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An introduction to Asperger Syndrome for helping professionals

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Abstract

This paper provides a brief history and overview of Asperger Syndrome (AS) for counselors and other helping professionals. It describes the general characteristics of AS including social behaviors, emotional characteristics, theory of mind deficits, language, interests/routine, motor clumsiness, and sensory sensitivity. This paper also addresses the diagnosis and assessment of AS. Interventions for AS including psychotropic medications, social interventions, behavioral interventions, psychotherapy, and sensory integration is addressed as well.

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This paper provides a brief history and overview of Asperger Syndrome (AS) for counselors and other helping professionals. It describes the general characteristics of AS including social behaviors, emotional characteristics, theory of mind deficits, language, interests/routine, motor clumsiness, and sensory sensitivity. This paper also addresses the diagnosis and assessment of AS. Interventions for AS including psychotropic medications, social interventions, behavioral interventions, psychotherapy, and sensory integration is addressed as well.

It appears that the prevalence of Asperger Syndrome is increasing, however many individuals are still not being accurately diagnosed (Barnhill, 2001). Coping with Asperger Syndrome can be difficult (Barnhill, 2001). It is imperative to circulate information regarding the characteristics of Asperger Syndrome to counselors and other helping professionals so this condition can be recognized early and appropriate interventions can be provided (Barnhill, 2001; Safran, 2002).

Due to the increasing awareness and prevalence of Asperger Syndrome, it is imperative for counselors to have accurate information in order to successfully assess, treat, and manage the cases of clients with Asperger Syndrome (Barnhill, 2001; Safran, 2002). The purpose of this paper is to gain a better understanding of Asperger Syndrome by providing a brief history of the disorder, describing general characteristics, discussing diagnosis and assessments, and providing interventions.

Brief History and Overview

Asperger Syndrome is one of five Pervasive Development Disorders (PPDs). PPDs are a category of neurologically-based disorders that have a range of delays in different developmental stages (American Psychiatric Association, 2000).

Asperger Syndrome was first described by Viennese pediatrician Dr. Hans Asperger in 1944, in his paper, "Autistic Psychopathology in

Childhood," (Bashe & Kirby, 2001). He reported autistic like behaviors with difficulties in social and communication skills in boys who had normal intelligence and language development (Bashe & Kirby, 2001). Many professionals felt Asperger Syndrome was simply a milder form of autism and used the term "high functioning autism" to describe these individuals (Attwood, 1998; Dickerson Mayes, Calhoun, and Crites, 2001). Hans Asperger's description was largely ignored for 30 years in Europe and the United States (Attwood, 1998). The disorder did not become widely known until 1981 when Lorna Wing published a paper using the term Asperger Syndrome (Attwood, 1998). Lorna Wing described the main features of Asperger Syndrome as having the following: a lack of empathy; having inappropriate, one-sided interactions; having little or no ability to form friendships; having obscure, repetitive speech; having poor non-verbal communication; having intense interest in certain subjects; and having clumsy, uncoordinated movements (Attwood, 1998, Dickerson Mayes, Calhoun, and Crites, 2001). The predominant view in the 1990's was that Asperger Syndrome was a variant of Autism and a Pervasive Developmental Disorder (Attwood, 1998). Since then, it has become considered a subgroup within the autism spectrum with its own diagnostic criteria (Attwood, 1998).

Diagnosis and Assessment

Neither Dr. Hans Asperger nor Lorna Wing specifically identified criteria for diagnosis and presently there is no universal agreement on diagnostic criteria (Attwood, 1998). However there are currently four sets of criteria from which clinicians have to choose. There is criteria provided by the World Health Organization in their tenth edition of the International Classification of Diseases (ICD-10), criteria provided by the American Psychiatric Association's fourth edition of their Diagnostic and Statistical Manual of Mental Disorders (DSM IV-TR), criteria set forth by Peter Szatman and colleagues from Canada, and criteria provided by Christopher and Corina Gillberg from Sweden (Attwood, 1998, Bashe and Kirby, 2001; Volkmar et al., 1996).

Due to its large usage by mental health professions, the *Diagnostic and Statistical Manual of Mental Disorders* (4th ed., Rev.) has been chosen to denote the diagnostic criteria as follows:

A. Qualitative impairment in social interaction, as manifested by at least two of the following:

1. marked impairments in the use of multiple nonverbal behaviors such as eye-to-eye gaze, facial expression, body postures, and gestures to regulate social interaction

2. failure to develop peer relationships appropriate to developmental level
3. a lack of spontaneous seeking to share enjoyment, interests, or achievements with other people (e.g. by a lack of showing, bringing, or pointing out objects of interest to other people)
4. lack of social or emotional reciprocity

B. Restricted repetitive and stereotyped patterns of behavior, interests, and activities, as manifested by at least one of the following:

1. encompassing preoccupation with one or more stereotyped and restricted patterns of interest that is abnormal either in intensity or focus
2. apparently inflexible adherence to specific, nonfunctional routines or rituals
3. stereotyped and repetitive motor mannerisms (e.g., hand or finger flapping or twisting, or complex whole-body movements)
4. persistent preoccupation with parts of objects

C. The disturbance causes clinically significant impairments in social, occupational, or other important areas of functioning

D. There is no clinically significant general delay in language (e.g., single words used by age 2 years, communicative phrases used by age 3 years)

E. There is no clinically significant delay in cognitive development or in the development of age-appropriate self-help skills, adaptive behavior (other than social interaction), and curiosity about the environment in childhood

F. Criteria are not met for another specific Pervasive Developmental Disorder or Schizophrenia (p. 84)

The diagnosis of Asperger Syndrome is a difficult yet crucial process. For parents, this process can evoke mixed feelings (Bashe & Kirby, 2001). It can create a sense of relief for a family to know what "it" is and be able to put a name with the behaviors, however it can also produce overwhelmed and disappointed feelings (Bashe & Kirby, 2001). Pursuing a professional diagnosis is important in order to access services, support, interventions, and treatments (Bashe & Kirby, 2001). Failure to have an official diagnosis can be costly both in the realm of health insurance coverage and classification for special education services (Bashe & Kirby, 2001). Some individuals may believe that diagnosis is unnecessary and is just a way to label people, however Bashe and Kirby (2001) believed that

diagnosis is a compass that provides direction toward the right information. Not only can a correct diagnosis point in the right direction, it can also help to steer clear of the wrong direction (Bashe & Kirby, 2001). According to Bashe and Kirby (2001), of 514 children that were ultimately diagnosed with Asperger Syndrome, prior to that, 220 were believed to have Attention Deficit Hyperactivity Disorder and 154 were thought to have Attention Deficit Disorder. This means that not only did these individuals possibly receive inappropriate interventions, but they also missed out on years of the help and understanding that could have made a significant difference in their lives (Bashe & Kirby, 2001).

Asperger Syndrome is difficult to diagnose because of the complex nature and characteristics of the disorder (Bashe & Kirby, 2001). Due to the nature of the disorder, no two individuals with Asperger Syndrome are exactly alike (Bashe & Kirby, 2001). Another complicating factor is that a significant portion of individuals with Asperger Syndrome also have other coexisting conditions such as Attention Deficit Hyperactivity Disorder, Obsessive Compulsive Disorder, and Oppositional Defiant Disorder (Bashe & Kirby, 2001; Koenig and Scahill, 2001).

The process of getting an accurate diagnosis needs to begin with identifying a professional that specializes in PPDs or Asperger Syndrome (Bashe & Kirby, 2001). In order to get a correct diagnosis a series of tests

should be administered addressing the following areas: intelligence, sensory acuity, academic achievement, oral learning, perceptual motor skills, adaptive behaviors, reading skills, math skills, written language skills, problem behavior, social skills, speech, and language (Bashe & Kirby, 2001). Also, Safran, Safran, and Ellis (2003) stated that attaining background information on the individual's developmental history, medical background, family history of psychiatric and/or health disorders, and psychosocial factors is imperative to obtaining a correct diagnosis.

Attwood (1998) identified two rating scales for parents and teachers that were specifically designed for identifying individuals who are at risk for having Asperger Syndrome, specifically noting the Australian Scale for Asperger Syndrome (ASAS). The ASAS was developed by Garnett and Attwood (1995) based on the formal diagnostic criteria, research literature, and extensive clinical experience (Attwood, 1998).

Another rating scale that has been developed is the Asperger Syndrome Diagnostic Scale (ASDS) (Myles, Jones-Bock, & Simpson, 2002). This Scale can be completed by anyone who knows the individual well including parents, teachers, siblings, para-educators, speech-language pathologists, psychologists, psychiatrists, and other professionals (Myles et al., 2002). The 50 yes/no items can be answered in approximately 10 to 15 minutes (Myles et al., 2002). The ASDS was

designed to provide an AS Quotient that gives the likelihood that an individual has Asperger Syndrome (Myles et al., 2002). All items included in the ASDS represent behaviors that are symptomatic of Asperger Syndrome and all are summed to produce the total score (Myles et al., 2002). The scores from the five subtests provide the examiner with information of clinical interest regarding an individual's performance in comparison to that of others with Asperger Syndrome (Myles et al., 2002). The total score has strong diagnostic value in identifying individuals with Asperger Syndrome and is the only score to be used when determining the likelihood of Asperger Syndrome (Myles et al., 2002). The single score contributes greatly to ease of administration and cuts down on otherwise time-consuming testing procedures (Myles et al., 2002). In addition to helping diagnose Asperger Syndrome, the ASDS can also be useful in documenting progress as interventions are implemented and utilized (Myles et al., 2002).

Characteristics of Asperger Syndrome

When working with Asperger Syndrome it is important to remember that no two individuals will present exactly alike (Smith Myles & Simpson, 2002a). The characteristics listed below will not be present in all cases. Using assessments like the ASAS and the ASDS can help identify which characteristic are present in specific cases, and therefore should be

addressed in working with individuals with Asperger Syndrome (Safran, Safran, & Ellis, 2003).

Social Behavior

Society has a tendency to judge individuals by the way they look, act and talk (Attwood, 1998). Since individuals with Asperger Syndrome do not have any distinguishing physical features they are often viewed as being different from others based on their unusual social behaviors and conversation skills (Attwood, 1998; Gutstein & Whitney, 2002).

Smith Myles & Simpson (2002a) stated that Asperger Syndrome is foremost a social disorder, however in contrast to other children on the autism spectrum, individuals with AS desire social interaction. Their deficits occur in the areas of initiating and responding to social situations (Smith Myles & Simpson, 2002a; Gutstein & Whitney, 2002).

Individuals with Asperger Syndrome have a tendency to appear socially isolated as well as demonstrate an abnormal range of social interactions (Barnhill, 2001). These impairments can present in various ways (Barnhill, 2001). Individuals may appear socially intrusive or awkward, may ask socially inappropriate questions, may come too close to people, or they may remain aloof (Barnhill, 2001). The key problem is that they are unable to change their behavior to meet environmental demands (Barnhill, 2001). Individuals with Asperger Syndrome can have

social interactions that tend to appear out of context (Barnhill, 2001; Gutstein & Whitney, 2002). These individuals tend to have difficulty understanding the rules about how people relate to each other, therefore coping with groups of people can be stressful for them (Barnhill, 2001).

Emotional Characteristics

Research has indicated that adolescents and young adults who suffer from Asperger Syndrome are prone to depression and anxiety (Barnhill, 2001; Barnhill & Smith Myles, 2001). Researchers propose that the depression and anxiety may be linked to difficulty in coping with the social stigma or may be the outcome of neurological or genetic factors that are linked to the origin and development of Asperger Syndrome (Barnhill, 2001; Barnhill & Smith Myles, 2001).

Bashe and Kirby (2001) stated that individuals with Asperger Syndrome not only have difficulties identifying and understanding the feelings of others, these individuals also have difficulty expressing their own intense feelings. This inability or impaired ability can create problems with self-regulation, frustration tolerance, and extreme expressions of anger, sadness, confusion, depression or anxiety (Bashe & Kirby, 2001; Ghaziuddin, 2002).

Additional emotional distress may be linked to feeling that they live in a world that is unpredictable and that they perceive as threatening

(Smith Myles & Simpson, 2002b). This can cause distress for individuals with Asperger Syndrome because they tend to have difficulty predicting outcomes of social situations (Smith Myles & Simpson, 2002b).

Theory of Mind Deficits

Theory of mind is the ability to infer the thoughts and beliefs of others (Barnhill, 2001). Individuals with Asperger Syndrome have theory of mind deficits which poses a major challenge for them (Barnhill, 2001). By the age of four, most developing children begin to understand that other people have thoughts, knowledge, and beliefs that will influence their behavior (Barnhill, 2001). Individuals with Asperger Syndrome, on the other hand, tend to have difficulty conceptualizing and appreciating the thoughts and feelings of others (Attwood, 1998). Theory of mind deficits can also create an inability to explain their own behaviors, an inability to understand that their behaviors can impact how others think or feel, difficulty with social conventions such as turn taking and politeness, and difficulty differentiating between fact and fiction (Barnhill, 2001).

Language

Individuals with Asperger Syndrome tend to have impairments in their verbal and non-verbal communication (Barnhill, 2001). Impairments in verbal communication are usually related to pragmatics (Barnhill, 2001). These individuals have a tendency to struggle with initiating and

sustaining conversations because they tend to use language for concrete means rather than for social interaction (Barnhill, 2001). Often those with Asperger Syndrome experience difficulties with understanding that words may have several meanings (Barnhill, 2001).

Individuals with Asperger Syndrome also tend to have impairments in non-verbal communication (Barnhill, 2001). These individuals have a tendency to have difficulty interpreting and reading other people's body language and facial expressions and have difficulties using these forms of communication themselves in an appropriate manner (Barnhill, 2001).

Interests/Routine

Attwood (1998) reports that the two characteristics of Asperger Syndrome that have not been adequately defined in literature are the tendency to become fascinated by a special interest that dominates a person's time and the imposition of routines that must be completed. These special interests found in individuals with Asperger Syndrome can take unusual or eccentric forms (Barnhill, 2001). Interest in computers can be particularly appealing because socializing with others is not necessary and computers are logical, predictable and not prone to moods like people are (Barnhill, 2001). The imposition of routines or rigidity can observed with individuals with Asperger Syndrome by some of the following behaviors: insistence on a set order of events, a need to finish

what was started, difficulty accepting deviation from a routine, and insistence on rules (Barnhill, 2001).

Motor Clumsiness

Although motor clumsiness is not unique to individuals with Asperger Syndrome, research has indicated that 50 to 90 percent of individuals with the disorder have problems with motor coordination (Barnhill, 2001). Thus Gillberg and Gillberg have included motor clumsiness as one of their six diagnostic criteria (Attwood, 1998). These difficulties can be fine-motor activities such as writing and art or gross-motor activities such as playing games and sports (Barnhill, 2001).

Sensory Sensitivity

Individuals with Asperger Syndrome appear to be prone to peculiar sensory responses such as hypersensitivity to certain sounds or visual stimuli (Barnhill, 2001). In addition, unusual reactions to certain noises, over exaggerated response to touch, and hypersensitivity to visual stimuli such as fluorescent lights are common (Barnhill, 2001; Smith Myles & Simpson, 2001b). Also, some individuals with AS have been reported to have a high tolerance for physical pain (Smith Myles & Simpson, 2001a).

Interventions

As stated above, no two individuals with Asperger Syndrome present exactly the same (Smith Myles & Simpson, 2002a). With this in

mind, it is important to note that appropriate interventions should be chosen based on the specific individual's symptoms. In most cases, a combination of interventions will be necessary for the best results (Bashe & Kirby, 2001).

Psychotropic Medications

There are a number of medications, primarily developed for other conditions, that have been found effective in treating some of the symptoms and behaviors frequently found in individuals with Asperger Syndrome (Bashe & Kirby, 2001). Although educational and behavioral interventions are the foundation for treatment of Asperger Syndrome, psychotropic medications can be an important component of treatment as well (Martin, Scahill, Klin, & Volkmar, 1999). Various psychotropic medications have been used in the treatment of individuals with Asperger Syndrome (Martin et al., 1999). These medications are usually directed at symptoms of aggression, impulsivity, self-injurious or intrusive repetitive behaviors and allow the individual with Asperger Syndrome to take advantage of other interventions (Bashe & Kirby, 2001; Martin et al., 1999).

Social Interventions

Due to the significant impairments in social behavior for individuals with Asperger Syndrome, interventions that focus on social skills are

imperative (Attwood, 1989; Barnhill, Tapscott Cook, Tabbenkamp, & Smith Myles, 2002). Interventions that address facial expressions turn taking skills, non-literal language, and intentions versus verbalizations are especially key (Attwood, 1989; Smith Myles & Simpson, 2001a). The use of skill building comic strips, social stories, and social skills groups can all be beneficial in addressing impairments in social behaviors (Attwood, 1989; Barnhill et al., 2002). Ganz (2001) states the most effective way for individuals with Asperger Syndrome to learn and retain social skills is to practice them in authentic contexts. However certain games may serve as a preface or reinforce previously learned skills (Ganz, 2001).

Smith Myles and Simpson (2001b) emphasize the importance of addressing hidden curriculum, which they believe exists in every society. Hidden curriculum is the dos and don'ts of everyday behavior that aren't spelled out, but everyone seems to know them (Smith Myles & Simpson, 2001b). Hidden curriculum includes things such as modes of dress, skills, and actions that most people know and take for granted (Smith Myles & Simpson, 2001b). Smith Myles and Simpson (2001b) report that Temple Grandin, an adult with AS, developed a set of rules that assisted her with hidden curriculum. Temple Grandin developed a list of rules divided into categories including Really Bad Things, Courtesy Rules, Illegal but Not Bad, and Sins of the System (Smith Myles & Simpson, 2001b). Really

Bad Things included things like murder, arson, stealing and injuring other people (Smith Myles & Simpson, 2001b). Courtesy Rules included things like not cutting in line, table manners, saying thank you, and keeping yourself clean (Smith Myles & Simpson, 2001b). Some examples of things that fall under Illegal but Not Bad, are slight speeding on the freeway and illegal parking (Smith Myles & Simpson, 2001b). Sins of the System are things like smoking marijuana and sexual misbehaviors (Smith Myles & Simpson, 2001b). Sins of the System are things which have a severe penalty because these behaviors are never tolerated (Smith Myles & Simpson, 2001b). Smith Myles and Simpson (2001b) acknowledge that there is no way to create a comprehensive list of hidden curriculum, however lists like Temple Grandin's can serve as a starting point or a basis for assisting individuals with AS.

Behavioral Interventions

One type of behavioral intervention is Applied Behavior Analysis (ABA) (Bashe & Kirby, 2001). This approach is based on the premise that human behavior can be analyzed in terms of an antecedent, the behavior, and the consequences (Bashe & Kirby, 2001). The most crucial part of ABA is determining the function of the behavior (Bashe & Kirby, 2001). This approach is not only beneficial in analyzing the behaviors of individuals with Asperger Syndrome and reinforcing new behaviors, it is

also helpful in explaining to these individuals why others behave the way they do (Bashe & Kirby, 2001).

Psychotherapy

Bashe and Kirby (2001) described psychotherapy as talk therapy that is designed to help change, modify, and/or replace dysfunctional behaviors as well as inaccurate perceptions and self-perceptions. Freudian style psychoanalysis, psychodynamic therapy, family therapy, group therapy and most other psychotherapeutic approaches are not recommended for individuals with Asperger Syndrome (Bashe & Kirby, 2001). However these individuals may benefit from working with a psychotherapist who understands the disorder and does not try to treat the Asperger Syndrome itself, but rather attempts to help the individual deal with the specific emotional difficulties that can arise from having the disorder (Bashe & Kirby, 2001).

Sensory Integration

Individuals with Asperger Syndrome often have sensory difficulties (Bashe & Kirby, 2001). They may be hypo or hyper reactive or lack the ability to integrate the senses (Bashe & Kirby, 2001). Sensory Integration Therapy (SIT) focuses on desensitizing the individual and helping them reorganize sensory information (Bashe & Kirby, 2001). In order to do this, the individual may be required to handle various materials with different

textures, use a "squeeze machine" to regulate deep pressure stimulations and/or listen to different sound frequencies in order to reduce auditory over-sensitivity (Bashe & Kirby, 2001).

Conclusion

This paper offered a brief history of Asperger Syndrome, described general characteristics, discussed diagnosis and assessment, and provided interventions in order to provide a better understanding of Asperger Syndrome. It is imperative for counselors and other helping professionals to have accurate information in order to successfully assess, treat, and manage clients with Asperger Syndrome. Two additional areas counselors or other helping professionals may wish to explore are educational factors as well as implications for parents and families.

References

American Psychiatric Association (2000). *Diagnostic and Statistical Manual of Mental Disorders* (4th ed., Rev.). Washington DC: American Psychiatric Association.

Attwood, T. (1998). *Asperger Syndrome A Guide for Parents and Professionals.* London: Jessica Kingsley Publishers.

Barnhill, G. P. (2001). What is Asperger Syndrome? *Intervention in School & Clinic, 36*(5), 259.

Barnhill, G. P., & Smith Myles, B. (2001). Attributional Style and Depression in Adolescents with Asperger Syndrome. *Journal of Positive Behavior Interventions, 3*(3), 175.

Barnhill, G. P., Tapscott Cook, K., Tabbenkamp, K., & Smith Myles, B. (2002). The effectiveness of social skills intervention targeting nonverbal communication for adolescents with Asperger syndrome and related pervasive developmental delays. *Focus on Autism and Other Developmental Disabilities, 17*(2), 112.

Bashe, P. R., & Kirby, B. L. (2001). *The OASIS Guide to Asperger Syndrome.* New York: Crown Publishers.

Dickerson Mayes, S., Calhoun, S. L., & Crites, D. L. (2001). Does DSM-IV Asperger's Disorder Exist?, *Journal of Abnormal Child Psychology, 29*(3), 263.

Ganz, J. B. (2001). Asperger Syndrome Social Skills Games. *Intervention in School & Clinic, 36*(5), 308.

Ghaziuddin, M. (2002). Asperger Syndrome: Associated Psychiatric and Medical Conditions. *Focus on Autism and Other Developmental Disabilities, 17*(3), 138.

Gutstein, S. E., & Whitney, T. (2002). Asperger Syndrome and the development of social competence. *Focus on Autism and Other Developmental Disabilities, 17*(3), 161.

Koenig, K., & Scahill, L. (2001). Assessment of children with pervasive developmental disorders. *Journal of Children and Adolescent Psychiatric Nursing, 14*(4), 159.

Martin, A., Scanhill, L., Klin, A., & Volkmar, F. R. (1999). Higher-functioning pervasive developmental disorders: rates and patterns of psychotropic drug use. *Journal of the American Academy of Child and Adolescent Psychiatry, 38*(7), 923.

Myles, B., Jones-Bock, S., & Simpson, R. (2002). Asperger Syndrome Diagnostic Scale. *Focus on Autism and Other Developmental Disabilities, 17*(2).

Safran, J. S. (2002). A Practioner's Guide to Resources on Asperger Syndrome. *Intervention in School & Clinic, 37*(5), 283.

Safran, S. P., Safran, J. S., & Ellis, K. (2003). Intervention ABC's for Children with Asperger Syndrome. *Topics in Language Disorders, 23*(2), 154.

Smith Myles, B., & Simpson, R. L. (2001a). Effective Practices for Students with Asperger Syndrome. *Focus on Exceptional Children, 34*(3), 1.

Smith Myles, B., & Simpson, R. L. (2001b). Understanding the Hidden Curriculum: An Essential Social Skill for Children and Youth with Asperger Syndrome. *Intervention in School & Clinic, 36*(5), 279.

Smith Myles, B., & Simpson, R. L. (2002a). Asperger Syndrome: An Overview of Characteristics. *Focus on Autism and Other Developmental Disabilities, 17*(3), 132.

Smith Myles, B., & Simpson, R. L. (2002b). Students with Asperger Syndrome: Implications for Counselors. *Counseling and Human Development, 34*(7), 1.

Volkmar, F. R., Klin, A., Schultz, R., Bronen, R., Marans, W. D., Sparrow, S., et al. (1996). Asperger's Syndrome. *Journal of the American Academy of Child and Adolescent Psychiatry, 35*(1), 118.