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The Autism-Spectrum Quotient (AQ)—Adolescent Version

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The Autism Spectrum Quotient (AQ) quantifies autistic traits in adults. This paper adapted the AQ for children (age 9.8–15.4 years). Three groups of participants were assessed: Group 1: $n = 52$ adolescents with Asperger Syndrome (AS) or high-functioning autism (HFA); Group 2: $n = 79$ adolescents with classic autism; and Group 3, $n = 50$ controls. The adolescents with AS/HFA did not differ significantly from the adolescents with autism but both clinical groups scored higher than controls. Approximately 90% of the adolescents with AS/HFA and autism scored 30+, vs. none of the controls. Among the controls, boys scored higher than girls. The AQ can rapidly quantify where an adolescent is situated on the continuum from autism to normality.

KEY WORDS: AQ; adolescents; screening; autistic spectrum; Asperger Syndrome.

INTRODUCTION

In an earlier issue in this journal, we reported on the Autism Spectrum Quotient (AQ) in adults with high functioning autism (HFA) or Asperger Syndrome (AS) (Baron-Cohen, Wheelwright, Skinner, Martin, & Clubley, 2001). The adult AQ was developed because of a lack of a quick and quantitative self-report instrument for assessing how many autistic traits any adult has. The minimum score on the AQ is 0 and the maximum 50. If an adult has equal to or more than 32 out of 50 such traits, this is highly predictive of AS. The AQ has been found to correlate *inversely* with the Empathy Quotient (EQ) (Baron-Cohen & Wheelwright, 2004), the Friendship and Relationship Quotient (FQ) (Baron-Cohen & Wheelwright, 2003) and to correlate positively with the Systemizing Quotient (SQ) (Baron-Cohen, Richler, Bisarya, Gurunathan, & Wheelwright, 2003).

The AQ has also been found to be strongly predictive of who receives a diagnosis of AS in a clinic setting (Woodbury-Smith, Robinson, & Baron-Cohen, 2005). The AQ also reveals sex differences (males > females) and cognitive differences (scientists > non-scientists) (Baron-Cohen *et al.*, 2001), a pattern of results that has been closely replicated in a Japanese sample (Wakabayashi, Baron-Cohen, & Wheelwright, 2004). This latter pattern suggests that these effects are not culture-specific and may instead reflect sexual dimorphism in the brain and differences in neural organization between scientists (a clear example of 'systemizers') and non-scientists.

The AQ depends on self-report, which may be a concern in individuals whose social deficits may impair their accuracy in self-awareness. However, a parent-version confirms that adults of normal IQ with autism spectrum conditions are able to provide such information reliably (Baron-Cohen *et al.*, 2001). Although the AQ is useful both clinically and in research studies as a screen for diagnosis, it has not been studied as a general population screen, and indeed if it was tested for this purpose it is likely that

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a significantly higher cut-off would need to be employed to keep false-positives to a minimum.

Given the usefulness of the AQ, it is of interest to test a revised version of this instrument with adolescents. In this paper, we test (1) whether similar results are found on an adolescent version of the AQ, and (2) whether similar results are found in classic autism as in AS. Whereas the adult AQ (for ages 16+) entails self-report, the adolescent AQ requires a parent/carer to complete it, but otherwise retains the same items and structure as the adult version. The adolescent AQ was designed to be short, easy to use, and easy to score.

The adolescent version is shown in Appendix 1. It comprises 50 questions, made up of 10 questions assessing 5 different areas: *social skill* (items 1,11,13,15,22,36,44,45,47,48); *attention switching* (items 2,4,10,16,25,32,34,37,43,46); *attention to detail* (items 5,6,9,12,19,23,28,29,30,49); *communication* (items 7,17,18,26,27,31,33,35,38,39); and *imagination* (items 3,8,14,20,21,24,40,41,42,50). Each of the items listed above scores 1 point if the respondent records the abnormal or autistic-like behaviour either mildly or strongly (see below for scoring each item; Abnormality—poor social skill, poor communication skill, poor imagination, exceptional attention to detail, poor attention-switching/strong focus of attention). Approximately half the items were worded to produce a 'disagree' response, and half an 'agree' response, in a high scoring person with AS/HFA. This was to avoid a response bias either way. Following this, items were randomized with respect to both the expected response from a high-scorer, and with respect to their domain.

Participants

3 groups of participants were tested:

Group 1 comprised $n = 52$ adolescents with AS/HFA (38 males, 14 females). This sex ratio of 2.7:1 (m:f) is similar to that found in other samples (Klin, Volkmar, Sparrow, Cicchetti, & Rourke, 1995). All participants in this group had been diagnosed by psychiatrists using established criteria for autism or AS (APA, 1994). They were recruited via several sources, including the National Autistic Society (UK), specialist clinics carrying out diagnostic assessments, and adverts in newsletters/web-pages for children with AS/HFA. Their mean age was 13.6 years (SD = 2.0, range 10.3–15.4). They all attended mainstream schooling and by parental report, had an IQ in the normal range. See below for a check of this. Because we did not collect data on age of onset of language these individuals are grouped together, rather than attempting to separate them into AS vs. HFA. The final sample of 52 comprises those who responded from a larger sample of 63. All participants were regarded as independent, in being genetically unrelated.

Group 2 comprised $n = 79$ adolescents with classic autism (63 males, 16 females). Again, this sex ratio of 3.9:1 is similar to that found in other samples. All participants in this group had been diagnosed by psychiatrists using established criteria for autism (APA, 1994). They too were recruited via the National Autistic Society (UK), specialist clinics carrying out diagnostic assessments, and adverts in newsletters/web-pages for children with autism. Their mean age was 12.5 years (SD = 1.7, range 9.8–16.0). They all attended special schools for autism or learning difficulties, and by parental report, had an IQ below the normal range. See below for a check of this. The final sample of 79 comprised those who responded from a larger sample of 85.

Group 3 comprised 50 adolescents selected at random ($n = 25$ males and 25 females). They were drawn from 200 adolescents. They were all attending mainstream schools (2 primary and 2 secondary) in the East Anglia area. Questionnaires were distributed by the schoolteachers via the children's school class. Their mean age was 13.6 years (SD = 1.8, range 10.1--16.5). The 3 groups did not differ significantly at the $p = .05$ level for age.

In Groups 1 and 2, 15 individuals were randomly selected from the individuals who had returned an AQ and invited into the lab to check pro-rated IQ, using 4 subtests of the WAIS-R (see below). These parents were also asked to complete a second AQ as a measure of test–retest reliability.

Method

Parents were sent the AQ by post, and were instructed to complete it as quickly as possible (to avoid thinking about responses too long). To confirm the diagnosis of Group 1 being high-functioning and the diagnosis of Group 2 being lower-functioning, 15 of each were randomly selected and invited into the lab for intellectual assessment using 4 subtests of the WISC-R (Wechsler, 1958). The 4 subtests of the WISC-R were Vocabulary, Similarities, Block Design, and Picture Completion. On this basis, all 15 participants selected from Group 1 had a prorated IQ of at least 85, that is, in the normal range (mean = 106.5, SD = 8.0). These participants' parents were also given the AQ when they came into the lab

in person, in order to investigate test–retest reliability for the instrument on a small subset of children. All 15 of the participants selected from Group 2 had a prorated IQ of below 84, that is, below the normal range (mean = 72.6, SD = 8.0). Note that we have conservatively used an IQ of >85 as an inclusion criterion for AS/HFA.

Scoring the AQ

'Definitely agree' or 'slightly agree' responses scored 1 point, on the following items: 2, 4, 5, 6, 7, 9, 12, 13, 16, 18, 19, 20, 21, 22, 23, 26, 33, 35, 39, 41, 42, 43, 45, 46. 'Definitely disagree' or 'slightly disagree' responses scored 1 point, on the following items: 1, 3, 8, 10, 11, 14, 15, 17, 24, 25, 27, 28, 29, 30, 31, 32, 34, 36, 37, 38, 40, 44, 47, 48, 49, 50. If a respondent left more than 5 items blank, this AQ was deemed to be incomplete and was omitted from the sample.

Results

Mean AQ scores (total) for each group, broken down by sex and by subdomain, are shown in Table I. Comparing groups using an ANOVA of Total AQ score by GROUP and SEX, we found as predicted a significant effect of GROUP (F (2, 175) = 201.49, $p < .001$). Post Hoc Scheffe tests revealed that the two clinical groups scored significantly higher than the control group ($p < .0001$), but that the two clinical groups did not differ from each other. The main effect of SEX was not significant (F (1, 175) = 2.84, $p > .09$), but there was a significant two-way interaction of GROUP×SEX (F (2, 175) = 6.48, $p = .002$).

T-tests confirmed that there was a significant sex difference ($t = -3.27$, $p = .002$) in the control group (males scoring higher than females), confirming the same effect reported with the adult AQ. There were no significant sex differences in the clinical groups (group 1: $t = 1.90$, $p = .063$; group 2: $t = -2.0$, $p = .049$ (non-significant when Bonferroni correction for multiple tests is used)). The clinical groups differed from the control group on all subdomain scores (t-tests: see Table I). A stepwise regression analysis in the control group revealed a significant effect of sex (F (1, 191) = 23.24, $p < .001$, males scoring higher), but no effect of age ($t = -1.45$, $p = .149$). Figure 1 shows the Group and Sex differences graphically.

Table I. Mean AQ and Subscale Scores (and SDs) by Group

		Communication	Social	Imagination	Local details	Attention switching	Total AQ
Group 1							
AS/HFA ($n = 52$)	x	8.2	7.8	6.7	6.1	8.5	37.3
	SD	1.6	1.8	2.2	2.4	1.7	5.8
AS/HFA boys ($n = 38$)	x	7.9	7.4	6.8	6.1	8.2	36.4
	SD	1.6	1.7	2.3	2.5	1.9	6.0
AS/HFA girls ($n = 14$)	x	9.0	8.8	6.8	6.1	9.0	39.8
	SD	1.4	1.4	2.0	2.4	1.0	4.3
Group 2							
Autism ($n = 79$)	x	8.0	8.0	7.6	6.5	8.3	38.3
	SD	1.5	1.9	2.0	2.1	1.6	6.0
Autism boys ($n = 63$)	x	8.1	8.2	7.7	6.6	8.3	39.0
	SD	1.5	1.8	2.0	2.2	1.6	5.9
Autism girls ($n = 16$)	x	7.6	7.3	6.8	5.9	8.1	35.7
	SD	1.6	2.0	2.1	1.9	1.8	6.1
Group 3							
Controls ($n = 50$)	x	2.7	2.0	3.2	5.3	4.5	17.7
	SD	1.7	1.9	2.3	2.4	2.0	5.7
Control boys ($n = 25$)	x	2.9	2.2	4.4	5.8	5.0	20.2
	SD	1.8	1.9	2.2	2.6	1.7	4.8
Control girls ($n = 25$)	x	2.6	1.8	2.0	4.8	4.1	15.3
	SD	1.6	1.9	1.8	2.2	2.1	5.7
Controls vs. AS/HFA	t^a	−16.9	−15.7	−7.9	−1.7[#]	−10.7	−17.2
Controls vs. autism	t^a	−18.4	−17.7	−11.2	−2.8	−11.2	−19.2
AS/HFA vs. autism	T^b	0.7	−0.8	−2.0	−0.8	−0.7	−0.9

[a]All t values in this row are significant at the $p < .001$ level except where shown ([#]).
[b]None of these t values are significant at the $p < .05$ level.

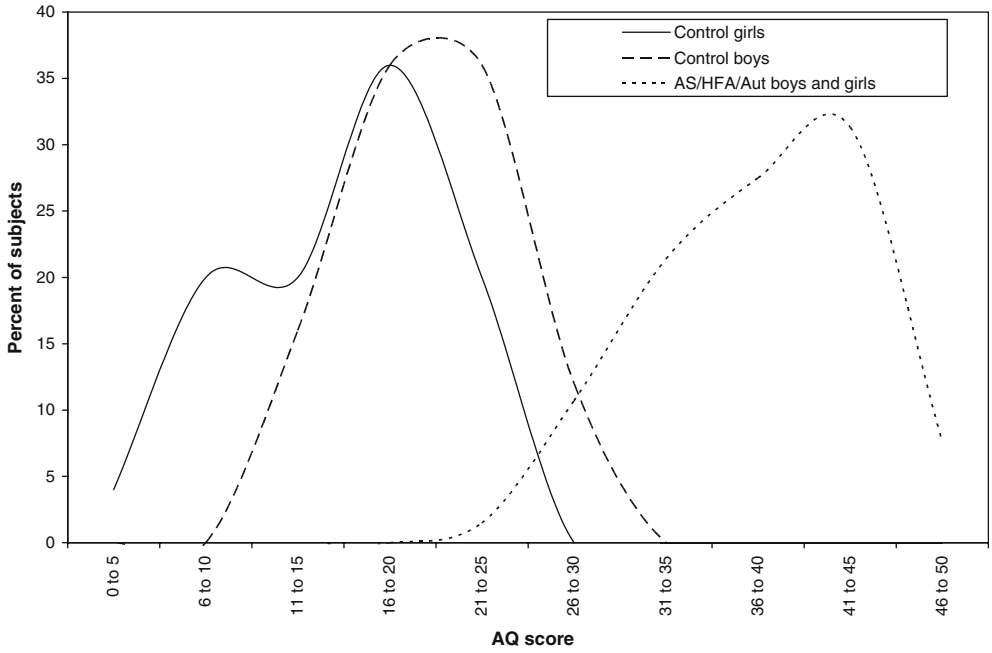

Fig. 1. Percent of each group scoring at each group score.

An item analysis (percentage of each group scoring on each item) is shown in Table II. On only 2 items out of 50 (items 29, and 30) did controls score more than the clinical groups, strongly confirming the value of these items for discriminating autism spectrum vs. controls. These two items were conservatively retained in the analysis since, if anything, they served to reduce the size of group differences. The internal consistency of items in each of the 5 domains was also calculated, and Cronbach's α Coefficients were all high (Communication = 0.82; Social = 0.88; Imagination = 0.81; Attention to Detail = 0.66; Attention Switching = 0.76). Cronbach's α Coefficient for the AQ as a whole was also high (= 0.79). Cronbach's α Coefficients for each group were all in the range 0.6–0.9.

The percentage of each group scoring at or above each AQ score is shown in Table III. A useful cut-off would discriminate the groups with as many true positives and as few false positives as possible. In the adults AQ, an AQ score of 32+ was chosen as a useful cut-off, since 79.3% of the AS/HFA group scored at this level, whilst only 2% of controls did so. 32+ also seemed to be a useful cut-off for distinguishing adult females with AS/HFA (92.3% scoring at this point or above) vs. control adult females (1% of whom score at this point or above). Regarding the adolescent AQ, if the same cut-off score is used (of 32+), none of the control participants scored at this level, whilst all girls with AS/HFA scored above this level, as do 73.7% of the boys with AS/HFA. In the autism group, 68.8% of the girls, and 87.3% of the boys scored at this level. If we decrease the cut-off score to 30+, none of the controls score above this level. All AS/HFA girls, and 86.8% of the AS/HFA boys score above this level, compared to 81.3% (girls) and 90.5% (boys) in the autism group. A cut-off at this point might be considered in future screening studies.

Table III also shows that control females never score as high as 29+, whereas 4% of control males do. Note also that at AQ score 22+, there are almost four times as many males (44%) as females (12%) in the control group scoring at this intermediate point on the scale. This suggests that there is not only a sex difference on the child AQ overall (as reflected in the male mean AQ being higher than the female mean), and a sex difference at high levels on the AQ (reflected in the sex ratio in Group 1 being 3.5:1), but that significantly more males than females in the general population show moderate levels of "autistic traits".[1] Again, this pattern of results replicates that found with the adult AQ. No differences were found between the autism and HFA/AS groups on the AQ. Finally, test–retest reliability was high ($r = .92$, $p < .001$).

Table II. Item Analysis: Percentage of Each Group Scoring on Each Item

Item	AS/HFA ($n = 52$)	Autism ($n = 79$)	Controls ($n = 50$)	Subdomain
1	67.3	83.5	22.0	S
2	84.6	89.9	54.0	A
3	55.8	70.3	18.0	I
4	90.4	94.9	68.0	A
5	80.8	87.3	50.0	D
6	65.4	72.2	68.0	D
7	78.8	54.4	28.0	C
8	56.9	75.0	20.0	I
9	40.4	39.7	26.0	D
10	86.3	92.4	26.0	A
11	86.5	88.6	26.0	S
12	92.3	85.9	62.0	D
13	55.8	55.7	8.0	S
14	59.6	84.8	34.0	I
15	90.4	88.6	26.5	S
16	88.5	91.1	62.0	A
17	88.5	92.4	8.0	C
18	73.1	39.7	48.0	C
19	45.1	45.6	34.0	D
20	75.0	78.7	34.0	I
21	51.9	60.3	42.0	I
22	92.3	89.9	20.0	S
23	63.5	72.2	40.0	D
24	63.5	64.5	48.0	I
25	82.7	81.0	32.0	A
26	92.3	89.9	24.0	C
27	86.5	96.2	42.0	C
28	78.8	84.4	36.0	D
29	51.9	48.1	76.0	D
30	51.9	66.7	76.0	D
31	82.7	92.4	28.0	C
32	86.5	93.7	42.0	A
33	75.0	80.8	10.0	C
34	78.8	74.7	16.0	A
35	71.2	88.6	26.0	C
36	90.4	70.9	14.3	S
37	80.8	57.0	26.0	A
38	84.6	97.5	10.0	C
39	88.5	73.1	48.0	C
40	88.2	96.2	24.0	I
41	69.2	58.2	28.0	I
42	82.7	94.8	38.0	I
43	75.0	65.8	62.0	A
44	50.0	65.8	12.0	S
45	94.2	93.7	44.0	S
46	94.2	86.1	66.0	A
47	63.5	74.7	14.0	S
48	84.6	91.1	12.0	S
49	44.2	49.4	62.0	D
50	78.8	89.9	34.0	I

Key: S, Social skills; A, Attention switching; D, Attention to detail; C, Communication; I, Imagination.

DISCUSSION

In this paper, we report data from the adolescent version of the Autism Spectrum Quotient (AQ), for measuring the degree to which an individual adolescent shows autistic traits. As predicted, adolescents with Asperger Syndrome (AS)/high functioning autism (HFA) or with classic autism scored significantly higher on the AQ than matched controls. Eighty percent to 90% (mean = 89.3%) scored above a critical minimum of 30+, whereas none of the controls did so. This demonstrates that the adolescent AQ has reasonable face validity, since the questionnaire purports to measure autistic spectrum traits, and people with a diagnosis involving these traits score highly on it. The adolescent AQ can also be said to have reasonable construct validity, in that items purporting to measure each of the 5 domains of interest (social, communication, imagination, attention to detail, and attention switching) show high α coefficients. Future work needs to test the false negative rate. The adolescent AQ has excellent test–retest reliability.

It is of interest that there were no significant effects of age on adolescent AQ score, in the normal control group. This suggests that what is being measured by the AQ does not change with age, and that the items are not biased towards one particular age group. Regarding the comparison of classic autism vs. HFA/AS, no significant differences were found, which is also interesting. This may be because the items are not biased towards language skills. However, because of the communication subscale, which includes items about conversational competence, we recommend that the AQ is primarily of value for use with individuals with some speech, and with an intelligence in the borderline average range (70) or above.

Within the control group, males score slightly but significantly higher than females, both overall, and at intermediate and high levels of autistic traits. This is consistent with the extreme male brain theory of autism (Asperger, 1944; Baron-Cohen, 2002; Baron-Cohen & Hammer, 1997) and may have implications for the marked sex ratio in autism and AS (Wing, 1981).

It is important to mention that this study was not in a position to compare the adolescent AQ to other instruments that have been developed to measure AS, such as the ASSQ (Ehlers, Gillberg, & Wing, 1999), the CAST (Scott, Baron-Cohen, Bolton, & Brayne, 2002), or the Australian Scale for Asperger Syndrome (Attwood, 1997). It will be of

Table III. Percent of Participants in Groups 1 and 2 Scoring at or Above each AQ Score—Overleaf

AQ Score	AS/HFA ($n=52$)	AS boys ($n=38$)	AS/HFA girls ($n=14$)	Autism ($n=79$)	Autism boys ($n=63$)	Autism girls ($n=16$)	Controls ($n=50$)	Control boys ($n=25$)	Control girls($n=25$)
0	100	100	100	100	100	100	100	100	100
1	100	100	100	100	100	100	100	100	100
2	100	100	100	100	100	100	100	100	100
3	100	100	100	100	100	100	100	100	100
4	100	100	100	100	100	100	100	100	100
5	100	100	100	100	100	100	98.0	100	96.0
6	100	100	100	100	100	100	98.0	100	96.0
7	100	100	100	100	100	100	98.0	100	96.0
8	100	100	100	100	100	100	98.0	100	96.0
9	100	100	100	100	100	100	92.0	100	84.0
10	100	100	100	100	100	100	90.0	100	80.0
11	100	100	100	100	100	100	88.0	100	76.0
12	100	100	100	100	100	100	84.0	100	68.0
13	100	100	100	100	100	100	80.0	96.0	64.0
14	100	100	100	100	100	100	74.0	88.0	60.0
15	100	100	100	100	100	100	72.0	88.0	56.0
16	100	100	100	100	100	100	70.0	84.0	56.0
17	100	100	100	100	100	100	60.0	72.0	48.0
18	100	100	100	100	100	100	52.0	64.0	40.0
19	100	100	100	100	100	100	48.0	60.0	36.0
20	100	100	100	100	100	100	44.0	56.0	32.0
21	100	100	100	100	100	100	34.0	48.0	20.0
22	100	100	100	100	100	100	28.0	44.0	12.0
23	100	100	100	100	100	100	22.0	36.0	8.0
24	98.1	97.4	100	100	100	100	14.0	24.0	4.0
25	98.1	97.4	100	98.7	100	93.8	14.0	24.0	4.0
26	98.1	97.4	100	98.7	100	93.8	6.0	12.0	0
27	98.1	97.4	100	96.2	96.8	93.8	4.0	8.0	0
28	94.2	92.1	100	93.7	95.2	87.5	4.0	8.0	0
29	92.3	89.5	100	92.4	93.7	87.5	2.0	4.0	0
30	90.4	86.8	100	88.6	90.5	81.3	0	0	0
31	88.5	84.2	100	87.3	90.5	75.0	0	0	0
32	80.8	73.7	100	83.5	87.3	68.8	0	0	0
33	76.9	68.4	100	83.5	87.3	68.8	0	0	0
34	71.2	65.8	85.7	75.9	77.8	68.8	0	0	0
35	65.4	60.5	78.6	73.4	74.6	68.8	0	0	0
36	63.5	57.9	78.6	68.4	71.4	56.3	0	0	0
37	59.6	52.6	78.6	64.6	69.8	43.8	0	0	0
38	57.7	52.6	71.4	60.8	66.7	37.5	0	0	0
39	46.2	39.5	64.3	53.2	57.1	37.5	0	0	0
40	38.5	31.6	57.1	49.4	54.0	31.3	0	0	0
41	32.7	26.3	50.0	43.0	46.0	31.3	0	0	0
42	30.8	26.3	42.9	38.0	41.3	25.0	0	0	0
43	21.2	18.4	28.6	30.4	34.9	12.5	0	0	0
44	17.3	15.8	21.4	19.0	22.2	6.3	0	0	0
45	9.6	7.9	14.3	13.9	17.5	0	0	0	0
46	3.8	2.6	7.1	10.1	12.7	0	0	0	0
47	1.9	2.6	0	5.1	6.3	0	0	0	0
48	0	0	0	3.8	4.8	0	0	0	0
49	0	0	0	2.5	3.2	0	0	0	0
50	0	0	0	0	0	0	0	0	0

interest in future studies to test how many cases of AS each of these instruments correctly identifies (true positive rate) as well as the rate of false negatives. Future work could also examine any relationship between adolescent AQ score and severity of symptoms.

We wish to underline that the AQ is not diagnostic, but may serve as a useful instrument in

identifying the extent of autistic traits shown by a person of normal intelligence. Currently this would be for research purposes primarily, as the AQ has not been tested as a screening instrument in the general population. Future research could compare the sensitivity, specificity, and positive predictive value (PPV) of this instrument in community screening. Finally, the hope is that with quantitative instruments to measure the autistic spectrum across different ages, this will improve comparability across research studies, assist in defining the phenotype in genetic studies, and improve screening of undiagnosed cases who need to be referred for a full diagnostic assessment.

NOTE

1. i.e. those traits which people with AS or HFA tend to endorse on the AQ.

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APPENDIX 1: The Adolescent AQ

	Definitely agree	Slightly agree	Slightly disagree	Definitely disagree
1. S/he prefers to do things with others rather than on her/his own.				
2. S/he prefers to do things the same way over and over again.				
3. If s/he tries to imagine something, s/he finds it very easy to create a picture in her/his mind.				
4. S/he frequently gets so strongly absorbed in one thing that s/he loses sight of other things.				
5. S/he often notices small sounds when others do not.				
6. S/he usually notices car number plates or similar strings of information.				
7. Other people frequently tell her/him that what s/he has said is impolite, even though s/he thinks it is polite.				
8. When s/he is reading a story, s/he can easily imagine what the characters might look like.				
9. S/he is fascinated by dates.				
10. In a social group, s/he can easily keep track of several different people's conversations.				
11. S/he finds social situations easy.				
12. S/he tends to notice details that others do not.				
13. S/he would rather go to a library than a party.				
14. S/he finds making up stories easy.				
15. S/he finds her/himself drawn more strongly to people than to things.				
16. S/he tends to have very strong interests, which s/he gets upset about if s/he can't pursue.				
17. S/he enjoys social chit-chat.				
18. When s/he talks, it isn't always easy for others to get a word in edgeways.				
19. S/he is fascinated by numbers.				
20. When s/he is reading a story, s/he finds it difficult to work out the characters' intentions.				
21. S/he doesn't particularly enjoy reading fiction.				
22. S/he finds it hard to make new friends.				
23. S/he notices patterns in things all the time.				
24. S/he would rather go to the theatre than a museum.				
25. It does not upset him/her if his/her daily routine is disturbed.				
26. S/he frequently finds that s/he doesn't know how to keep a conversation going.				
27. S/he finds it easy to "read between the lines" when someone is talking to her/him.				
28. S/he usually concentrates more on the whole picture, rather than the small details.				
29. S/he is not very good at remembering phone numbers.				
30. S/he doesn't usually notice small changes in a situation, or a person's appearance.				
31. S/he knows how to tell if someone listening to him/her is getting bored.				
32. S/he finds it easy to do more than one thing at once.				
33. When s/he talks on the phone, s/he is not sure when it's her/his turn to speak.				
34. S/he enjoys doing things spontaneously.				
35. S/he is often the last to understand the point of a joke.				
36. S/he finds it easy to work out what someone is thinking or feeling just by looking at their face.				

Appendix 1. (Continued)

	Definitely agree	Slightly agree	Slightly disagree	Definitely disagree
37. If there is an interruption, s/he can switch back to what s/he was doing very quickly.				
38. S/he is good at social chit-chat.				
39. People often tell her/him that s/he keeps going on and on about the same thing.				
40. When s/he was younger, s/he used to enjoy playing games involving pretending with other children.				
41. S/he likes to collect information about categories of things (e.g. types of car, types of bird, types of train, types of plant, etc.).				
42. S/he finds it difficult to imagine what it would be like to be someone else.				
43. S/he likes to plan any activities s/he participates in carefully.				
44. S/he enjoys social occasions.				
45. S/he finds it difficult to work out people's intentions.				
46. New situations make him/her anxious.				
47. S/he enjoys meeting new people.				
48. S/he is a good diplomat.				
49. S/he is not very good at remembering people's date of birth.				
50. S/he finds it very to easy to play games with children that involve pretending.				

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