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A Review of the Clinical Utility and Psychometric Properties of the Autism Spectrum Quotient Adolescent Version (AQ-Adolescent): Gender-Specific Norms, Percentile Rankings, and Qualitative Descriptors

The Autism Spectrum Quotient Adolescent Version (AQ-Adolescent) was developed by Baron-Cohen and colleagues (2006). It is a 50-item parent-report measure that assesses autistic traits in adolescents between the ages of 12 and 15 years. This technical review provides clinicians with gender-specific normative data, percentile rankings, and qualitative descriptors to enhance the interpretation and clinical utility of AQ-Adolescent scores.

[View the AQ-Adolescent on NovoPsych.com.au](https://www.novopsych.com.au)

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Developer

The Autism Spectrum Quotient Adolescent Version (AQ-Adolescent) was developed by Baron-Cohen and colleagues (2006):

Baron-Cohen, S., Hoekstra, R. A., Knickmeyer, R., & Wheelwright, S. (2006). The Autism-Spectrum Quotient (AQ)--adolescent version. *Journal of Autism and Developmental Disorders*, 36(3), 343–350. <https://doi.org/10.1007/s10803-006-0073-6>

This document was developed by NovoPsych to review contemporary literature and to describe original scoring methodologies and to provide interpretation material, enhance normative data and provide qualitative descriptors.

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Description

The Autism Spectrum Quotient Adolescent Version (AQ-Adolescent) is a 50 item parent-report measure that assesses autistic traits in adolescents between the ages of 12 and 15 years (Baron-Cohen et al., 2006). The AQ-Adolescent has five subscales, each representing a specific trait relevant for the identification of Autistic adolescents:

- **Social Skill**, which reflects confidence and ease in social situations, including preferences for social activities and comfort with social interaction.
- **Attention Switching**, which reflects the ability to switch focus between tasks or activities, and adaptability to changes in routine or unexpected events.
- **Attention to Detail**, which relates to a heightened focus on details and patterns in the environment, often to the exclusion of the bigger picture.
- **Communication**, which reflects the ability to engage in reciprocal communication, understand conversational cues, and interpret social language nuances.
- **Imagination**, which focuses on imaginative thinking, such as the capacity for pretend play, hypothetical thinking, and enjoyment of fiction or creative scenarios.

The AQ-Adolescent is a widely used parent-report measure of autistic traits. Research indicates that it effectively captures autistic-like trait levels and can help differentiate between Autistic and Non-Autistic adolescents.

While the AQ-Adolescent provides valuable insights into autistic traits and can be used by qualified professionals, such as psychologists, as one part of a comprehensive assessment process for Autism, scores may also reflect phenomena other than, or co-occurring with, Autism. It is important to interpret the results within the context of the adolescent's developmental history and other personal characteristics.

Psychometric Properties

The Autism Spectrum Quotient Adolescent Version (AQ-Adolescent) comprises 50 items, with 10 items for each of five theoretically derived subscales representing specific trait dimensions associated with Autism (Baron-Cohen et al., 2006). The AQ-Adolescent was adapted from the adult version of the AQ (Baron-Cohen et al., 2001). Specifically, the items were rewritten to identify autistic traits through parent-report (as opposed to self-report) and to be relevant for adolescents.

The AQ-Adolescent was validated in Autistic adolescents and adolescents drawn from the general population (Baron-Cohen et al., 2006). This study found that the AQ-Adolescent's five subscale scores have acceptable internal consistency, with Cronbach's alpha values between 0.66 and 0.88, and that the total score has high test-retest reliability ($r = 0.92$).

Baron-Cohen and colleagues (2006) suggested that a total scale cut-off score of 30 and above could be used to distinguish between Autistic and Non-Autistic adolescents, regardless of gender. However, in the general population, males typically score higher than females. NovoPsych has therefore established gender-specific norms and thresholds, based on data obtained from the study by Baron-Cohen and colleagues (2006), to enhance the interpretability and classification accuracy of AQ-Adolescent scores, as described in Supporting Information (pp. 7-18).

The adolescent's scores are converted to gender-specific percentiles, providing useful information about the degree to which they exhibit autistic traits relative to typical levels among Autistic adolescents and adolescents in the general population of the same gender.

Scoring & Interpretation

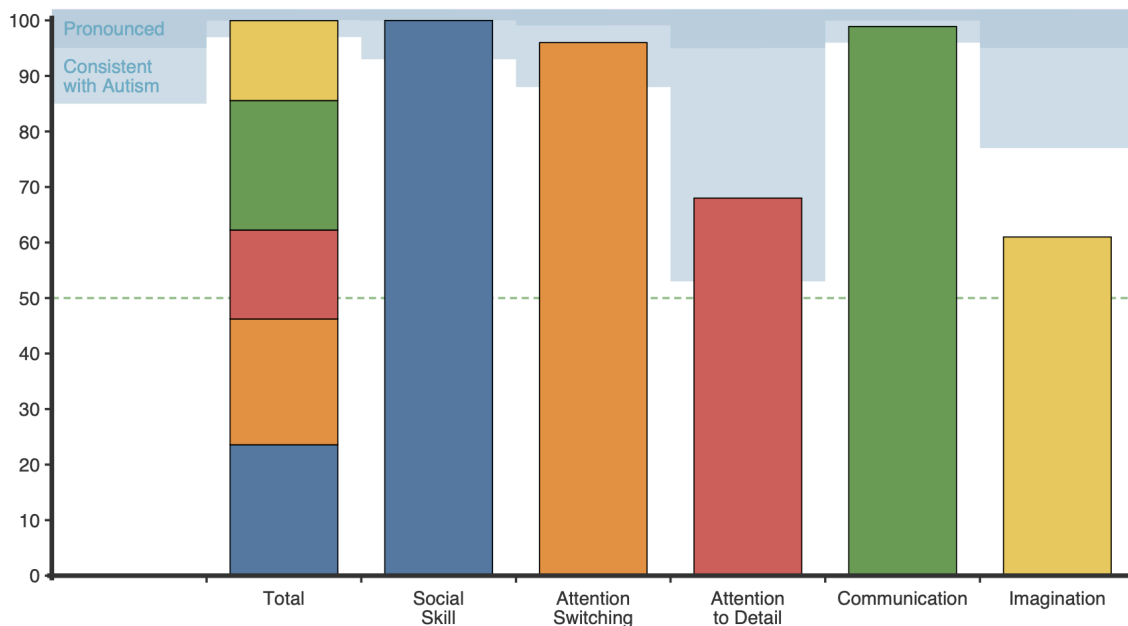
Autism Spectrum Quotient Adolescent Version (AQ-Adolescent) scores are presented as a total scale score as well as scores on five subscales. Higher total scale scores are indicative of higher overall levels of autistic traits. A higher subscale score is indicative of a higher level of the specific trait that is associated with Autism.

AQ-Adolescent Results			
	Score	Percentile	Descriptor
Total (0-50)	36	99.95	Overall consistent with Autism
Social Skill (0-10)	9	99.98	Pronounced
Attention Switching (0-10)	8	96	Consistent with Autism
Attention to Detail (0-10)	7	68	Consistent with Autism
Communication (0-10)	7	98.9	Consistent with Autism
Imagination (0-10)	5	61	-

- **Social Skill** (Items 1, 11, 13, 15, 22, 36, 44, 45, 47, 48) assesses difficulties and discomfort with social situations, including difficulties with social interactions and avoidance of some social situations.
- **Attention Switching** (Items 2, 4, 10, 16, 25, 32, 34, 37, 43, 46) describes difficulties in shifting focus between tasks or activities and adapting to changes in routine or unexpected events.
- **Attention to Detail** (Items 5, 6, 9, 12, 19, 23, 28, 29, 30, 49) relates to a heightened focus on specific details and patterns in the environment, which can sometimes lead to challenges in seeing and understanding the broader context.
- **Communication** (Items 7, 17, 18, 26, 27, 31, 33, 35, 38, 39) describes difficulties in engaging in reciprocal communication and interpreting indirect communication and social cues.
- **Imagination** (Items 3, 8, 14, 20, 21, 24, 40, 41, 42, 50) focuses on challenges related to imaginative thinking, including difficulties with hypothetical scenarios (e.g., pretend play).

The adolescent's total and subscale scores are expressed as (gender-specific) percentiles based on normative data for adolescents in the general population (Baron-Cohen et al., 2006). The percentiles contextualise the adolescent's scores relative to the typical scores of adolescents in the general population. For example, the 50th percentile represents the typical levels of autistic traits among adolescents in the general population, while scores on the 90th percentile fall within the top 10% when compared to adolescents in the general population. Scores in this higher range are more consistent with those of Autistic adolescents than adolescents in the general population. For the total AQ-Adolescent score, 3% of males and 4% of females score in the range that aligns with the typical scores of Autistic males and females, respectively.

AQ-Adolescent Normative Percentiles (Males)



A score is classified as “Consistent with Autism” if it more closely resembles the scores of Autistic adolescents than those of adolescents in the general population. To this end, the “Consistent with Autism” thresholds are calculated as the weighted midpoint between the distribution of scores among the Autistic and Community samples (Jacobson & Truax, 1991).

A score is considered “Pronounced” if it is in the upper half of the Autistic distribution, reflecting higher levels of autistic traits. As such, the “Pronounced” thresholds represent scores on or above the 50th percentile when compared to Autistic adolescents.

For the Attention to Detail subscale, a higher “Pronounced” threshold reflecting scores on or above the 90th percentile within the Autistic sample was chosen due to significant overlap between the score distributions of the Autistic and Community samples.

Scores classified as either “Consistent with Autism” or “Pronounced” suggest that the adolescent exhibits autistic traits at a level consistent with Autistic adolescents. Gender-specific distributions of scores, and their classifications, among Autistic adolescents and adolescents in the general population are presented in Supporting Information (pp. 7-18).

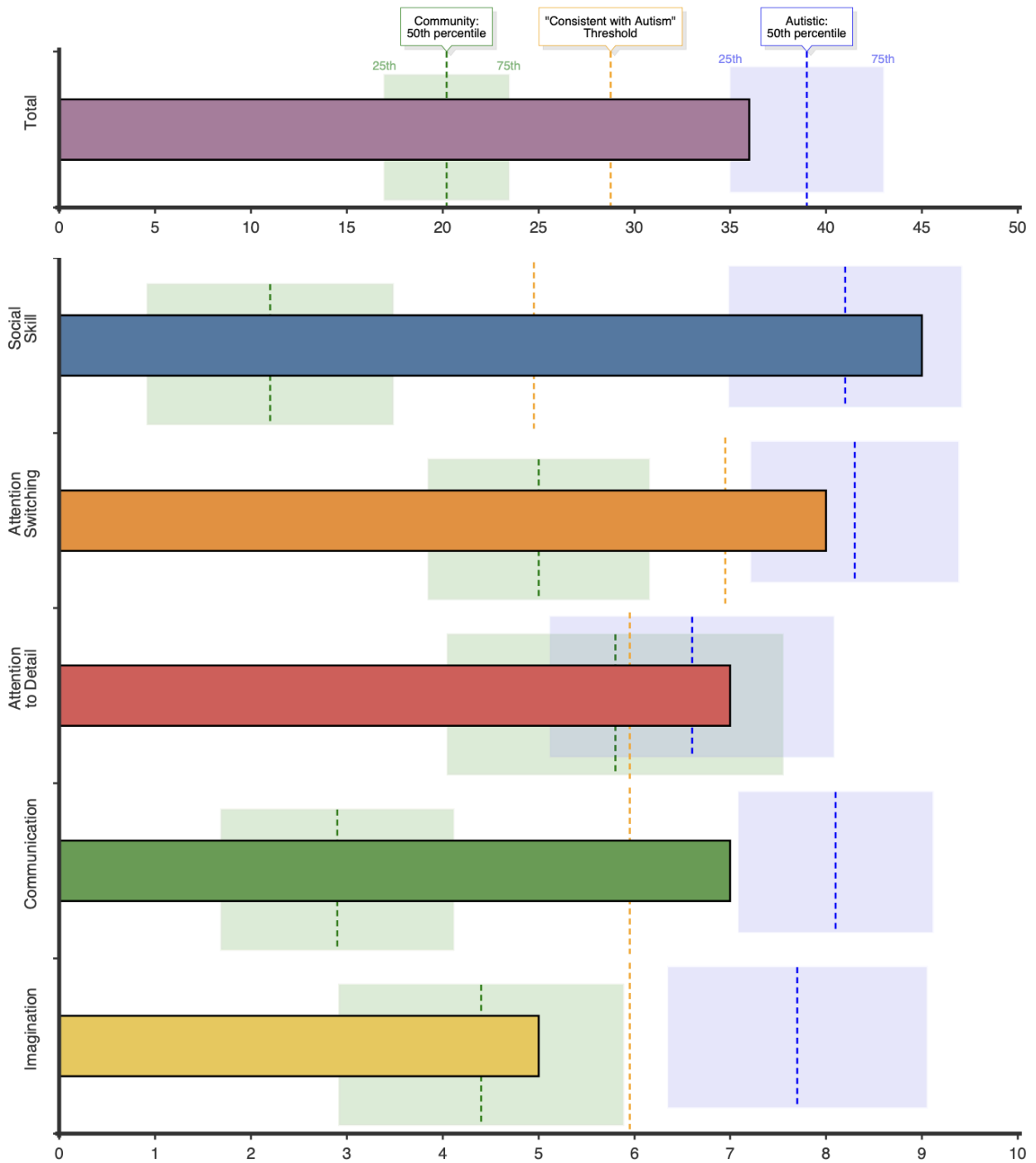
The thresholds for the total AQ-Adolescent score are as follows.

- **Males:** 29 and above is “Consistent with Autism”; 39 and above is “Pronounced”
- **Females:** 25 and above is “Consistent with Autism”; 36 and above is “Pronounced”
- **Combined (Males and Females):** 28 and above is “Consistent with Autism”; 39 and above is “Pronounced”

Graphs comparing the total and subscale scores to the normative distribution of scores among Autistic adolescents and adolescents in the general population are presented, with shaded areas corresponding to scores between the 25th and 75th percentile. These graphs contextualise the adolescent’s scores relative to typical levels of autistic traits among Autistic adolescents and adolescents in the general population.



AQ-Adolescent Scores Compared to Community and Autistic Distributions (Males)



Supporting Information

This section outlines NovoPsych’s development of gender-specific norms for the AQ-Adolescent based on data obtained from a study by Baron-Cohen and colleagues (2006). By accounting for gender differences, these norms enhance the interpretability of AQ-Adolescent scores, enabling clinicians to assess autistic traits with greater nuance.

This section also outlines NovoPsych’s development of gender-specific classification thresholds and qualitative descriptors for AQ-Adolescent scores. These descriptors provide clinicians with clear and consistent classifications of levels of autistic traits, supporting better understanding and communication of AQ-Adolescent scores.

Lastly, this section describes the structure and logic of the automated interpretive text that NovoPsych provides in AQ-Adolescent reports. This interpretive text adapts to the adolescent’s scores and gender, providing clinicians with comprehensive, tailored interpretations of AQ-Adolescent results.

Percentile Calculations

Means and standard deviations for the total AQ-Adolescent score and AQ-Adolescent subscale scores are shown in Table 1. These data are from a sample of 79 Autistic adolescents (63 males and 16 females) recruited from various sources (including the National Autistic Society UK, specialist clinics carrying out diagnostic assessments, and advertisements in newsletters and web pages for Autistic children and adolescents), and a community sample of 50 adolescents (25 males and 25 females) selected at random from among 200 adolescents attending mainstream schools (2 primary and 2 secondary) in the East Anglia area in the East of England (Baron-Cohen et al., 2006).

Table 1. Mean (SD) total and subscale scores.

	Community			Autistic		
	All	Males	Females	All	Males	Females
Total AQ-Adolescent	17.7 (5.7)	20.2 (4.8)	15.3 (5.7)	38.3 (6.0)	39.0 (5.9)	35.7 (6.1)
Social Skill	2.0 (1.9)	2.2 (1.9)	1.8 (1.9)	8.0 (1.9)	8.2 (1.8)	7.3 (2.0)
Attention Switching	4.5 (2.0)	5.0 (1.7)	4.1 (2.1)	8.3 (1.6)	8.3 (1.6)	8.1 (1.8)
Attention to Detail	5.3 (2.4)	5.8 (2.6)	4.8 (2.2)	6.5 (2.1)	6.6 (2.2)	5.9 (1.9)
Communication	2.7 (1.7)	2.9 (1.8)	2.6 (1.6)	8.0 (1.5)	8.1 (1.5)	7.6 (1.6)
Imagination	3.2 (2.3)	4.4 (2.2)	2.0 (1.8)	7.6 (2.0)	7.7 (2.0)	6.8 (2.1)

Source: Baron-Cohen et al. (2006).

NovoPsych has used the above means and standard deviations to convert AQ-Adolescent scores to percentiles, as shown in Tables 2 and 3.1 to 3.5, according to the following equation.

$$Percentile = 100 \times \Phi((x - M)/SD)$$

Where:

- x is the score
- M is the mean
- SD is the standard deviation
- Φ is the [standard normal cumulative distribution function](#)

This equation first standardises the score to a z-score by subtracting the mean and dividing by the standard deviation, then converts the z-score to a percentile by applying the standard normal cumulative distribution function and multiplying by 100.

These percentiles contextualise each score relative to typical scores among Autistic adolescents and adolescents in the general population, offering a clearer perspective on how the adolescent's levels of autistic traits compare to those of their peers.

Percentile Tables

Table 2. Percentiles for total AQ-Adolescent scores relative to general population and autistic samples, stratified by gender.

Score	Total					
	Community			Autistic		
	All	Male	Female	All	Male	Female
0	0.1	0.01	0.4	0.01	0.01	0.01
1	0.2	0.01	0.6	0.01	0.01	0.01
2	0.3	0.01	1.0	0.01	0.01	0.01
3	0.5	0.02	1.5	0.01	0.01	0.01
4	0.8	0.04	2	0.01	0.01	0.01
5	1.3	0.1	4	0.01	0.01	0.01
6	2	0.2	5	0.01	0.01	0.01
7	3	0.3	7	0.01	0.01	0.01
8	4	0.6	10	0.01	0.01	0.01
9	6	1.0	13	0.01	0.01	0.01
10	9	1.7	18	0.01	0.01	0.01
11	12	3	23	0.01	0.01	0.01
12	16	4	28	0.01	0.01	0.01
13	20	7	34	0.01	0.01	0.01
14	26	10	41	0.01	0.01	0.02
15	32	14	48	0.01	0.01	0.03
16	38	19	55	0.01	0.01	0.06
17	45	25	62	0.02	0.01	0.1
18	52	32	68	0.04	0.02	0.2
19	59	40	74	0.06	0.03	0.3
20	66	48	80	0.1	0.06	0.5
21	72	57	84	0.2	0.1	0.8
22	77	65	88	0.3	0.2	1.2
23	82	72	91	0.5	0.3	1.9
24	87	79	94	0.9	0.6	3
25	90	84	96	1.3	0.9	4
26	93	89	97	2	1.4	6
27	95	92	98	3	2	8
28	96	95	98.7	4	3	10
29	98	97	99.2	6	5	14
30	98.5	98	99.5	8	6	18
31	99.0	98.8	99.7	11	9	22
32	99.4	99.3	99.8	15	12	27
33	99.6	99.6	99.9	19	15	33
34	99.8	99.8	99.95	24	20	39
35	99.9	99.9	99.97	29	25	45
36	99.93	99.95	99.99	35	31	52
37	99.96	99.98	99.99	41	37	58
38	99.98	99.99	99.99	48	43	65
39	99.99	99.99	99.99	55	50	71
40	99.99	99.99	99.99	61	57	76
41	99.99	99.99	99.99	67	63	81
42	99.99	99.99	99.99	73	69	85
43	99.99	99.99	99.99	78	75	88
44	99.99	99.99	99.99	83	80	91
45	99.99	99.99	99.99	87	85	94
46	99.99	99.99	99.99	90	88	95
47	99.99	99.99	99.99	93	91	97
48	99.99	99.99	99.99	95	94	98
49	99.99	99.99	99.99	96	95	98.5
50	99.99	99.99	99.99	97	97	99

Table 3.1. Percentiles for Social Skill subscale scores relative to general population and autistic samples, stratified by gender.

Score	Social Skill					
	Community			Autistic		
	All	Male	Female	All	Male	Female
0	15	12	17	0.01	0.01	0.01
1	30	26	34	0.01	0.01	0.08
2	50	46	54	0.08	0.03	0.4
3	70	66	74	0.4	0.2	1.6
4	85	83	88	1.8	1	5
5	94	93	95	6	4	13
6	98.2	98	98.6	15	11	26
7	99.6	99.4	99.7	30	25	44
8	99.92	99.9	99.94	50	46	64
9	99.99	99.98	99.99	70	67	80
10	99.99	99.99	99.99	85	84	91

Table 3.2. Percentiles for Attention Switching subscale scores relative to general population and autistic samples, stratified by gender.

Score	Attention Switching					
	Community			Autistic		
	All	Male	Female	All	Male	Female
0	1	0.2	3	0.01	0.01	0.01
1	4	0.9	7	0.01	0.01	0.01
2	11	4	16	0.01	0.01	0.04
3	23	12	30	0.05	0.05	0.2
4	40	28	48	0.4	0.4	1.1
5	60	50	67	2	2	4
6	77	72	82	8	8	12
7	89	88	92	21	21	27
8	96	96	97	43	43	48
9	98.8	99.1	99	67	67	69
10	99.7	99.8	99.8	86	86	85

Table 3.3. Percentiles for Attention to Detail subscale scores relative to general population and autistic samples, stratified by gender.

Score	Attention to Detail					
	Community			Autistic		
	All	Male	Female	All	Male	Female
0	1.4	1.3	1.5	0.1	0.13	0.1
1	4	3	4	0.4	0.5	0.5
2	8	7	10	1.6	1.8	2
3	17	14	21	5	5	6
4	29	24	36	12	12	16
5	45	38	54	24	23	32
6	61	53	71	41	39	52
7	76	68	84	59	57	72
8	87	80	93	76	74	87
9	94	89	97	88	86	95
10	97	95	99.1	95	94	98.5

Table 3.4. Percentiles for Communication subscale scores relative to general population and autistic samples, stratified by gender.

Score	Communication					
	Community			Autistic		
	All	Male	Female	All	Male	Female
0	6	5	5	0.01	0.01	0.01
1	16	15	16	0.01	0.01	0.01
2	34	31	35	0.01	0.01	0.02
3	57	52	60	0.04	0.03	0.2
4	78	73	81	0.4	0.3	1.2
5	91	88	93	2	1.9	5
6	97	96	98.3	9	8	16
7	99.4	98.9	99.7	25	23	35
8	99.91	99.8	99.96	50	47	60
9	99.99	99.96	99.99	75	73	81
10	99.99	99.99	99.99	91	90	93



Table 3.5. Percentiles for Imagination subscale scores relative to general population and autistic samples, stratified by gender.

Score	Imagination					
	Community			Autistic		
	All	Male	Female	All	Male	Female
0	8	2	13	0.01	0.01	0.06
1	17	6	29	0.05	0.04	0.3
2	30	14	50	0.3	0.2	1.1
3	47	26	71	1.1	0.9	4
4	64	43	87	4	3	9
5	78	61	95	10	9	20
6	89	77	98.7	21	20	35
7	95	88	99.7	38	36	54
8	98.2	95	99.96	58	56	72
9	99.4	98.2	99.99	76	74	85
10	99.8	99.5	99.99	88	87	94

Descriptors

In addition to gender-specific norms, NovoPsych has established gender-specific classification thresholds and qualitative descriptors for the total AQ-Adolescent score and AQ-Adolescent subscale scores (see Table 4).

Table 4. Thresholds.

	“Consistent with Autism” Threshold			“Pronounced” Threshold		
	All	Males	Females	All	Males	Females
Total AQ-Adolescent	28	29	25	39	39	36
Social Skill	5	5	4	8	9	8
Attention Switching	7	7	6	9	9	9
Attention to Detail	6	6	5	10	10	9
Communication	6	6	5	8	9	8
Imagination	6	6	4	8	8	7

The “Consistent with Autism” thresholds were calculated as the weighted midpoint between the score distributions of the Autistic and Community samples according to the following equation (Jacobson & Truax, 1991).

$$c = \frac{s_0 M_1 + s_1 M_0}{s_1 + s_0}$$

where M_0 and s_0 are the mean and standard deviation of the Community sample, and M_1 and s_1 are the mean and standard deviation of the Autistic sample.

Scores that meet or exceed this threshold more closely resemble those of Autistic adolescents than those of adolescents in the general population, indicating that the adolescent exhibits autistic traits, or the specific autistic trait, at a level consistent with Autistic adolescents. Scores classified as “Consistent with Autism” are coloured lighter blue in Tables 2 and 3.1 to 3.5.

The “Pronounced” threshold represents scores on the 50th percentile or above within the Autistic sample. Scores meeting or exceeding this threshold fall within the upper half of the Autistic distribution, reflecting a more “Pronounced” level of autistic traits, or a specific autistic trait.

For the Attention to Detail subscale, a higher “Pronounced” threshold reflecting scores on or above the 90th percentile within the Autistic sample was chosen due to significant overlap between the score distributions of the Autistic and Community samples. Scores classified as “Pronounced” are coloured darker blue in Tables 2 and 3.1.

Using the gender-specific norms and thresholds established above, Figures 1 and 2 show the distributions of the total AQ score and AQ subscale scores among adolescents in the general population and Autistic adolescents, separately for males and females. Figure 3 shows these distributions for the combined samples (i.e., males and females). The shaded areas indicate scores between the 25th and 75th percentiles within each sample.

Figure 1. Distribution of AQ-Adolescent scores among males in the general population (“Community”) and Autistic males.

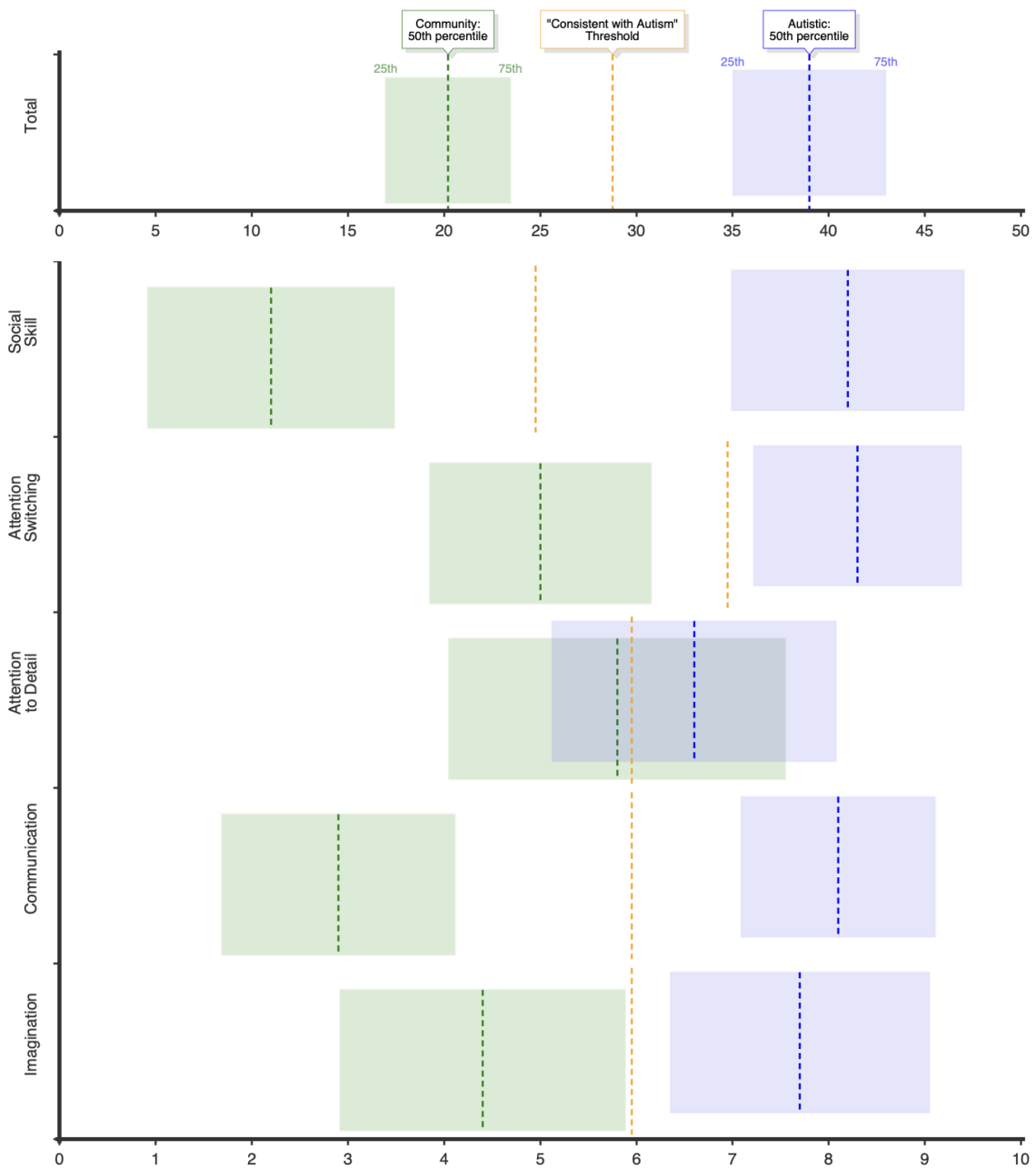


Figure 2. Distribution of AQ-Adolescent scores among females in the general population (“Community”) and Autistic females.

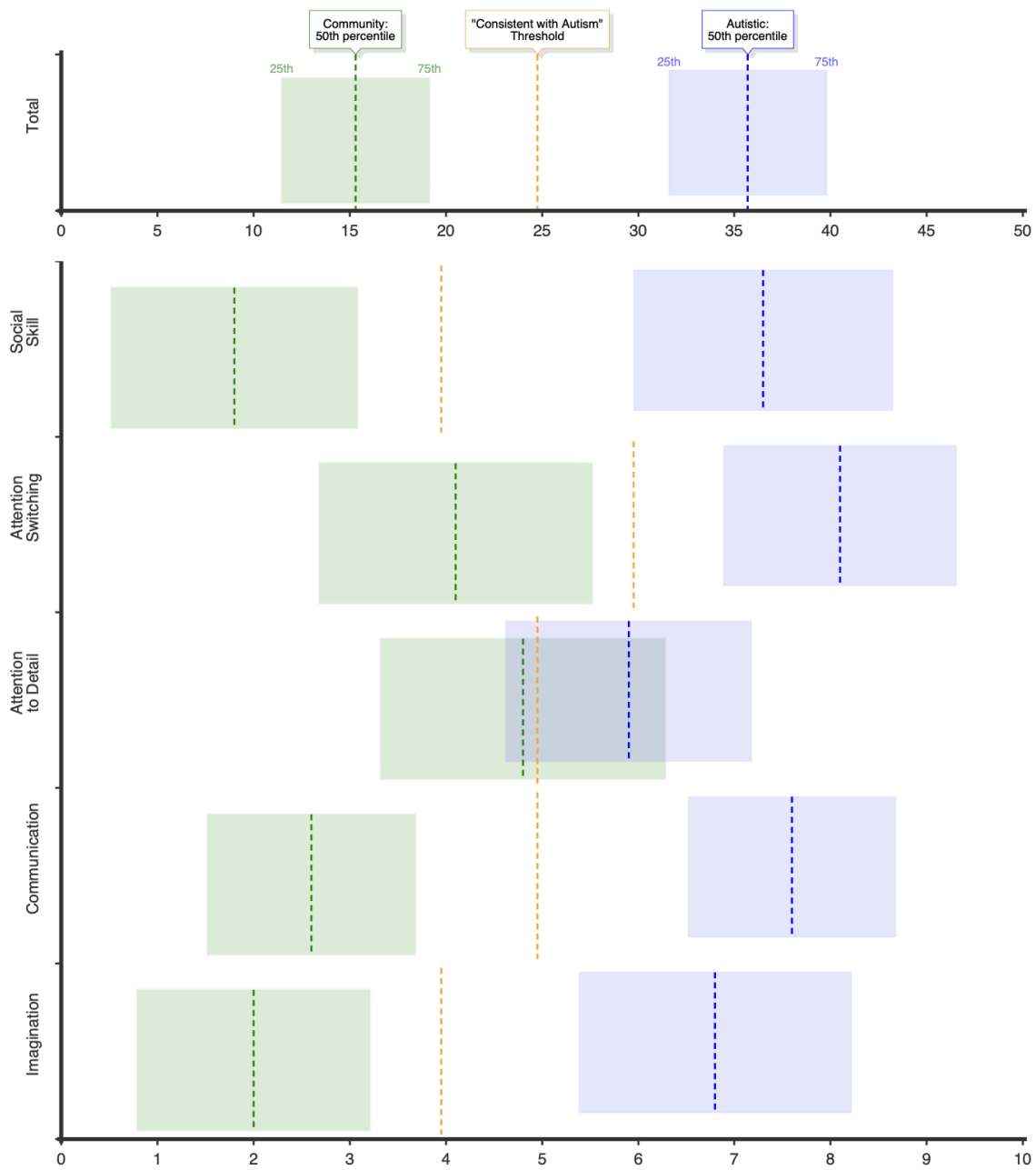
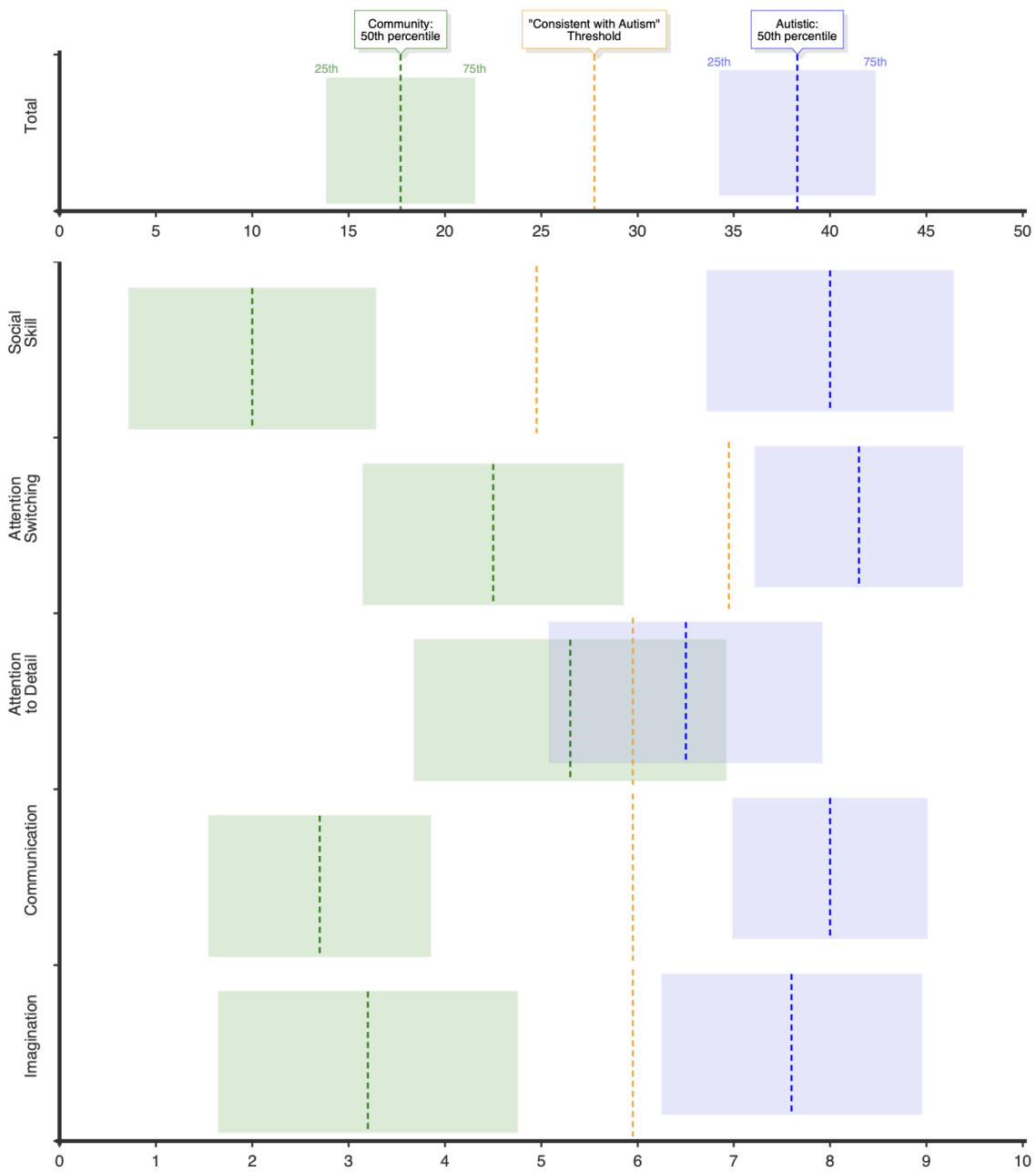


Figure 3. Distribution of AQ-Adolescent scores among adolescents in the general population (“Community”) and Autistic adolescents.



Interpretive Text

The interpretive text for the AQ-Adolescent follows a structured format that adapts based on the adolescent's scores and gender. The text begins with a general statement about the adolescent's overall level of autistic traits based on the classification of the total score and its corresponding (gender-specific) percentile.

For scores below the (gender-specific) "Consistent with Autism" threshold, the general statement varies based on the (gender-specific) percentile, and includes a (gender-specific) percentile comparison to a reference group of adolescents in the general population:

Below the 85th percentile:

"The adolescent's Autism Spectrum Quotient Adolescent Version (AQ-Adolescent) score is on the XXst/nd/rd/th percentile when compared to <adolescents | males | females> in the general population. Their total AQ-Adolescent score is below the level considered to be consistent with Autism and is more consistent with those of <adolescents | males | females> in the general population."

85th percentile or higher:

"The adolescent's Autism Spectrum Quotient Adolescent Version (AQ-Adolescent) score is on the XXst/nd/rd/th percentile when compared to <adolescents | males | females> in the general population. This means that their score falls within the top XX percent when compared to their peers and is higher than typical. However, their score is below the level considered to be consistent with Autism."

For "Consistent with Autism" or "Pronounced" scores, the general statement includes (gender-specific) percentile comparisons to both general population and autistic reference groups:

"The adolescent's Autism Spectrum Quotient Adolescent Version (AQ-Adolescent) score is on the XXst/nd/rd/th percentile when compared to <adolescents | males | females> in the general population. When compared to Autistic <adolescents | males | females>, the adolescent's score is on the XXst/nd/rd/th percentile. As such, their total AQ-Adolescent score falls within the top XX percent when compared to <adolescents | males | females> in the general population and is more consistent with those of Autistic <adolescents | males | females>. It is important to note that scores may also reflect phenomena other than, or co-occurring with, Autism. Therefore, scores should be interpreted within the context of the individual's developmental history and other personal characteristics."

The text then lists any subscales that score in the "Consistent with Autism" or "Pronounced" ranges (hereafter referred to as "notable" subscales), both of which suggest that the adolescent exhibits the specific autistic trait at a level consistent with Autistic adolescents. These subscales are listed in order, first by classification ("Pronounced" before "Consistent with Autism") and then by (gender-specific) percentile value. The text also highlights any subscales that score in the "Pronounced" range. For example:

"The adolescent's scores on the Communication and Social Skills subscales are consistent with Autism. In particular, the adolescent's score on the Communication subscale is Pronounced."

For each notable subscale, the text then provides a description including:

- The subscale's (gender-specific) percentile comparisons to both general population and autistic reference groups
- The implications of high scores in this area
- The specific questionnaire items that received the highest ratings

For “Consistent with Autism” or “Pronounced” scores on the Social Skill subscale:

“The adolescent's score on the Social Skill subscale is on the XXst/nd/rd/th percentile when compared to <adolescents | males | females> in the general population and the XXst/nd/rd/th percentile when compared to Autistic <adolescents | males | females>. This suggests possible difficulties with social confidence and comfort in interactions, which may lead them to feel less at ease in social situations or less inclined to engage in group activities. They may find social norms unclear or challenging to navigate, impacting their preference for or enjoyment of social gatherings. Endorsed items within this subscale include:”

For “Consistent with Autism” or “Pronounced” scores on the Attention Switching subscale:

“The adolescent's score on the Attention Switching subscale is on the XXst/nd/rd/th percentile when compared to <adolescents | males | females> in the general population and the XXst/nd/rd/th percentile when compared to Autistic <adolescents | males | females>. This suggests a preference for predictability and routines, and they may experience increased stress in response to unexpected changes. They might find it challenging to shift focus quickly, impacting their ability to adjust to new activities or interruptions. Endorsed items within this subscale include:”

For “Consistent with Autism” or “Pronounced” scores on the Attention to Detail subscale:

“The adolescent's score on the Attention to Detail subscale is on the XXst/nd/rd/th percentile when compared to <adolescents | males | females> in the general population and the XXst/nd/rd/th percentile when compared to Autistic <adolescents | males | females>. This suggests a heightened focus on details or patterns, which may lead them to prioritise specifics over the broader context. This strong attention to detail may support certain analytical tasks, though it might also limit flexibility in more fluid situations. Endorsed items within this subscale include:”

For “Consistent with Autism” or “Pronounced” scores on the Communication subscale:

“The adolescent's score on the Communication subscale is on the XXst/nd/rd/th percentile when compared to <adolescents | males | females> in the general population and the XXst/nd/rd/th percentile when compared to Autistic <adolescents | males | females>. This indicates potential difficulties in conversational flow and understanding indirect communication cues, such as tone of voice, body language, or facial expressions. They may find interpreting these social cues challenging, which could contribute to occasional misunderstandings in social exchanges. Endorsed items within this subscale include:”

For “Consistent with Autism” or “Pronounced” scores on the Imagination subscale:

“The adolescent's score on the Imagination subscale is on the XXst/nd/rd/th percentile when compared to <adolescents | males | females> in the general population and the XXst/nd/rd/th percentile when compared to Autistic <adolescents | males | females>. This suggests a preference for concrete, linear or factual thinking over hypothetical or imaginative scenarios. They may find it more difficult to engage in activities involving abstract thinking or fiction, which may lower their preference for certain creative or social experiences. Endorsed items within this subscale include:”

Developer

Baron-Cohen, S., Hoekstra, R. A., Knickmeyer, R., & Wheelwright, S. (2006). The Autism-Spectrum Quotient (AQ)--adolescent version. *Journal of Autism and Developmental Disorders*, 36(3), 343–350.
<https://doi.org/10.1007/s10803-006-0073-6>

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Baron-Cohen, S., Hoekstra, R. A., Knickmeyer, R., & Wheelwright, S. (2006). The Autism-Spectrum Quotient (AQ)--adolescent version. *Journal of Autism and Developmental Disorders*, 36(3), 343–350.
<https://doi.org/10.1007/s10803-006-0073-6>

Baron-Cohen, S., Wheelwright, S., Skinner, R., Martin, J., & Clubley, E. (2001). The Autism-Spectrum Quotient (AQ): Evidence from Asperger syndrome/high-functioning Autism, males and females, scientists and mathematicians. *Journal of Autism and Developmental Disorders*, 31(1), 5-17. <https://doi.org/10.1023/a:1005653411471>

Jacobson, N. S., & Truax, P. (1991). Clinical significance: A statistical approach to defining meaningful change in psychotherapy research. *Journal of Consulting and Clinical Psychology*, 59(1), 12-19.
<https://doi.org/10.1037//0022-006x.59.1.12>



Assessment Questions



NovoPsych

Autism Spectrum Quotient Adolescent Version (AQ-Adolescent)

Instructions:

Please choose the response that best describes how strongly each statement applies to the adolescent.

		Definitely Agree	Slightly Agree	Slightly Disagree	Definitely Disagree
1	They prefer to do things with others rather than on their own	0	0	1	1
2	They prefer to do things the same way over and over again	1	1	0	0
3	If they try to imagine something, they find it very easy to create a picture in their mind	0	0	1	1
4	They frequently get so strongly absorbed in one thing that they lose sight of other things	1	1	0	0
5	They often notice small sounds when others do not	1	1	0	0
6	They usually notice car number plates or similar strings of information	1	1	0	0
7	Other people frequently tell them that what they have said is impolite, even though they think it is polite	1	1	0	0
8	When they are reading a story, they can easily imagine what the characters might look like	0	0	1	1
9	They are fascinated by dates	1	1	0	0
10	In a social group, they can easily keep track of several different people's conversations	0	0	1	1
11	They find social situations easy	0	0	1	1
12	They tend to notice details that others do not	1	1	0	0
13	They would rather go to a library than a party	1	1	0	0
14	They find making up stories easy	0	0	1	1
15	They find themselves drawn more strongly to people than to things	0	0	1	1
16	They tend to have very strong interests, which they get upset about if they can't pursue	1	1	0	0
17	They enjoy social chit-chat	0	0	1	1



		Definitely Agree	Slightly Agree	Slightly Disagree	Definitely Disagree
18	When they talk, it isn't always easy for others to get a word in edgeways	1	1	0	0
19	They are fascinated by numbers	1	1	0	0
20	When they are reading a story, they find it difficult to work out the characters' intentions	1	1	0	0
21	They don't particularly enjoy reading fiction	1	1	0	0
22	They find it hard to make new friends	1	1	0	0
23	They notice patterns in things all the time	1	1	0	0
24	They would rather go to the theatre than a museum	0	0	1	1
25	It does not upset them if their daily routine is disturbed	0	0	1	1
26	They frequently find that they don't know how to keep a conversation going	1	1	0	0
27	They find it easy to "read between the lines" when someone is talking to them	0	0	1	1
28	They usually concentrate more on the whole picture, rather than the small details	0	0	1	1
29	They are not very good at remembering phone numbers	0	0	1	1
30	They don't usually notice small changes in a situation, or a person's appearance	0	0	1	1
31	They know how to tell if someone listening to them is getting bored	0	0	1	1
32	They find it easy to do more than one thing at once	0	0	1	1
33	When they talk on the phone, they are not sure when it's their turn to speak	1	1	0	0
34	They enjoy doing things spontaneously	0	0	1	1
35	They are often the last to understand the point of a joke	1	1	0	0
36	They find it easy to work out what someone is thinking or feeling just by looking at their face	0	0	1	1
37	If there is an interruption, they can switch back to what they were doing very quickly	0	0	1	1



		Definitely Agree	Slightly Agree	Slightly Disagree	Definitely Disagree
38	They are good at social chit-chat	0	0	1	1
39	People often tell them that they keep going on and on about the same thing	1	1	0	0
40	When they were younger, they used to enjoy playing games involving pretending with other children	0	0	1	1
41	They like to collect information about categories of things (e.g., types of car, types of bird, types of train, types of plant, etc.)	1	1	0	0
42	They find it difficult to imagine what it would be like to be someone else	1	1	0	0
43	They like to plan any activities they participate in carefully	1	1	0	0
44	They enjoy social occasions	0	0	1	1
45	They find it difficult to work out people's intentions	1	1	0	0
46	New situations make them anxious	1	1	0	0
47	They enjoy meeting new people	0	0	1	1
48	They are a good diplomat	0	0	1	1
49	They are not very good at remembering people's date of birth	0	0	1	1
50	They find it very easy to play games with children that involve pretending	0	0	1	1

Developer Reference:

Baron-Cohen, S., Hoekstra, R. A., Knickmeyer, R., & Wheelwright, S. (2006). The Autism-Spectrum Quotient (AQ)--adolescent version. *Journal of Autism and Developmental Disorders*, 36(3), 343–350. <https://doi.org/10.1007/s10803-006-0073-6>

Administer Now

Sample Results

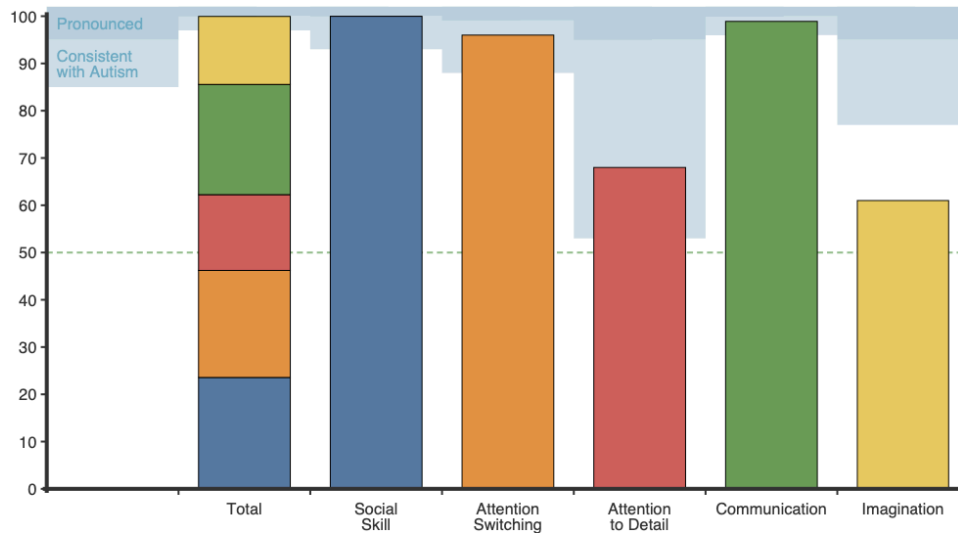
Autism Spectrum Quotient Adolescent Version (AQ-Adolescent)

<i>Client Name</i>	Generic Client (Parent)	<i>Date administered</i>	11 Feb 2025
<i>Date of birth (age)</i>	1 Jan 2012 (13)	<i>Time taken</i>	5 min 53s
<i>Assessor</i>	Dr Simon Baker		

AQ-Adolescent Results

	Score	Percentile	Descriptor
Total (0-50)	36	99.95	Overall consistent with Autism
Social Skill (0-10)	9	99.98	Pronounced
Attention Switching (0-10)	8	96	Consistent with Autism
Attention to Detail (0-10)	7	68	Consistent with Autism
Communication (0-10)	7	98.9	Consistent with Autism
Imagination (0-10)	5	61	-

AQ-Adolescent Normative Percentiles (Males)





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NovoPsych

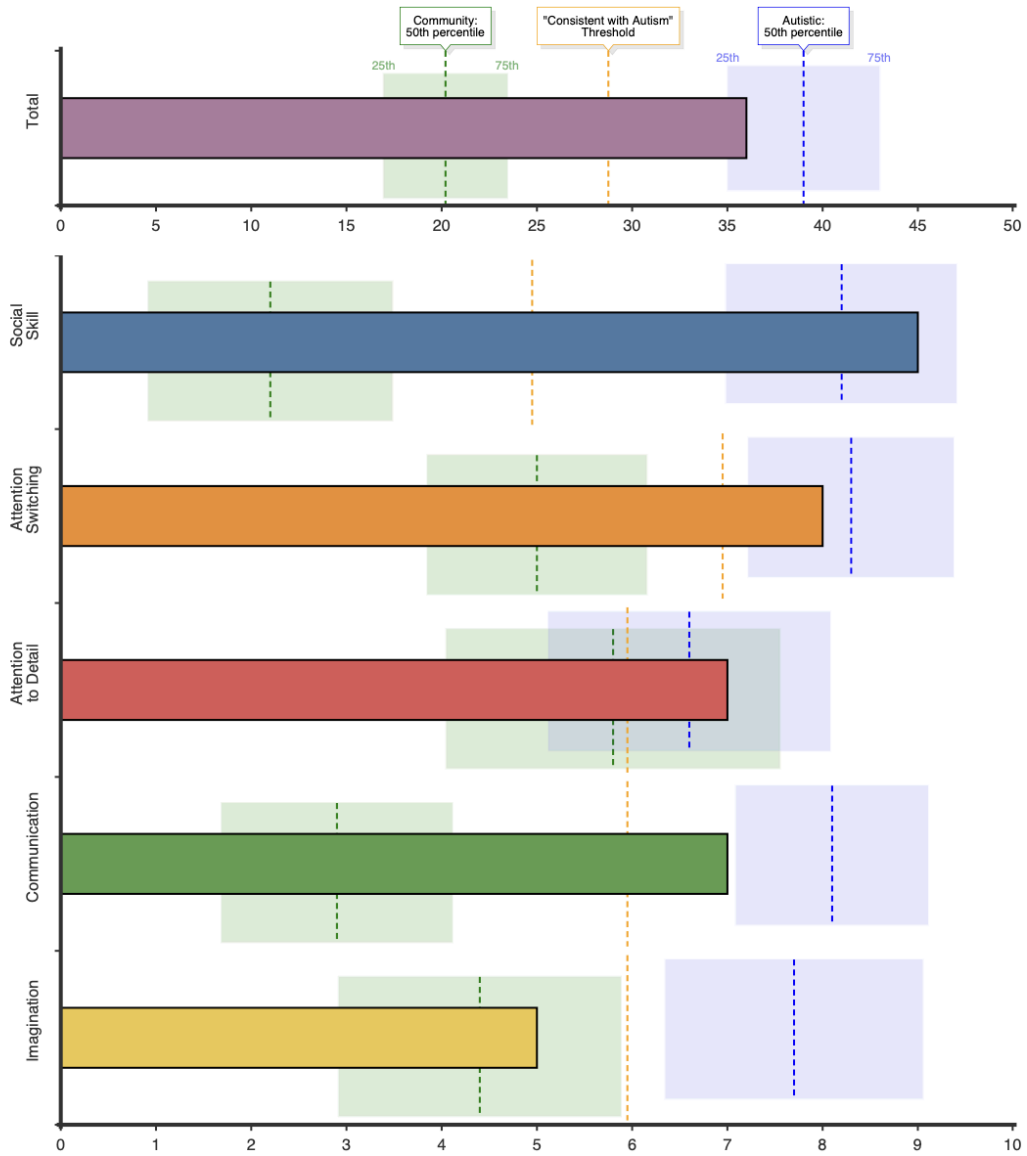


Assessment powered by

NovoPsych

Client Name | Generic Client (Parent)

AQ-Adolescent Scores Compared to Community and Autistic Distributions (Males)





Client Name	Generic Client (Parent)
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Interpretation

The adolescent's Autism Spectrum Quotient (AQ) score is on the 99.95th percentile when compared to males in the general population. When compared to Autistic males, the adolescent's score is on the 31st percentile. As such, their total AQ score falls within the top 0.05 percent when compared to males in the general population and is more consistent with those of Autistic males. It is important to note that scores may also reflect phenomena other than, or co-occurring with, Autism. Therefore, scores should be interpreted within the context of the individual's developmental history and other personal characteristics.

The adolescent's scores on the Social Skill, Communication, Attention Switching, and Attention to Detail subscales are consistent with Autism. In particular, the adolescent's score on the Social Skill subscale is Pronounced.

The adolescent's score on the **Social Skill** subscale is on the 99.98th percentile when compared to males in the general population and the 67th percentile when compared to Autistic males. This suggests possible difficulties with social confidence and comfort in interactions, which may lead them to feel less at ease in social situations or less inclined to engage in group activities. They may find social norms unclear or challenging to navigate, impacting their preference for or enjoyment of social gatherings. Endorsed items within this subscale include:

- 11. *They find social situations easy (R) (Definitely Disagree)*
- 22. *They find it hard to make new friends (Definitely Agree)*
- 44. *They enjoy social occasions (R) (Definitely Disagree)*
- 1. *They prefer to do things with others rather than on their own (R) (Slightly Disagree)*
- 13. *They would rather go to a library than a party (Slightly Agree)*

The adolescent's score on the **Communication** subscale is on the 98.9th percentile when compared to males in the general population and the 23rd percentile when compared to Autistic males. This indicates potential difficulties in conversational flow and understanding indirect communication cues, such as tone of voice, body language, or facial expressions. They may find interpreting these social cues challenging, which could contribute to occasional misunderstandings in social exchanges. Endorsed items within this subscale include:

- 17. *They enjoy social chit-chat (R) (Definitely Disagree)*
- 38. *They are good at social chit-chat (R) (Definitely Disagree)*
- 7. *Other people frequently tell them that what they have said is impolite, even though they think it is polite (Slightly Agree)*
- 27. *They find it easy to "read between the lines" when someone is talking to them (R) (Slightly Disagree)*
- 31. *They know how to tell if someone listening to them is getting bored (R) (Slightly Disagree)*

The adolescent's score on the **Attention Switching** subscale is on the 96th percentile when compared to males in the general population and the 43rd percentile when compared to Autistic males. This suggests a preference for predictability and routines, and they may experience increased stress in response to unexpected changes. They might find it challenging to shift focus quickly, impacting their ability to adjust to new activities or interruptions. Endorsed items within this subscale include:

- 32. *They find it easy to do more than one thing at once (R) (Definitely Disagree)*
- 34. *They enjoy doing things spontaneously (R) (Definitely Disagree)*
- 43. *They like to plan any activities they participate in carefully (Definitely Agree)*
- 2. *They prefer to do things the same way over and over again (Slightly Agree)*
- 4. *They frequently get so strongly absorbed in one thing that they lose sight of other things (Slightly Agree)*



Client Name	Generic Client (Parent)
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Interpretation (cont.)

The adolescent's score on the **Attention to Detail** subscale is on the 68th percentile when compared to males in the general population and the 57th percentile when compared to Autistic males. This suggests a heightened focus on details or patterns, which may lead them to prioritise specifics over the broader context. This strong attention to detail may support certain analytical tasks, though it might also limit flexibility in more fluid situations. Endorsed items within this subscale include:

- 12. *They tend to notice details that others do not (Definitely Agree)*
- 19. *They are fascinated by numbers (Definitely Agree)*
- 23. *They notice patterns in things all the time (Definitely Agree)*
- 28. *They usually concentrate more on the whole picture, rather than the small details (R) (Definitely Disagree)*
- 29. *They are not very good at remembering phone numbers (R) (Slightly Disagree)*

Scoring and Interpretation Information

For comprehensive information on the AQ-Adolescent, [see here](#).

Autism Spectrum Quotient Adolescent Version (AQ-Adolescent) scores are presented as a total scale score as well as scores on five subscales. Higher total scale scores are indicative of higher overall levels of autistic traits. A higher subscale score is indicative of a higher level of the specific trait that is associated with Autism.

- Social Skill (Items 1, 11, 13, 15, 22, 36, 44, 45, 47, 48) assesses difficulties and discomfort with social situations, including difficulties with social interactions and avoidance of some social situations.
- Attention Switching (Items 2, 4, 10, 16, 25, 32, 34, 37, 43, 46) describes difficulties in shifting focus between tasks or activities and adapting to changes in routine or unexpected events.
- Attention to Detail (Items 5, 6, 9, 12, 19, 23, 28, 29, 30, 49) relates to a heightened focus on specific details and patterns in the environment, which can sometimes lead to challenges in seeing and understanding the broader context.
- Communication (Items 7, 17, 18, 26, 27, 31, 33, 35, 38, 39) describes difficulties in engaging in reciprocal communication and interpreting indirect communication and social cues.
- Imagination (Items 3, 8, 14, 20, 21, 24, 40, 41, 42, 50) focuses on challenges related to imaginative thinking, including difficulties with hypothetical scenarios (e.g., pretend play).

The adolescent's total and subscale scores are expressed as (gender-specific) percentiles based on normative data for adolescents in the general population (Baron-Cohen et al., 2006). The percentiles contextualise the adolescent's scores relative to the typical scores of adolescents in the general population. For example, the 50th percentile represents the typical levels of autistic traits among adolescents in the general population, while scores on the 90th percentile fall within the top 10% when compared to adolescents in the general population. Scores in this higher range are more consistent with those of Autistic adolescents than adolescents in the general population. For the total AQ-Adolescent score, 3% of males and 4% of females score in the range that aligns with the typical scores of Autistic males and females, respectively.



Client Name	Generic Client (Parent)
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Scoring and Interpretation Information (cont.)

A score is classified as “Consistent with Autism” if it more closely resembles the scores of Autistic adolescents than those of adolescents in the general population. To this end, the “Consistent with Autism” thresholds are calculated as the weighted midpoint between the distribution of scores among the Autistic and Community samples (Jacobson & Truax, 1991).

A score is considered “Pronounced” if it is in the upper half of the Autistic distribution, reflecting higher levels of autistic traits. As such, the “Pronounced” thresholds represent scores on or above the 50th percentile when compared to Autistic adolescents.

For the Attention to Detail subscale, a higher “Pronounced” threshold reflecting scores on or above the 90th percentile within the Autistic sample was chosen due to significant overlap between the score distributions of the Autistic and Community samples.

Scores classified as either “Consistent with Autism” or “Pronounced” suggest that the adolescent exhibits autistic traits at a level consistent with Autistic adolescents. Gender-specific distributions of scores, and their classifications, among Autistic adolescents and adolescents in the general population are presented in NovoPsych’s review of the AQ-Adolescent (Baker et al., 2025).

The thresholds for the total AQ-Adolescent score are as follows.

- Males: 29 and above is “Consistent with Autism”; 39 and above is “Pronounced”
- Females: 25 and above is “Consistent with Autism”; 36 and above is “Pronounced”
- Combined (Males and Females): 28 and above is “Consistent with Autism”; 39 and above is “Pronounced”

Graphs comparing the total and subscale scores to the normative distribution of scores among Autistic adolescents and adolescents in the general population are presented, with shaded areas corresponding to scores between the 25th and 75th percentile. These graphs contextualise the adolescent’s scores relative to typical levels of autistic traits among Autistic adolescents and adolescents in the general population.

Client Responses

		Definitely Agree	Slightly Agree	Slightly Disagree	Definitely Disagree
1	They prefer to do things with others rather than on their own	0	0	1	1
2	They prefer to do things the same way over and over again	1	1	0	0
3	If they try to imagine something, they find it very easy to create a picture in their mind	0	0	1	1
4	They frequently get so strongly absorbed in one thing that they lose sight of other things	1	1	0	0



Client Name	Generic Client (Parent)
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Client Responses (cont.)

		Definitely Agree	Slightly Agree	Slightly Disagree	Definitely Disagree
5	They often notice small sounds when others do not	1	1	0	0
6	They usually notice car number plates or similar strings of information	1	1	0	0
7	Other people frequently tell them that what they have said is impolite, even though they think it is polite	1	1	0	0
8	When they are reading a story, they can easily imagine what the characters might look like	0	0	1	1
9	They are fascinated by dates	1	1	0	0
10	In a social group, they can easily keep track of several different people's conversations	0	0	1	1
11	They find social situations easy	0	0	1	1
12	They tend to notice details that others do not	1	1	0	0
13	They would rather go to a library than a party	1	1	0	0
14	They find making up stories easy	0	0	1	1
15	They find themselves drawn more strongly to people than to things	0	0	1	1
16	They tend to have very strong interests, which they get upset about if they can't pursue	1	1	0	0
17	They enjoy social chit-chat	0	0	1	1
18	When they talk, it isn't always easy for others to get a word in edgeways	1	1	0	0
19	They are fascinated by numbers	1	1	0	0
20	When they are reading a story, they find it difficult to work out the characters' intentions	1	1	0	0
21	They don't particularly enjoy reading fiction	1	1	0	0
22	They find it hard to make new friends	1	1	0	0
23	They notice patterns in things all the time	1	1	0	0



Client Name	Generic Client (Parent)
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Client Responses (cont.)

		Definitely Agree	Slightly Agree	Slightly Disagree	Definitely Disagree
24	They would rather go to the theatre than a museum	0	0	1	1
25	It does not upset them if their daily routine is disturbed	0	0	1	1
26	They frequently find that they don't know how to keep a conversation going	1	1	0	0
27	They find it easy to "read between the lines" when someone is talking to them	0	0	1	1
28	They usually concentrate more on the whole picture, rather than the small details	0	0	1	1
29	They are not very good at remembering phone numbers	0	0	1	1
30	They don't usually notice small changes in a situation, or a person's appearance	0	0	1	1
31	They know how to tell if someone listening to them is getting bored	0	0	1	1
32	They find it easy to do more than one thing at once	0	0	1	1
33	When they talk on the phone, they are not sure when it's their turn to speak	1	1	0	0
34	They enjoy doing things spontaneously	0	0	1	1
35	They are often the last to understand the point of a joke	1	1	0	0
36	They find it easy to work out what someone is thinking or feeling just by looking at their face	0	0	1	1
37	If there is an interruption, they can switch back to what they were doing very quickly	0	0	1	1
38	They are good at social chit-chat	0	0	1	1
39	People often tell them that they keep going on and on about the same thing	1	1	0	0
40	When they were younger, they used to enjoy playing games involving pretending with other children	0	0	1	1
41	They like to collect information about categories of things (e.g., types of car, types of bird, types of train, types of plant, etc.)	1	1	0	0
42	They find it difficult to imagine what it would be like to be someone else	1	1	0	0



Client Name	Generic Client (Parent)
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Client Responses (cont.)

		Definitely Agree	Slightly Agree	Slightly Disagree	Definitely Disagree
43	They like to plan any activities they participate in carefully	1	1	0	0
44	They enjoy social occasions	0	0	1	1
45	They find it difficult to work out people's intentions	1	1	0	0
46	New situations make them anxious	1	1	0	0
47	They enjoy meeting new people	0	0	1	1
48	They are a good diplomat	0	0	1	1
49	They are not very good at remembering people's date of birth	0	0	1	1
50	They find it very easy to play games with children that involve pretending	0	0	1	1