

Which is it? Asperger's Syndrome or Giftedness? Defining the Differences

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Author: Cindy Little

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I am an intelligent, unsociable, but adaptable person. I would like to dispel any untrue rumors about me. I am not edible. I cannot fly. I cannot use telekinesis. My brain is not large enough to destroy the entire world when unfolded. I did not teach my long-haired guinea pig Chronos to eat everything in sight (that is the nature of the long-haired guinea pig). (Osborne, 2000, p. 10)

—Self-description of an 11-year-old boy
with Asperger's syndrome

Welcome to the world of Asperger's. What is to be made of a child who can give a detailed genealogy of Christopher Columbus yet performs poorly in school (Neihart, 2000)? Or one who can draw detailed diagrams of atoms so precise they include neutron clusters and orbiting electrons yet had great difficulty learning how to get dressed independently (Osborne, 2000)?

Safran (2001) described children with Asperger's beings "little professors who can't understand social cues" (p. 151). They are highly verbal, have an intense interest in certain subjects, have excellent memories, usually have above average IQs, are hypersensitive to sensory stimuli, and experience social isolation (Neihart, 2000). Gifted children are also highly verbal, have intense interests in certain subjects, have excellent memories and above average IQs, can be hypersensitive to sensory stimuli, and it is not uncommon for them to experience social isolation (VanTassel-Baska, 1998).

Confused? What differentiates these two populations of children? What about children who are diagnosed with Asperger's and are gifted as well? Children with Asperger's are many times overlooked for special services because they seem almost normal, but not quite. Osborne (2000) noted that one parent identified children with Asperger's as being "perfect counterfeit bills." Since this is the case with children who are singularly diagnosed with Asperger's, imagine how difficult it is to locate and properly service children who are twice exceptional and struggling with issues of giftedness in conjunction with this disability. This article will clarify what Asperger's is and how it can seemingly mirror certain gifted behaviors.

DEFINITION

Fortunately, since the recognition of Asperger's in the *Diagnostic and Statistical Manual* (DSM-IV, 1994) of the American Psychiatric Association, more light has been shed on this disability. It has been added under the Pervasive Developmental Disorders (PDD) section of the manual and is defined by Goldberg-Edeleson (1995) in the following quote:

For this diagnosis to be made, there must be qualitative impairment in social interaction as manifested by at least two of the following: marked impairment in the use of multiple nonverbal behaviors (e.g., eye contact, gestures); failure to develop age-appropriate peer relationships; lack of spontaneous seeking to share interests or achievements with others; lack of social or emotional reciprocity; restricted repetitive and stereotyped patterns of behaviors, interests, and activities as manifested by at least one of the following: preoccupation with at least one stereotyped and restricted pattern of interest to an abnormal degree; inflexible adherence to nonfunctional routines or rituals; stereotyped and repetitive motor mannerisms; and preoccupation with parts of objects. There must additionally be clinically significant impairment in social, occupational, or other functioning; and no clinically significant delay in language, cognitive development, adaptive behavior, or in curiosity about the environment. (p. 2)

The term, pervasive developmental disorder (PDD), is an all-encompassing label that includes various types of autism including Asperger's (Cash, 1998). Some experts believe that Asperger's and high-functioning autism are conditions at one end of an autistic spectrum with low-functioning autism at the other end (Cash). Still others believe that PDDs are conditions similar to autism and should be classified differently (Neihart, 2000). In either case, individuals with Asperger's manifest many autistic characteristics in conjunction with many seemingly gifted characteristics (Neihart).

CHARACTERISTICS

While children with Asperger's manifest behaviors that are similar to those of gifted children, upon closer examination, one finds that the motivation for the behaviors is actually quite different. Table 1 includes a brief list of characteristics found in both gifted children and children with Asperger's. Further descriptions below provide insight into the minds of these bright, yet perplexing, individuals and their gifted counterparts.

VERBAL ABILITY

Language acquisition and development occur early in both gifted children and children with Asperger's. Osborne (2000), discussed Asa, a child diagnosed with

Asperger's was always verbal. His parents recall him speaking his first words at the age of 7 months. VanTassel-Baska (1998) shared the traits of Andrew, a two-year old gifted child, who liked to initiate extensive discussions with his mother about the nutritional value of various products found at the supermarket. The difference is this: children with Asperger's tend to be literal in their speech. Their images are concrete and abstraction is poor. They also have a pedantic or bookish style of speaking coupled with an impressive vocabulary. The combination of these traits can give the false impression that these children understand what they are talking about when, in reality, they are merely parroting what they have heard or read (Williams, 1995). Children with Asperger's have a tendency to run on and on, blending content and personal reflections, unable to differentiate between the two. They may continue to speak interminably in a monotonous tone about a favorite topic oblivious to the fact that the listener may not be interested or wants to say something in response (Neihart, 2000). This is not the case with the gifted child. Andrew enjoys engaging his mother in conversation about the nutritional value of certain foods. He also shows an abstract ability to apply his knowledge to other situations as evidenced in the following quote:

Andrew, seated in the grocery cart, spied three middle-aged women selecting sugared cereals with artificial colors. Before Andrew's mother knew what had happened, three startled women turned around to see the two-year-old standing up in the grocery cart, shaking his finger, and lecturing, "Put those back! Don't you realize that cereal is bad for you? It is mostly sugar, and contains artificial flavors and colors!" (VanTassel-Baska, 1998, p. 149)

It is the verbal precocity of children with Asperger's that most often keeps them from receiving special services in the educational system. These children almost blend in, but not quite. Professionals need to closely examine behaviors of these children, especially their language comprehension. They have excellent memories for facts and figures, yet poor understanding of what these same facts and figures mean (Osborne, 2000).

INTENSITY OF FOCUS

Temple Grandin (2001) wrote an article about her experiences with the disorder. She is an assistant professor of animal science at Colorado State University and completed her Ph.D. in animal science. She has a successful international career designing livestock equipment and is autistic. Grandin has what is known as high-functioning autism, a condition similar to Asperger's. When she was a child, she had intense fixations with automatic sliding glass doors. She also was attracted to election posters because she liked the feeling of wearing the posters like a sandwich man (Grandin, 2001). An obsessive fixation with a behavior or certain object is a distinguishing characteristic of Asperger's.

A mother discussed her son, Michael's intense interests (Mayberry, 2000). Michael, a 10-year-old with Asperger's, noticed early on that he was "different" when it came to his interests. "Whenever a thought entered his head, he would talk about it from the time he woke up until the time he crashed at night. And, he would talk about the topic for months." (p. 30)

Gifted children manifest this particular quality as well. In fact, some gifted learners are described as working with "autistic singularity" (Cash, 1998). They are able to display a high degree of concentration and an ability to focus for long periods of time (VanTassel-Baska, 1998). The difference is that the gifted child may be more selective and able to filter out and discard certain sources of information whereas the child with Asperger's will not (Cash). The child with Asperger's will simply memorize everything there is to know about a certain, and sometimes bizarre, topic. Osborne (2000) offered a few examples: names of all the passengers on the Titanic, the provincial capitals of Brazil, different types of deep-fat fryers, or the birthdays of every member of Congress.

It is important to note that this can be a beneficial characteristic in both populations. An intense interest may some day become the foundation of a career. Pianoforte (2000) discussed the story of Brian, a 17-year-old who has Asperger's, has an intense interest in art, and has already received numerous awards for his work. His passion for art has turned into a lucrative hobby since he has used the earnings from the sale of his work for purchasing marionettes. When he was younger, he would put on puppet shows for other students in his elementary school. In addition to intense interests in art and puppetry, he loves the ballet. After watching a performance, he searches the Internet for the music so that he can enjoy a recreation of the ballet at home. This ability to tightly focus is a key requirement for occupations in law, mathematics, medicine, and other professions as well (Cash, 1998).

SOCIAL ISSUES

Children with Asperger's have extreme difficulty in the social arena. They are characteristically socially isolated and display inappropriate social behavior. They may not only be shy, but abnormally intrusive as well. The use of inappropriate gaze or body language in conjunction with insensitivity and lack of tact may also be present (Williams, 1995). Osborne (2000) shared the story of one 18-year-old college student with Asperger's who sat and stared at girls in the school cafeteria. When asked what he was observing, the young man would simply blurt out the carnal truth. This resulted in the police being called on several occasions.

Gifted individuals are commonly viewed as introverted and intense. However, the reasons for these characteristics in the gifted child are vastly different from those in the child with Asperger's. Gifted children tend to withdraw from the group when the situation offers no challenge. They may also become the class clown in an effort to gain favorable attention. In turn, this behavior may become inappropriate or silly

enough to be seen as a nuisance by teachers and peers (Clark, 1997). The difference between the odd or unusual behavior of the gifted child versus the child with Asperger's is that the gifted child is keenly aware of how his or her behavior is affecting others.

Upon close examination, the social differences between children with Asperger's and children who are gifted are vast. Gifted children are usually held in high social status among their classmates. They often show leadership ability and become involved in community projects. Concern for the welfare of others begins early for gifted children, and they are able to understand the difference between "good behavior" and "bad behavior" at a young age (Clark, 1997). Children with Asperger's, on the other hand, have great difficulty understanding the perspective of others. They manifest eccentric behaviors and are completely oblivious to social conventions (Neihart, 2000). Even though they long for social interaction, they simply cannot grasp the social behaviors that other children learn intuitively (Osborne, 2000).

INSIGHT AND EMPATHY

Attwood (1998) identified one of the most significant advances in the understanding of Asperger's from the research of Frith, Baron-Cohen, and Happe. Their findings support a hypothesis that suggests children with Asperger's manifest an inability to "mind read" or have a "theory of mind." Theory of mind is a type of metacognition, or thinking about thinking. From an early age, children understand that other people have thoughts and desires that influence and explain their behavior. This allows for personal perspective, while simultaneously being aware of another's perspective. Unfortunately, this ability is conspicuously absent in children with Asperger's (Neihart, 2000).

The ability to understand the perspective of others is essential to understanding why people do what they do. Attwood's (1998) example of a person going to the refrigerator, taking out an unlabeled container, tasting the contents, and making a facial expression reflecting disgust, assumes that the person didn't like the contents of the container. However, these connections do not always make sense to the person with Asperger's. A further example of Attwood's describes Gunilla Gerland, who has high-functioning autism. She describes this inability to "mind read" in the following quote:

The basic emotional states, sorrow and joy, did of course exist in me, but I didn't take them out into the world and glue them on to other people, so I couldn't recognize those complete emotions shown by others. (p. 2)

Conversely, the gifted child without Asperger's tends to be introspective and altruistic. In general, they display a helping attitude toward others, desiring to teach, or tutor other children. They usually bring a great deal of sensitivity and insight to working with others (VanTassel-Baska, 1998). Additionally, they are keenly aware of the others' perspectives.

GIFTED CHILDREN WITH ASPERGER'S

Over the years, researchers have frequently noted that many individuals with exceptional gifts manifest autistic-like behaviors. Further, an increasing number of individuals with autism or Asperger's are identified as being gifted. These twice-exceptional learners are in good company. Cash (1998) listed examples of eminent individuals who sometimes displayed autistic tendencies include Albert Einstein, Bobby Fischer, Sir Isaac Newton, and Vincent Van Gogh.

Finding and diagnosing these children is not an easy task. As was discussed previously, Asperger's can mimic certain gifted behaviors. Therefore it is imperative that a thorough developmental history of the child be obtained, as well as insight into the motivation behind certain behaviors (Neihart, 2000). Even though giftedness and Asperger's may look similar at first glance, the reasons for the behaviors are different. Accurate diagnosis of Asperger's in gifted children requires the participation of an experienced, interdisciplinary team. In addition to the developmental history, a diagnostic evaluation will usually include some formal testing and observations of the child's social interactions and pragmatic use of language (Neihart).

Garnett and Attwood (1997) developed The Australian Scale For Asperger's, which is widely used to identify certain behaviors found in children who may have Asperger's. Currently, it is one of only a few scales available designed specifically for use in diagnosing Asperger's.

Researchers at the Yale University Child Study Center also caution parents of children with Asperger's that scientific research and service provisions are still in the beginning stages. Parents are urged to use a great deal of caution and adopt a critical approach to any information they are given (Klin & Volkmar, 1995). Finally, a diagnosis of Asperger's should not be taken for granted. It is highly recommended that parents ask for details and an individualized profile. This profile should include a discussion of the child's strengths and weaknesses, a development of an appropriate intervention program, and realistic long- and short-term goals (Klin & Volkmar, 1996).

INTERVENTION STRATEGIES FOR THE TWICE-EXCEPTIONAL LEARNER

Just like any other twice-exceptional learner, children who are gifted and have Asperger's can benefit from learning various compensation strategies (see Table 2). It is important to note however, that these children are literal, enjoy rote memorization, have severe social deficits, tend to obsess on certain subjects, and can be highly sensitive to sensory stimuli (Neihart, 2000). Keeping these traits in mind, the following strategies may be of benefit.

Social Stories

Attwood (1998) identified social stories as a type of strategy meant to address the problems of social interaction. Comic Strip Conversations by Gray (1994) is an excellent book that includes thought bubbles of different colors to visually illustrate a

person's thoughts and feelings. These social stories provide a "visitor's" guide to our culture by explaining various social conventions and their rationale.

Another idea similar to social stories is one in which a computer program creates artificial characters imbued with emotions (Moore, McGrath, & Thorpe, 2000). These characters display a range of responses, such as ironical humor or irritation and delight. The goal of this program is to help the student with Asperger's grasp some of the workings of the human mind, even if at a rudimentary level.

One possible danger associated with this program is that the student may begin to erroneously believe that the computers themselves have thoughts and feelings. Therefore, it is necessary for the teacher to assist the student in making the connection between the computer program and actual human thoughts and feelings (Moore, McGrath, & Thorpe, 2000).

Expanding Personal Interests

As was discussed previously, children with Asperger's have intense interests, usually to the point of obsession. If these children are to be successful in school and eventually in life, they need to learn to broaden their interests. One simple strategy is to designate a specific time during the day when the child can talk about his or her interest. For example, the child who is obsessed with animals and has innumerable questions about the class guinea pig, may only be allowed to ask these questions during recess (Williams, 1995).

Some children with Asperger's will not want to do assignments outside of their area of interest, so firm expectations must be set for the completion of class work. The child must be made to understand there are specific rules that need to be followed and that they are expected to complete assignments they may not be interested in but must complete (Williams, 1995). At the same time, however, be willing to meet the child half way by giving them opportunity to pursue their "passion" (Williams).

Finally, educators should be willing to use the child's fixation itself to broaden interest. Temple Grandin (2000) related how her high school science teacher used her fixation on cattle chutes to motivate her to study psychology and science. He also taught her how to use scientific indexes and encouraged her to read scientific journals.

LANGUAGE COMPENSATION SKILLS

Even though children with Asperger's are highly verbal and have impressive vocabularies, they are concrete thinkers and have poor comprehension skills (Williams, 1995). Therefore, do not assume that these children understand something just because they parrot back what they have heard. In addition, be sure to capitalize on the child's exceptional memory and know that they enjoy assignments that require rote memorization. Finally, it is extremely important to provide a highly individualized academic program that offers consistent successes (Williams, 1995).

SENSORY ISSUES

Children with Asperger's may have extreme sensitivity to some kinds of sensory stimuli. Sound and touch are the most common sensitivities and for many of these children ordinary sensations are perceived as unbearably intense (Neihart, 2000). For example, some of these children cannot tolerate the sound of school bells. Others may become aggressive or defiant when a teacher tries to coax them into a class activity that involves touch (Neihart). AS Grandin (2001) related, "My hearing is like having a hearing aid with the volume control stuck on "super loud." It is like an open microphone that picks up everything" (p. 2). Something as simple as allowing students to opt out of activities involving touch or permitting them to wear silicone earplugs when necessary may be all that is needed (Neihart).

CONCLUSION

These extraordinary children are true "gems in the rough," and with a combination of early intervention, understanding, and life-long encouragement, they can go on to lead successful and perhaps even exceptional lives (Cash, 1998).

Osborne (2000) captured the essence of this struggle with Mark, a Yale graduate in his mid-30s who is now a research assistant at Columbia University. Mark attends an Asperger's adult support group; he had the following conversation with Osborne:

He (Mark) asks me point blank if I find him normal.

"Perfectly," I say.

"Mahalo nui loa," he fires back.

"Excuse me?"

He leans forward and says quietly: "Hawaiian. I must tell you, I hate living on the mainland." (p. 10)

Osborne (2000) further explained the challenged Mark faced. The "mainland" for Mark is the world of neurotypical or "normal" individuals. He related that when he was in school he did too well academically to be labeled mentally retarded so the school decided that he was emotionally disturbed. He often wonders if the label was accurate. Dislocated rather than disturbed is the word that came to his mind when describing how he feels. Despite Mark's difficulties, he has managed to become a successful individual by turning his passion for Hawaii into a career.

Continuing research into the complexities of the human mind will provide greater understanding of Asperger's and those brilliant yet perplexing individuals who are twice exceptional. Mark and others like him should be made to feel welcome on the "mainland" as we have as much to learn from them as they from us.

Table 1
A Comparison of Gifted Traits and Asperger's Syndrome Traits

ASPERGER'S	GIFTED	TWICE EXCEPTIONAL
Advanced vocabulary	Advanced vocabulary	Advanced vocabulary
Unaware of another's perspective	Ability to see another's viewpoint	Unaware of another's perspective
Literal thought	High abstract thinking skills	Enjoys "rote" exercises
Poor language comprehension	Good language comprehension	Poor language comprehension
Intensity of focus	Intensity of focus	Intensity of focus
Introverted	Introverted	Introverted
Excellent memory	Excellent memory	Excellent memory
Sensory sensitivity	Sensitivity toward others	Sensory sensitivity

NOTE: There are many similarities between the lists. Therefore it is imperative to look for the motivation behind the behavior.

Table 2
Intervention Strategies

SOCIAL STORIES	A way to address the problem of social interactions. Illustrated conversations are one example.
EXPANDING PERSONAL	Children with Asperger's need to learn to broaden their interests. However, they should also be given time to pursue their "passion."
LANGUAGE COMPENSATION SKILLS	Poor comprehension skills are common. Capitalizing on the child's exceptional memory by providing rote assignments may be of benefit.
SENSORY ISSUES	Extreme sensitivity to certain types of stimuli may be an issue. Make every effort to accommodate for this. For example, allow earplugs to be worn when necessary.

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Cindy Little, MAT in gifted education from Whitworth College in Spokane, WA, is currently the gifted program coordinator at Riverside School District and can be reached at tiltosquirrel@home.net
