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AUTISM SPECTRUM RATING SCALES (ASRS™)

Scoring the ASRS for Individuals Who
Do Not Speak or Speak Infrequently

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Technical Report #1

Scoring the ASRS for Individuals Who Do Not Speak or Speak Infrequently

Sam Goldstein, Ph.D. & Jack A. Naglieri, Ph.D.

The purpose of this technical report is to provide a method for prorating raw scores in order to obtain standard scores on the Autism Spectrum Rating Scales (Goldstein & Naglieri, 2010) for children and adolescents with limited or no speech. The prorating method is first explained, and conversion tables are then provided. An example of how to use the tables is also included. This report also includes analyses of the reliability and validity of the prorated scores. Overall, these analyses indicate that a psychometrically sound strategy for rating individuals who do not speak or speak infrequently is to exclude items related to verbal communication and to use prorated scale scores.

Background

Some individuals who will be assessed with the Autism Spectrum Rating Scales (ASRS™; Goldstein & Naglieri, 2010) either do not speak or speak infrequently. In these cases, some ASRS items cannot be accurately rated and should be excluded from the standardized scoring procedure described in the *ASRS Technical Manual*. This Technical Report provides a prorated scoring method that should be used when the youth being evaluated with the ASRS either does not speak or speaks infrequently. This prorating method provides a mathematical way to obtain *T*-scores for the scales when items that are inappropriate are omitted or excluded from scoring. Information about the reliability and validity of the ASRS using this prorating method is also provided in this Technical Report.

Table 1 lists the ASRS items (for both full and short forms, according to age) that are not scored for individuals who do not speak or do so infrequently. Table 2 shows these items according to the scales on which they appear. Note that there are several Treatment scales (i.e., Stereotypy, Behavioral Rigidity, Sensory Sensitivity, Attention/Self-Regulation (ASRS [2–5 Years]), and Attention (ASRS [6–18 Years])) that do not include any of these items, and therefore, do not require prorating.

Table 1. ASRS Items to Exclude in the Prorated Scoring Method for Individuals Who Do Not Speak or Speak Infrequently

Item Number			
ASRS (2–5 Years)	ASRS (6–18 Years)	ASRS Short Form (2–5 Years)	ASRS Short Form (6–18 Years)
5	9	3	2
6	14	5	3
15	17	6	–
22	20	8	–
26	21	–	–
28	23	–	–
29	26	–	–
41	37	–	–
42	50	–	–
44	56	–	–
53	58	–	–
59	59	–	–
70	68	–	–

Table 2. ASRS Items by Scale to Exclude When Using The Prorated Scoring Method with Individuals Who Do Not Speak or Speak Infrequently

Scale		Acronym	Item Number	
			ASRS (2–5 Years)	ASRS (6–18 Years)
ASRS Scales	Social/Communication	SC	5, 15, 22, 28, 29, 44	9, 23, 56
	Unusual Behaviors	UB	26, 41, 42, 53, 70	17, 20, 21, 26, 50, 68
	Self-Regulation (ASRS [6–18 Years])	SR	–	58
DSM-IV-TR Scale		DSM	5, 26, 28, 29, 41, 42, 53, 70	9, 20, 21, 23, 26, 37, 50, 56
Treatment Scales	Peer Socialization	PS	15	14, 50
	Adult Socialization	AS	44	37, 59
	Social/Emotional Reciprocity	SER	5	9
	Atypical Language	AL	6, 22, 42, 53, 59, 70	17, 20, 21, 26, 58, 68
	Stereotypy	ST	–	–
	Behavioral Rigidity	BR	–	–
	Sensory Sensitivity	SS	–	–
	Attention/Self-Regulation (ASRS [2–5 Years])	ASR	–	–
	Attention (ASRS [6–18 Years])	AT	–	–
Short Form			3, 5, 6, 8	2, 3

How to Use the Prorating Method

The standardized administration procedure outlined in chapter 3 of the *ASRS Technical Manual, Administration & Scoring*, should be followed.

The prorated scoring method described next is used to score ratings of individuals who do not speak or speak infrequently. **If any of the ASRS items listed in Table 1 were completed by the rater, those ratings *must* be excluded from scoring.** If any additional items beyond those listed for exclusion are omitted by the rater from any scale with verbal communications items (see Table 2), a *T*-score for that scale cannot be calculated.

Step 1: Follow the scoring instructions on the Scoring Grid page of the QuikScore™ form; calculate the raw scores by summing the ratings for each scale, but *do not include* any responses that the rater may have provided for the items listed in Table 2.

Step 2: For each scale that requires prorating, refer to Table 3 (for children 2–5 years) or Table 4 (for youths 6–18 years) and find the obtained Raw Score in the Raw Score column. Then, follow the row across to find the corresponding prorated score for each scale. Transfer these prorated values to the Scale Score Summary Table of the QuikScore form, and continue following the scoring instructions provided on the form.

For example, if a 4-year-old child was evaluated by a parent and obtained a raw score of 25 on the Social/Communication (SC) scale, the prorated raw score is 30. Similarly, if the child obtained a raw score of 28 on the Unusual Behaviors (UB) scale, the prorated raw score is 36. The prorated raw score of 30 for Social Communication is then converted to a *T*-score of 46 using the Raw Score to *T*-Score Conversion Table (see the QuikScore form). Similarly, the prorated raw score of 36 for Unusual Behaviors yields a *T*-score of 60.

Table 3. Prorated Score Conversion Table: ASRS (2–5 Years)

Raw Score	Prorated Score			Raw Score	Prorated Score				Raw Score
	ASRS Scales		DSM		Treatment Scales			Short Form	
	SC	UB			PS	AS	SER		
0	0	0	0	0	0	0	0	0	0
1	1	1	1	1	1	1	1	1	1
2	2	3	3	2	2	3	2	3	2
3	4	4	4	3	3	4	3	4	3
4	5	5	5	4	5	5	4	5	4
5	6	6	6	5	6	6	5	7	5
6	7	8	8	6	7	8	7	8	6
7	8	9	9	7	8	9	8	10	7
8	9	10	10	8	9	10	9	11	8
9	11	12	12	9	10	11	10	12	9
10	12	13	13	10	11	13	11	14	10
11	13	14	14	11	12	14	12	15	11
12	14	15	16	12	14	15	13	16	12
13	15	17	17	13	15	16	14	18	13
14	17	18	18	14	16	18	15	19	14
15	18	19	19	15	17	19	16	20	15
16	19	20	21	16	18	20	17	22	16
17	20	22	22	17	19	.	19	23	17
18	21	23	23	18	20	.	20	25	18
19	22	24	25	19	21	.	21	26	19
20	24	26	26	20	23	.	22	27	20
21	25	27	27	21	24	.	23	29	21
22	26	28	29	22	25	.	24	30	22
23	27	29	30	23	26	.	25	31	23
24	28	31	31	24	27	.	26	33	24
25	30	32	32	25	28	.	27	34	25
26	31	33	34	26	29	.	28	35	26
27	32	35	35	27	30	.	29	37	27
28	33	36	36	28	32	.	31	38	28
29	34	37	38	29	33	.	32	40	29
30	35	38	39	30	34	.	33	41	30
31	37	40	40	31	35	.	34	42	31
32	38	41	41	32	36	.	35	44	32
33	39	42	43	33	.	.	36	45	33
34	40	43	44	34	.	.	37	46	34
35	41	45	45	35	.	.	38	48	35
36	43	46	47	36	.	.	39	49	36
37	44	47	48	37	.	.	40	50	37
38	45	49	49	38	.	.	41	52	38
39	46	50	51	39	.	.	43	53	39
40	47	51	52	40	.	.	44	55	40
41	48	52	53	41	.	.	45	56	41
42	50	54	54	42	.	.	46	57	42
43	51	55	56	43	.	.	47	59	43
44	52	56	57	44	.	.	48	60	44
45	53	58	58	45	.	.	.	.	45
46	54	59	60	46	.	.	.	.	46
47	56	60	61	47	.	.	.	.	47
48	57	61	62	48	.	.	.	.	48
49	58	63	64	49	.	.	.	.	49
50	59	64	65	50	.	.	.	.	50
51	60	65	66	51	.	.	.	.	51
52	61	66	67	52	.	.	.	.	52
53	63	68	69	53	.	.	.	.	53
54	64	69	70	54	.	.	.	.	54
55	65	70	71	55	.	.	.	.	55
56	66	72	73	56	.	.	.	.	56
57	67	73	74	57	.	.	.	.	57
58	69	74	75	58	.	.	.	.	58
59	70	75	76	59	.	.	.	.	59
60	71	77	78	60	.	.	.	.	60
61	72	78	79	61	.	.	.	.	61
62	73	79	80	62	.	.	.	.	62
63	74	81	82	63	.	.	.	.	63
64	76	82	83	64	.	.	.	.	64
65	77	83	84	65	.	.	.	.	65

Note. SC = Social/Communication; UB = Unusual Behaviors; DSM = DSM-IV-TR Scale; PS = Peer Socialization; AS = Adult Socialization; SER = Social/Emotional Reciprocity.

Table continues next page...

Autism Spectrum Rating Scales™ (ASRS™)

Table 3. (continued) Prorated Score Conversion Table: ASRS (2–5 Years)

Raw Score	Prorated Score			Raw Score	Prorated Score				Raw Score
	ASRS Scales		DSM		Treatment Scales			Short Form	
	SC	UB			PS	AS	SER		
66	78	84	86	66	.	.	.	.	66
67	79	86	87	67	.	.	.	.	67
68	80	87	88	68	.	.	.	.	68
69	82	88	89	69	.	.	.	.	69
70	83	89	91	70	.	.	.	.	70
71	84	91	92	71	.	.	.	.	71
72	85	92	93	72	.	.	.	.	72
73	86	.	95	73	.	.	.	.	73
74	87	.	96	74	.	.	.	.	74
75	89	.	97	75	.	.	.	.	75
76	90	.	99	76	.	.	.	.	76
77	91	.	100	77	.	.	.	.	77
78	92	.	101	78	.	.	.	.	78
79	93	.	102	79	.	.	.	.	79
80	95	.	104	80	.	.	.	.	80
81	96	.	105	81	.	.	.	.	81
82	97	.	106	82	.	.	.	.	82
83	98	.	108	83	.	.	.	.	83
84	99	.	109	84	.	.	.	.	84
85	100	.	110	85	.	.	.	.	85
86	102	.	111	86	.	.	.	.	86
87	103	.	113	87	.	.	.	.	87
88	104	.	114	88	.	.	.	.	88
89	105	.	115	89	.	.	.	.	89
90	106	.	117	90	.	.	.	.	90
91	108	.	118	91	.	.	.	.	91
92	109	.	119	92	.	.	.	.	92
93	110	.	121	93	.	.	.	.	93
94	111	.	122	94	.	.	.	.	94
95	112	.	123	95	.	.	.	.	95
96	113	.	124	96	.	.	.	.	96
97	115	.	126	97	.	.	.	.	97
98	116	.	127	98	.	.	.	.	98
99	117	.	128	99	.	.	.	.	99
100	118	.	130	100	.	.	.	.	100
101	119	.	131	101	.	.	.	.	101
102	121	.	132	102	.	.	.	.	102
103	122	.	134	103	.	.	.	.	103
104	123	.	135	104	.	.	.	.	104
105	124	.	136	105	.	.	.	.	105
106	125	.	137	106	.	.	.	.	106
107	126	.	139	107	.	.	.	.	107
108	128	.	140	108	.	.	.	.	108
109	129	.	.	109	.	.	.	.	109
110	130	.	.	110	.	.	.	.	110
111	131	.	.	111	.	.	.	.	111
112	132	.	.	112	.	.	.	.	112
113	134	.	.	113	.	.	.	.	113
114	135	.	.	114	.	.	.	.	114
115	136	.	.	115	.	.	.	.	115
116	137	.	.	116	.	.	.	.	116
117	138	.	.	117	.	.	.	.	117
118	139	.	.	118	.	.	.	.	118
119	141	.	.	119	.	.	.	.	119
120	142	.	.	120	.	.	.	.	120
121	143	.	.	121	.	.	.	.	121
122	144	.	.	122	.	.	.	.	122
123	145	.	.	123	.	.	.	.	123
124	147	.	.	124	.	.	.	.	124
125	148	.	.	125	.	.	.	.	125
126	149	.	.	126	.	.	.	.	126
127	150	.	.	127	.	.	.	.	127
128	151	.	.	128	.	.	.	.	128
129	152	.	.	129	.	.	.	.	129
130	154	.	.	130	.	.	.	.	130
131	155	.	.	131	.	.	.	.	131
132	156	.	.	132	.	.	.	.	132

Note. SC = Social/Communication; UB = Unusual Behaviors; DSM = DSM-IV-TR Scale; PS = Peer Socialization; AS = Adult Socialization; SER = Social/Emotional Reciprocity.

Table 4. Prorated Score Conversion Table: ASRS (6–18 Years)

Raw Score	Prorated Score				Raw Score	Prorated Score				Raw Score
	ASRS Scales			DSM		Treatment Scales			Short Form	
	SC	UB	SR			PS	AS	SER		
0	0	0	0	0	0	0	0	0	0	0
1	1	1	1	1	1	1	2	1	1	1
2	2	3	2	3	2	3	3	2	2	2
3	4	4	3	4	3	4	5	3	3	3
4	5	5	4	5	4	5	6	4	5	4
5	6	7	5	7	5	6	8	5	6	5
6	7	8	6	8	6	8	9	7	7	6
7	8	9	7	9	7	9	11	8	8	7
8	10	11	9	10	8	10	12	9	9	8
9	11	12	10	12	9	12	14	10	10	9
10	12	13	11	13	10	13	15	11	12	10
11	13	15	12	14	11	14	17	12	13	11
12	14	16	13	16	12	15	18	13	14	12
13	15	17	14	17	13	17	20	14	15	13
14	17	19	15	18	14	18	21	15	16	14
15	18	20	16	20	15	19	23	16	17	15
16	19	21	17	21	16	21	24	17	18	16
17	20	23	18	22	17	22	.	18	20	17
18	21	24	19	24	18	23	.	20	21	18
19	23	25	20	25	19	24	.	21	22	19
20	24	27	21	26	20	26	.	22	23	20
21	25	28	22	27	21	27	.	23	24	21
22	26	29	23	29	22	28	.	24	25	22
23	27	31	24	30	23	30	.	25	27	23
24	29	32	26	31	24	31	.	26	28	24
25	30	33	27	33	25	32	.	27	29	25
26	31	35	28	34	26	33	.	28	30	26
27	32	36	29	35	27	35	.	29	31	27
28	33	37	30	37	28	36	.	30	32	28
29	34	39	31	38	29	.	.	31	33	29
30	36	40	32	39	30	.	.	33	35	30
31	37	41	33	41	31	.	.	34	36	31
32	38	43	34	42	32	.	.	35	37	32
33	39	44	35	43	33	.	.	36	38	33
34	40	45	36	44	34	.	.	37	39	34
35	42	47	37	46	35	.	.	38	40	35
36	43	48	38	47	36	.	.	39	42	36
37	44	49	39	48	37	.	.	40	43	37
38	45	51	40	50	38	.	.	41	44	38
39	46	52	41	51	39	.	.	42	45	39
40	48	53	43	52	40	.	.	43	46	40
41	49	55	44	54	41	.	.	44	47	41
42	50	56	45	55	42	.	.	46	48	42
43	51	57	46	56	43	.	.	47	50	43
44	52	59	47	58	44	.	.	48	51	44
45	53	60	48	59	45	.	.	49	52	45
46	55	61	49	60	46	.	.	50	53	46
47	56	63	50	61	47	.	.	51	54	47
48	57	64	51	63	48	.	.	52	55	48
49	58	65	52	64	49	.	.	.	57	49
50	59	67	53	65	50	.	.	.	58	50
51	61	68	54	67	51	.	.	.	59	51
52	62	69	55	68	52	.	.	.	60	52
53	63	71	56	69	53	.	.	.	.	53
54	64	72	57	71	54	.	.	.	.	54
55	65	73	58	72	55	.	.	.	.	55
56	67	75	60	73	56	.	.	.	.	56

Note. SC = Social/Communication; UB = Unusual Behaviors; SR = Self-Regulation; DSM = DSM-IV-TR Scale; PS = Peer Socialization; AS = Adult Socialization; SER = Social/Emotional Reciprocity.

Table continues next page...

Autism Spectrum Rating Scales™ (ASRS™)

Table 4. (continued) Prorated Score Conversion Table: ASRS (6–18 Years)

Raw Score	Prorated Score				Raw Score	Prorated Score				Raw Score
	ASRS Scales			DSM		Treatment Scales			Short Form	
	SC	UB	SR			PS	AS	SER		
57	68	76	61	75	57	.	.	.	.	57
58	69	77	62	76	58	.	.	.	.	58
59	70	79	63	77	59	.	.	.	.	59
60	71	80	64	78	60	.	.	.	.	60
61	72	81	65	80	61	.	.	.	.	61
62	74	83	66	81	62	.	.	.	.	62
63	75	84	67	82	63	.	.	.	.	63
64	76	85	68	84	64	.	.	.	.	64
65	.	87	.	85	65	.	.	.	.	65
66	.	88	.	86	66	.	.	.	.	66
67	.	89	.	88	67	.	.	.	.	67
68	.	91	.	89	68	.	.	.	.	68
69	.	92	.	90	69	.	.	.	.	69
70	.	93	.	92	70	.	.	.	.	70
71	.	95	.	93	71	.	.	.	.	71
72	.	96	.	94	72	.	.	.	.	72
73	.	.	.	95	73	.	.	.	.	73
74	.	.	.	97	74	.	.	.	.	74
75	.	.	.	98	75	.	.	.	.	75
76	.	.	.	99	76	.	.	.	.	76
77	.	.	.	101	77	.	.	.	.	77
78	.	.	.	102	78	.	.	.	.	78
79	.	.	.	103	79	.	.	.	.	79
80	.	.	.	105	80	.	.	.	.	80
81	.	.	.	106	81	.	.	.	.	81
82	.	.	.	107	82	.	.	.	.	82
83	.	.	.	109	83	.	.	.	.	83
84	.	.	.	110	84	.	.	.	.	84
85	.	.	.	111	85	.	.	.	.	85
86	.	.	.	112	86	.	.	.	.	86
87	.	.	.	114	87	.	.	.	.	87
88	.	.	.	115	88	.	.	.	.	88
89	.	.	.	116	89	.	.	.	.	89
90	.	.	.	118	90	.	.	.	.	90
91	.	.	.	119	91	.	.	.	.	91
92	.	.	.	120	92	.	.	.	.	92
93	.	.	.	122	93	.	.	.	.	93
94	.	.	.	123	94	.	.	.	.	94
95	.	.	.	124	95	.	.	.	.	95
96	.	.	.	126	96	.	.	.	.	96
97	.	.	.	127	97	.	.	.	.	97
98	.	.	.	128	98	.	.	.	.	98
99	.	.	.	129	99	.	.	.	.	99
100	.	.	.	131	100	.	.	.	.	100
101	.	.	.	132	101	.	.	.	.	101
102	.	.	.	133	102	.	.	.	.	102
103	.	.	.	135	103	.	.	.	.	103
104	.	.	.	136	104	.	.	.	.	104

Note. SC = Social/Communication; UB = Unusual Behaviors; SR = Self-Regulation; DSM = DSM-IV-TR Scale; PS = Peer Socialization; AS = Adult Socialization; SER = Social/Emotional Reciprocity.

Reliability and Validity Analysis

Reliability of Prorated ASRS Scales

Cronbach's alpha coefficients for the scales with the excluded items were calculated using the same procedure as the original scales. Alpha reliabilities were calculated separately for the clinical and normative samples. The weighted average of these two samples was determined by the method described by Rodriguez and Maeda (2006; see also Hakstian & Whalen, 1976; Shadish & Haddock, 1994), which uses reliability generalization methods that incorporate the sampling distribution of coefficient alpha, the number of items in the scale, and the sample sizes. The Spearman-Brown (Brown, 1910; Spearman, 1910) correction formula was then applied to these values. This adjustment is most appropriate for this analysis because it makes the alpha values for the full and shortened scale directly comparable. As displayed in Tables 5 through 7, the values were similar—in some cases higher—than the original values when the items were excluded that should not be scored for individuals who do not speak or who speak infrequently. The alpha coefficients never deviated by more than .05 from the original values and usually deviated by .02 or less. These results suggest that the internal consistency of the scales is not impacted by prorating.

Descriptive Statistics of the Prorated ASRS Scales

Prorated ASRS raw scores were calculated for the normative samples using the following formula:

$$\text{Prorated Score} = \frac{(\text{Obtained raw score for scale}) \times (\text{Total \# of items on scale})}{\text{Total \# items on scale with responses}}$$

Only scales that require prorating were analyzed (note that scores from the Atypical Language scale were not analyzed because none of the items on this Treatment Scale are applicable to individuals who do not speak or do so infrequently). These prorated raw scores were then converted to *T*-scores using the same procedure as the original normative sample. Means and standard deviations for the prorated scales were calculated and compared to the original scales. As shown in Tables 8 through 10, prorated means generally deviated by less than 1 *T*-score point. Effect sizes for these differences were calculated using Hedges' *g* (Hedges, 1981) statistic. Hedges' *g* statistic is preferable to Cohen's *d* when dependent samples are being tested and it is desirable to maintain the original score metric—in this case, *T*-scores—in the effect size calculation (see Kline, 2004). For each scale, the difference between the prorated and original *T*-scores

failed to reach the criterion for a small effect size (i.e., $g = \pm .20$). In fact, none of these values exceeded .11. These results suggest that the prorating procedure recommended in this Technical Report does not impact the *T*-score calculations, and separate norms are unnecessary for individuals who do not speak or who speak infrequently.

Exploratory Factor Analyses

Exploratory factor analyses (EFAs) were performed on the ASRS items excluding the items that should not be used with individuals who do not speak or who speak infrequently (see Table 2). The same EFA procedure that established the ASRS Scale structure (Goldstein & Naglieri, 2010; pp. 78–84) was used again here. Specifically, principal axis rotation and direct oblimin rotation were applied. The weighted combined normative and clinical samples were used to maximize item score variability and the generalizability of the results. To make the results comparable to the original factor analysis work, two- and three-item factor solutions were forced for the 2–5-year-old and 6–18-year-old samples, respectively. Scree plots supported these factor structures. Missing data were managed via listwise deletion. Factor loadings of at least .30 were considered significant, and cross-loadings were defined as any loadings that differed by less than .20 across multiple factors for the same item. Results are displayed in Tables 11 through 14; columns Factor 1, Factor 2, and Factor 3 denote the factors emerging from the EFAs, and the ASRS Scale column displays each item's original ASRS Scale. The ASRS Scales were replicated almost perfectly with the vast majority of items' primary loading matching their original ASRS Scale.

Summary

A series of psychometric analyses were performed to examine the impact of prorating ASRS scores when certain items are omitted (i.e., those that cannot be accurately measured in individuals who do not speak or speak infrequently). Internal consistency values when these items were excluded were highly comparable to the original values. In addition, prorated means and standard deviations were similar to the original values. These results demonstrate that the original raw score to *T*-score conversion tables on the ASRS QuikScore Form can be used with the prorating system presented in this Technical Report. Factor analytic findings performed after removing the items shown in Table 2 were very similar to the original ASRS factor structure derived from all of the items (see *ASRS Technical Manual*). Overall, these analyses indicate that excluding these items, and the subsequent prorating of scale scores, are psychometrically sound strategies for rating individuals who do not speak or speak infrequently.

Table 5. Cronbach's Alpha Values for Original and Prorated Scales: ASRS (2–5 Years)

Scale		Original			Prorated			Prorated with Spearman-Brown Adjustment	
		# of items	Parent	Teacher/Childcare Provider	# of items	Parent	Teacher/Childcare Provider	Parent	Teacher/Childcare Provider
Total Score		62	.97	.97	51	.96	.96	.97	.97
ASRS Scales	Social/Communication	39	.96	.97	33	.95	.96	.96	.97
	Unusual Behaviors	23	.94	.93	18	.93	.91	.94	.93
DSM-IV-TR Scale		35	.95	.95	27	.94	.94	.95	.95
Treatment Scales	Peer Socialization	9	.89	.91	8	.88	.90	.89	.91
	Adult Socialization	5	.77	.82	4	.72	.76	.76	.80
	Social/Emotional Reciprocity	12	.91	.93	11	.91	.92	.91	.93
Short Form		15	.92	.93	11	.90	.91	.92	.93
N		–	563	569	–	578	586	578	586

Note. All alpha values represent the weighted average of the normative and clinical samples.

Table 6. Cronbach's Alpha Values for Original and Prorated Scales: ASRS (6–18 Years) Parent Ratings

Scale		Original			Prorated			Prorated with Spearman-Brown Adjustment	
		# of items	Age Group		# of items	Age Group		Age Group	
			6–11	12–18		6–11	12–18	6–11	12–18
Total Score		60	.97	.97	50	.96	.95	.97	.96
ASRS Scales	Social/Communication	19	.95	.94	16	.93	.92	.94	.93
	Unusual Behaviors	24	.95	.94	18	.93	.93	.94	.94
	Self-Regulation	17	.92	.93	16	.92	.93	.92	.93
DSM-IV-TR Scale		34	.96	.95	26	.95	.94	.96	.95
Treatment Scales	Peer Socialization	9	.88	.88	7	.87	.84	.89	.87
	Adult Socialization	6	.77	.78	4	.69	.74	.77	.81
	Social/Emotional Reciprocity	13	.90	.90	12	.90	.87	.90	.88
Short Form		15	.92	.92	13	.91	.91	.92	.92
N		–	710	665	–	675	571	675	571

Note. All alpha values represent the weighted average of the normative and clinical samples.

Table 7. Cronbach’s Alpha Values for Original and Prorated Scales: ASRS (6–18 Years) Teacher Ratings

Scale		Original			Prorated			Prorated with Spearman-Brown Adjustment	
		# of items	Age Group		# of items	Age Group		Age Group	
			6–11	12–18		6–11	12–18	6–11	12–18
Total Score		60	.97	.97	50	.96	.95	.97	.96
ASRS Scales	Social/Communication	19	.95	.94	16	.93	.93	.94	.94
	Unusual Behaviors	24	.95	.94	18	.93	.94	.95	.95
	Self-Regulation	17	.92	.93	16	.94	.92	.94	.93
DSM-IV-TR Scale		34	.96	.95	26	.94	.94	.95	.95
Treatment Scales	Peer Socialization	9	.88	.88	7	.86	.84	.89	.88
	Adult Socialization	6	.77	.78	4	.73	.73	.80	.80
	Social/Emotional Reciprocity	13	.90	.90	12	.89	.90	.90	.90
Short Form		15	.91	.92	13	.90	.91	.91	.92
N		–	647	805	–	644	801	644	801

Note. All alpha values represent the weighted average of the normative and clinical samples.

Table 8. Differences Between Original and Prorated T-Score Means and Standard Deviations: ASRS (2–5 Years)

Scale		Parent		Teacher/Childcare Provider		Hedge’s <i>g</i> (Absolute Value)		
		Original	Prorated	Original	Prorated	Parent	Teacher/Childcare Provider	
Total Score	<i>M</i>	49.6	49.6	50.0	49.7	0.01	0.03	
	<i>SD</i>	9.8	10.0	10.1	10.1			
ASRS Scales	Social/Communication	<i>M</i>	50.0	50.0	49.9	50.2	0.01	0.03
		<i>SD</i>	10.4	10.3	10.0	9.7		
	Unusual Behaviors	<i>M</i>	49.2	49.3	50.0	49.3	0.00	0.06
		<i>SD</i>	10.0	10.4	10.1	11.0		
DSM-IV-TR Scale		<i>M</i>	49.6	49.9	49.9	50.3	0.03	0.04
		<i>SD</i>	9.8	10.0	10.1	10.3		
Treatment Scales	Peer Socialization	<i>M</i>	49.5	49.8	49.9	50.5	0.03	0.07
		<i>SD</i>	10.4	10.3	10.0	10.0		
	Adult Socialization	<i>M</i>	49.7	50.3	50.0	51.0	0.06	0.10
		<i>SD</i>	10.2	10.3	10.1	10.0		
	Social/Emotional Reciprocity	<i>M</i>	50.6	51.2	50.0	50.7	0.06	0.07
		<i>SD</i>	10.6	10.8	9.9	9.9		
Short Form		<i>M</i>	49.7	49.3	50.0	49.9	0.04	0.01
		<i>SD</i>	10.3	10.1	10.1	10.0		

Note. Sample sizes are Parent: 287–319; Teacher/Childcare Provider: 304–320. Guidelines for evaluating Hedge’s *g* are $\pm .20$ = small, $\pm .50$ = medium, $\pm .80$ = large.

Table 9. Differences Between Original and Prorated T-Score Means and Standard Deviations: ASRS (6–18 Years) Parent Ratings

Scale		6–11 Years		12–18 Years		Hedge's <i>g</i> (Absolute Value)		
		Original	Prorated	Original	Prorated	6–11 Years	12–18 Years	
Total Score	<i>M</i>	49.4	49.5	49.5	49.8	0.01	0.03	
	<i>SD</i>	9.8	9.6	9.8	9.6			
ASRS Scales	Social/ Communication	<i>M</i>	49.3	49.2	49.4	49.6	0.01	0.02
		<i>SD</i>	9.8	9.7	9.7	9.6		
	Unusual Behaviors	<i>M</i>	49.4	49.5	49.6	50.0	0.01	0.04
		<i>SD</i>	9.8	9.8	10.1	10.0		
	Self-Regulation	<i>M</i>	49.5	49.7	49.8	50.0	0.02	0.02
		<i>SD</i>	9.8	9.8	9.9	9.9		
DSM-IV-TR Scale	<i>M</i>	49.4	49.8	49.5	50.2	0.04	0.07	
	<i>SD</i>	9.7	9.7	9.9	10.1			
Treatment Scales	Peer Socialization	<i>M</i>	49.4	49.8	49.6	50.4	0.04	0.08
		<i>SD</i>	9.7	9.6	9.8	9.8		
	Adult Socialization	<i>M</i>	49.4	50.3	49.7	50.9	0.09	0.11
		<i>SD</i>	9.9	9.8	10.0	10.5		
	Social/Emotional Reciprocity	<i>M</i>	49.4	49.9	49.6	50.0	0.05	0.05
		<i>SD</i>	10.1	10.1	9.6	9.6		
Short Form	<i>M</i>	49.4	50.1	49.4	50.3	0.07	0.09	
	<i>SD</i>	9.6	10.0	9.7	10.0			

Note. Sample sizes are 6–11 Years: 428–461; 12–18 Years: 416–451. Guidelines for evaluating Hedge's *g* are $\pm .20$ = small, $\pm .50$ = medium, $\pm .80$ = large.

Table 10. Differences Between Original and Prorated T-Score Means and Standard Deviations: ASRS (6–18 Years) Teacher Ratings

Scale		6–11 Years		12–18 Years		Hedge's <i>g</i> (Absolute Value)		
		Original	Prorated	Original	Prorated	6–11 Years	12–18 Years	
Total Score	<i>M</i>	49.9	49.5	49.7	49.7	0.04	0.01	
	<i>SD</i>	10.0	10.0	10.4	10.5			
ASRS Scales	Social/ Communication	<i>M</i>	49.9	49.8	50.1	50.2	0.04	0.01
		<i>SD</i>	9.8	10.0	10.3	10.4		
	Unusual Behaviors	<i>M</i>	49.8	49.1	49.3	49.2	0.09	0.01
		<i>SD</i>	10.0	10.2	10.2	10.5		
	Self-Regulation	<i>M</i>	49.9	49.9	50.0	50.0	0.02	0.00
		<i>SD</i>	10.0	10.1	10.5	10.5		
DSM-IV-TR Scale	<i>M</i>	49.9	50.4	49.7	50.4	0.07	0.07	
	<i>SD</i>	10.0	10.2	10.2	10.5			
Treatment Scales	Peer Socialization	<i>M</i>	50.0	50.7	50.6	51.8	0.00	0.12
		<i>SD</i>	9.8	10.0	10.3	10.3		
	Adult Socialization	<i>M</i>	50.0	50.9	49.9	51.2	0.00	0.12
		<i>SD</i>	10.0	10.5	10.3	11.2		
	Social/Emotional Reciprocity	<i>M</i>	50.0	49.1	50.0	49.2	0.00	0.08
		<i>SD</i>	9.9	9.3	10.3	9.9		
Short Form	<i>M</i>	49.9	50.5	49.8	50.6	0.00	0.08	
	<i>SD</i>	9.8	10.0	10.2	10.5			

Note. Sample sizes are 6–11 Years: 445–473; 12–18 Years: 443–474. Guidelines for evaluating Hedge's *g* are $\pm .20$ = small, $\pm .50$ = medium, $\pm .80$ = large.

Table 11. Pattern Matrix Loadings from Exploratory Factor Analysis: ASRS (2–5 Years) Parent

ASRS Item	Factor 1	Factor 2	ASRS Scale
3.	.862	-.217	SC
54.	.820	-.041	SC
50.	.818	-.072	SC
40.	.807	.009	SC
16.	.789	-.016	SC
14.	.787	-.160	SC
19.	.785	-.179	SC
52.	.781	-.046	SC
49.	.781	.025	SC
4.	.780	.047	SC
61.	.756	.112	SC
21.	.750	.016	SC
57.	.727	-.030	SC
13.	.724	.113	SC
7.	.685	-.057	SC
25.	.677	.046	SC
1.	.650	.112	SC
18.	.648	-.085	SC
38.	.647	-.033	SC
35.	.625	.140	SC
51.	.622	.186	SC
55.	.527	.183	SC
67.	.525	.192	SC
32.	.518	.034	SC
43.	.508	.323	SC
37.	.508	.096	SC
36.	.502	.263	SC
33.	.490	.295	SC
17.	.458	.133	SC
63.	.453	.172	SC
24.	.446	.260	SC
30.	.441	.172	SC
62.	.350	.221	SC
8.	-.051	.802	UB
60.	-.071	.778	UB
9.	.041	.765	UB
56.	.050	.757	UB
27.	-.131	.754	UB
10.	.141	.745	UB
20.	.181	.683	UB
47.	.182	.652	UB
39.	-.025	.618	UB
12.	.031	.595	UB
11.	-.140	.565	UB
46.	.277	.557	UB
69.	.325	.484	UB
2.	.105	.478	UB
48.	.130	.468	UB
65.	.171	.441	UB
45.	.319	.430	UB
64.	.208	.417	UB

Note. N = 1,170. SC = Social/Communication, UB = Unusual Behaviors. Factor loadings above ± .300 are in **bold**.

Table 12. Pattern Matrix Loadings from Exploratory Factor Analysis: ASRS (2–5 Years) Teacher/Childcare Provider

ASRS Item	Factor 1	Factor 2	ASRS Scale
19.	.900	-.268	SC
3.	.862	-.194	SC
14.	.828	-.194	SC
50.	.800	-.045	SC
54.	.799	-.002	SC
61.	.788	.089	SC
16.	.775	.008	SC
4.	.760	.113	SC
57.	.752	-.047	SC
52.	.740	.020	SC
13.	.736	.117	SC
25.	.732	.069	SC
21.	.727	.097	SC
40.	.719	.087	SC
49.	.717	.114	SC
1.	.712	.075	SC
38.	.699	-.043	SC
32.	.689	-.063	SC
7.	.647	.006	SC
63.	.643	.012	SC
37.	.598	-.043	SC
35.	.590	.229	SC
67.	.589	.092	SC
24.	.564	.190	SC
36.	.559	.183	SC
55.	.556	.136	SC
43.	.545	.284	SC
51.	.543	.240	SC
17.	.529	.070	SC
30.	.517	.088	SC
33.	.506	.285	SC
62.	.486	.103	SC
18.	.474	.088	SC
56.	-.034	.842	UB
8.	-.028	.825	UB
60.	-.076	.815	UB
9.	-.007	.800	UB
20.	.034	.796	UB
10.	.097	.775	UB
27.	-.086	.754	UB
47.	.094	.716	UB
46.	.185	.616	UB
12.	.021	.591	UB
39.	.063	.572	UB
2.	.017	.558	UB
11.	-.030	.545	UB
69.	.267	.534	UB
48.	.144	.476	UB
45.	.327	.440	UB
64.	.191	.408	UB
65.	.304	.365	UB

Note. N = 1,116. SC = Social/Communication, UB = Unusual Behaviors. Factor loadings above ± .300 are in **bold**.

Table 13. Pattern Matrix Loadings from Exploratory Factor Analysis: ASRS (6–18 Years) Parent

ASRS Item	Factor 1	Factor 2	Factor 3	ASRS Scale
51.	.831	-.015	.018	UB
24.	.808	.046	.081	UB
63.	.749	.101	-.025	UB
22.	.738	-.018	-.042	UB
49.	.723	.103	.030	UB
40.	.703	-.051	.009	UB
62.	.655	.048	-.073	UB
54.	.649	-.106	.005	UB
13.	.644	.163	-.079	UB
65.	.604	-.092	-.167	UB
29.	.597	.022	-.041	UB
48.	.596	.068	-.092	UB
2.	.531	.144	.099	UB
25.	.523	.055	-.159	UB
67.	.476	.086	-.130	UB
46.	.424	-.042	-.196	UB
27.	.374	.049	-.144	UB
38.	.365	.040	-.262	UB
57.	-.082	.858	-.040	SR
44.	-.121	.828	-.001	SR
35.	-.046	.806	-.086	SR
36.	-.061	.751	-.032	SR
30.	.015	.750	-.028	SR
1.	-.047	.717	-.037	SR
18.	.024	.631	.003	SR
71.	.234	.613	.013	SR
60.	.273	.598	.107	SR
7.	.177	.590	-.024	SR
34.	.082	.472	-.223	SR
52.	.102	.471	-.217	SR
6.	.116	.445	.052	SR
16.	.116	.443	-.193	SR
5.	.027	.412	-.323	SR
66.	.187	.344	-.330	SR
42.	-.136	.066	-.830	SC
31.	.016	-.031	-.767	SC
8.	-.011	.017	-.756	SC
43.	-.057	.138	-.750	SC
70.	.105	-.005	-.708	SC
3.	.044	-.171	-.689	SC
39.	-.071	.037	-.688	SC
69.	.080	.130	-.679	SC
45.	.180	-.016	-.639	SC
61.	.102	.065	-.605	SC
33.	.016	.118	-.595	SC
55.	.100	.000	-.590	SC
32.	.100	.065	-.586	SC
28.	.061	.162	-.570	SC
12.	.110	-.013	-.495	SC
4.	.111	.073	-.395	SC

Note. N = 1,893. SC = Social/Communication, UB = Unusual Behaviors, SR = Self-Regulation. Factor loadings above ± .300 are in **bold**.

Table 14. Pattern Matrix Loadings from Exploratory Factor Analysis: ASRS (6–18 Years) Teacher

ASRS Item	Factor 1	Factor 2	Factor 3	ASRS Scale
51.	.882	.003	-.013	UB
63.	.849	.023	.029	UB
24.	.823	.037	.006	UB
22.	.800	.071	-.153	UB
49.	.792	-.006	.019	UB
40.	.761	.022	-.120	UB
13.	.746	.010	.151	UB
25.	.725	.108	.005	UB
2.	.705	-.002	.066	UB
62.	.700	.040	.091	UB
65.	.664	.004	.038	UB
29.	.659	-.017	.053	UB
48.	.642	.105	.002	UB
38.	.600	.190	-.008	UB
46.	.586	-.066	.002	UB
54.	.578	-.009	-.014	UB
67.	.478	.031	.186	UB
27.	.443	.088	.069	UB
42.	-.136	.870	.003	SC
31.	.034	.853	-.127	SC
43.	-.040	.796	.128	SC
3.	.072	.792	-.254	SC
8.	.017	.792	-.038	SC
70.	.059	.740	-.011	SC
55.	.014	.698	.036	SC
32.	.088	.667	.151	SC
45.	.154	.648	.007	SC
69.	.123	.644	.121	SC
39.	-.027	.623	.131	SC
61.	.116	.621	.030	SC
28.	.089	.598	.150	SC
33.	.000	.535	.235	SC
4.	.021	.521	-.022	SC
12.	-.004	.473	.135	SC
44.	-.113	.037	.873	SR
57.	-.089	.091	.834	SR
35.	.038	.037	.830	SR
36.	-.076	.046	.819	SR
30.	.054	.027	.783	SR
1.	-.057	.075	.775	SR
18.	.071	-.034	.692	SR
71.	.282	-.016	.584	SR
5.	-.078	.282	.571	SR
16.	.107	.144	.562	SR
60.	.343	-.143	.558	SR
7.	.347	-.041	.554	SR
6.	.202	-.081	.494	SR
52.	.215	.209	.458	SR
66.	.277	.264	.390	SR
34.	.265	.248	.331	SR

Note. N = 2,207. SC = Social/Communication, UB = Unusual Behaviors, SR = Self-Regulation. Factor loadings above ± .300 are in **bold**.

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