

Learning Preferences and Autistic Characteristics in Normal Adults

Background and Purpose

The Autism Spectrum Quotient (AQ) was developed by Simon Baron-Cohen and colleagues in Cambridge, England as a brief self-administered instrument to measure the degree to which an adult has the traits associated with the autism spectrum. In researching the AQ, Baron-Cohen, et al. (2001) found that 80 per cent of subjects on the autism spectrum received scores of 32 and above. Only 2 per cent of non-autistic control subjects received scores at or above 32. The AQ proved to be a valid and reliable instrument for identifying where a person was situated on the normal-to-autism continuum.

Because the AQ had solid psychometric qualities and it was relatively brief, it made an excellent measure for examining the relationship between characteristics of autism and learning preferences.

Subjects

Participants in this study were 101 adults (69 females and 32 males). They ranged in age from 21 to 76 years of age with an average of 41.4 years. The average number of years of schooling was 16.9 which is equivalent to an undergraduate degree but education ranged from completing grade 10 through 9 years of post-graduate work.

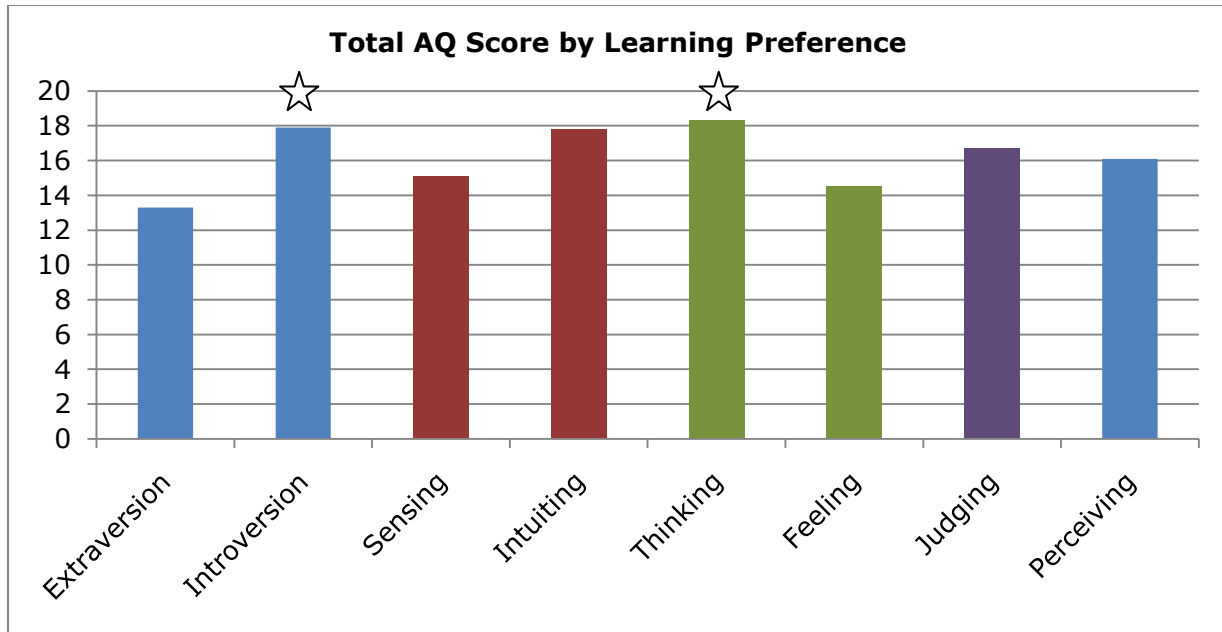
Method

Each participant was sent the AQ and asked to complete a 72-item Jungian personality type screener available on-line at www.humanmetrics.com/cgi-win/JTypes2.asp to determine his/her four-letter learning preference. The participants were told that the AQ questionnaire focused on identifying the characteristics of autism. All participants were given the option of remaining anonymous.

Results

Learning preferences and AQ total score

The total scores on the AQ were examined in relation to participant preferences for energy source (extraversion/introversion), information gathering (sensing/intuiting), decision making (thinking/feeling) and relating to the world (judging/perceiving). There was a significant difference in total AQ score for participants with preferences for extraversion versus introversion and thinking versus feeling. People with a preference for introversion received significantly higher scores on the AQ than those with a preference for extraversion (average of 17.9 as compared to an average of 13.3 respectively). Participants with a preference for thinking received a higher score on the AQ than those with a preference for feeling (average of 18.3 in comparison to an average of 14.5 respectively).



*Statistically significant at $p \leq .01$

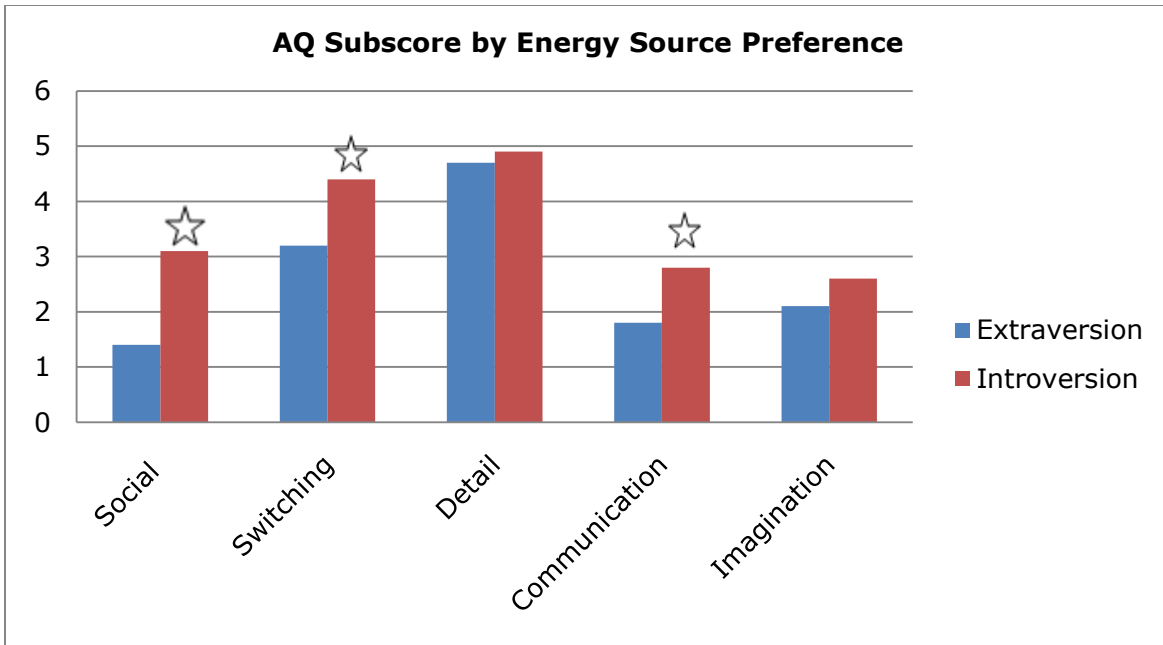
Learning preferences and AQ subscores

The AQ is made up of 10 questions in each of five different areas: social skills (for example, whether you prefer to do things with others or are a good diplomat), attention switching (for example, whether you prefer to do things the same way every time or enjoy interruptions), attention to detail (for example, whether you notice small sounds or changes in a person's appearance), communication (for example, whether you enjoy social chit-chat or know how to keep a conversation going) and imagination (for example, whether you find it easy to picture something in your mind or find it easy to pretend).

For extraversion/introversion preferences, significant differences were found for social skills, attention switching and communication. Participants with a preference for introversion received higher scores on the social skills subscale (average of 3.1 versus 1.4 for those with an extraversion preference), attention switching subscale (average of 4.4 versus 3.2) and communication subscale (average of 2.8 versus 1.8). Remember, a higher score indicates a stronger relationship with the characteristics of the autism spectrum.

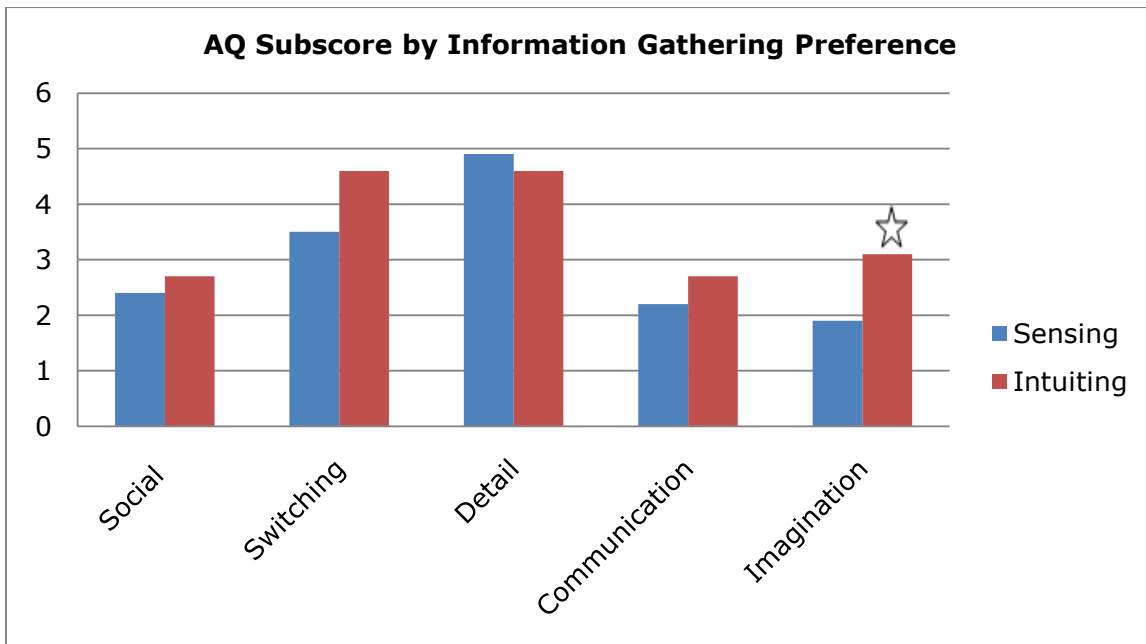
For sensing/intuiting preferences, significant differences were found for attention switching and imagination. Participants with a sensing preference received higher scores on the imagination subscale (average of 3.1 versus 1.9 for those with an intuiting preference).

For thinking/feeling preferences, statistically significant differences were found for the social skills and imagination subscales. Participants with a preference for thinking received higher scores on the social skills subscale compared to those with a feeling preference (average of 3.1 versus 1.9) and on the imagination subscale (average of 3.3 versus 1.8).

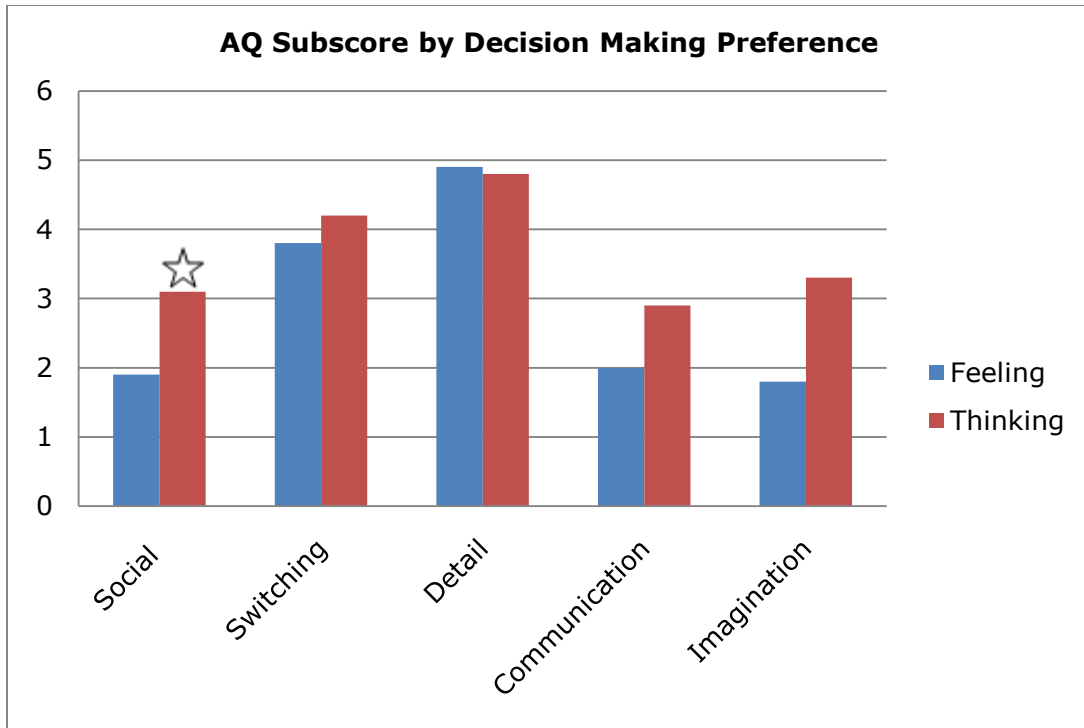


*Statistically significant at $p \leq .01$

For the judging/perceiving preferences, statistically significant differences were not found on any of the subscales.



*Statistically significant at $p \leq .01$



*Statistically significant at $p \leq .01$

Discussion and Conclusion

As a general comment from this study, it was interesting to note, as found by Baron-Cohen, et al. (2001), 2 per cent of the subjects received scores at and above the cut off score of 32 on the AQ. This suggested that there are at least two per cent of the adult population who have clinically significant levels of autistic traits without any apparent distress.

The results of this study showed that there is a significant relationship between specific learning preferences and the characteristics of autism. Adults with preferences for Introversion and Thinking were more likely to receive higher scores on the AQ. In other words, they exhibited more of the characteristics of autism. Of the 3 people who received scores above the 32-point cut-off (considered indicative of autism), all had preferences for Introversion, Sensing and Judging.

Participants with preferences for Introversion showed that they experienced characteristics similar to people with autism with social skills, attention switching and communication skills. They tend to find themselves uneasy in social situations, preferring the library or a museum, and finding it difficult to make new friends. Participants with an Introversion preference like it better when they can do one thing at a time and stick to their schedules and are not interrupted. Introverts also indicated that they experience difficulty keeping conversations going and do not enjoy social chit-chat.

Participants with Sensing and Thinking preferences indicated more focus on the concrete here-and-now than pretending and imagining. They find it difficult to figure out others intentions and do not find pretending easy.

So what does this say about the *Learning Preferences and Strengths* model? The results of this research and analysis support my belief that people with autism share the main characteristics of Introversion, Sensing and Thinking. The main characteristics of people with these preferences are presented below:

Preference	Characteristics
Introversion	<ul style="list-style-type: none"> • needs time to warm up to new situations, people and activities; finds group situations tiring; less open to new experiences • likes to work alone; may seem detached and aloof • selective in initiating and building relationships; takes initiative if issue is very important to them • private and contained; does not like to be singled out
Sensing	<ul style="list-style-type: none"> • observant and remember specifics but may get caught up in detail • oriented to immediate situation or realities; may have difficulty determining what is most important and relevant • factual and concrete; may not attend to future possibilities; less likely to use imagination or attempt perception beyond what is visible • trusts hands-on experience, distrusts others who are not careful about facts
Thinking	<ul style="list-style-type: none"> • prefers objectivity and a sense of fairness; tends to seem impersonal; typically does not rely on understanding personal values and merits • analytical; prefers to understand the rationale behind expectations; less desire for affiliation, warmth, and harmony • energized by identifying what is wrong with something • can be 'tough-minded'; may seem 'blunt'