestures and shows no awareness of nonverbal communication from others. No evidence of using gaze to regulate activities with others.

Observations

13. Thinking/Cognitive Integration Skills

This is a rating of the person's ability to understand the meaning of larger concepts and the ability of the person to integrate relevant details into a meaningful overview (central coherence). Part of this process involves the person's ability to discriminate between relevant and irrelevant details.

1 Age-appropriate thinking/cognitive integration skills. Able to understand meaning of information presented either pictorially, in writing, or verbally. He or she demonstrates central coherence, that is, the ability to attend to relevant versus irrelevant details and integrate this information into a meaningful overview.

1.5

2 Mildly impaired in specific thinking/cognitive integration skills. Delayed thinking compared to persons of same age. Difficulties may be seen in distinguishing relevant from irrelevant cues for conceptualizing or person can verbalize an overall understanding but is unable to articulate how meaning was derived. At times supportive presence of another person helps with comprehension.

2.5

3 Moderately impaired in specific thinking/cognitive integration skills. Notable difficulties comprehending meaning and integrating information into overall conceptualization, but shows great attention to specific things and concrete details. Frequently requires specific prompts from others to attend to relevant details or grasp the larger conceptualization.

3.5

4 Severe delay in specific thinking/cognitive integration skills. Shows repeated and consistent difficulty distinguishing relevant from irrelevant details. Even with persistent efforts from another, may not be able to conceptualize the overall meaning of information.

Observations

14. Level and Consistency of Intellectual Response

THE RATER MUST read the complete description in the Manual before rating this item. This rating is concerned with the discrepancies in and consistency of the individual's skills across different areas, as well as the person's general level of intellectual functioning. By definition, this instrument is appropriate only for individuals whose overall IQ score is above 80, so the descriptors make this assumption. *Unless the individual has a savant skill, which always receives a rating of 4, all individuals whose adaptive skills are appropriate for their age and intellectual abilities should receive a rating of 1, regardless of intellectual level or variability in skills.*

1 Intelligence is at least normal and reasonably consistent across various areas. Has at least average intellectual abilities and does not have any unusual intellectual skills or problems. IQ score is average or higher (≥ 85) with limited discrepancies. Adaptive skills are appropriate for age and intellectual abilities.

1.5 IQ score is 90 or above, with limited variability across areas. Adaptive skills are less than expected for cognitive level.

2 Mildly abnormal intellectual functioning. Not as smart as typical person of same age; skills appear evenly delayed across all areas. IQ score in the low-average range (80 to 90) with limited discrepancies. Adaptive skills are less than expected for level of intelligence.

2.5 The individual's overall cognitive skills are near the low-average range (IQ score between 80 and 90), but there is significant variability in skills. Adaptive skills are less than expected for level of intelligence.

3 Moderately abnormal intellectual functioning. In general, overall functioning is within the normal range, but shows significant discrepancy across skill areas. Adaptive skills are less than expected for level of intelligence.

3.5 The individual's overall intellectual functioning is above average (IQ score >115), and he or she shows significant variability in skills. Adaptive skills are less than expected for level of intelligence.

4 Severely abnormal intellectual functioning. Has a skill that is significantly better than expected for his or her level of intelligence and better than that exhibited by typical peers (savant skill). At least low-average intelligence (≥ 80). Adaptive skills are typically less than expected for level of intelligence, but in rare instances may be appropriate for cognitive level.

Observations

15. General Impressions

This is intended to be an overall rating of autism based on your subjective impression of the degree to which the person has autism as defined by the other 14 items. This rating should be made without recourse to averaging the other ratings. As with the other items, this rating should be made by taking into account all available data from such sources as the case history, test results, parent and other interviews, or past records.

1 **No autism spectrum disorder.** Shows none of the symptoms characteristic of an autism spectrum disorder.

1.5

2 **Mild autism spectrum disorder.** Shows only a few symptoms or only a mild degree of an autism spectrum disorder—mild interference with daily functioning.

2.5

3 **Moderate autism spectrum disorder.** Shows a number of symptoms or a moderate degree of an autism spectrum disorder—moderate interference with daily functioning.

3.5

4 **Severe autism spectrum disorder.** Shows many symptoms or an extreme degree of an autism spectrum disorder—extreme interference with daily functioning.

Observations