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Autism Spectrum Disorder

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DESCRIPTION OF AUTISM SPECTRUM DISORDER

Regardless of practice setting, counselors are likely to work with an individual or family affected by Autism Spectrum Disorder (ASD). Ongoing research efforts are providing an increasing base of information about causes, interventions, and signs that early intervention may be needed. The Centers for Disease Control and Prevention (CDC, 2013) recently reported that the prevalence of ASD is now estimated at 1 in 50 children. ASD is reported to occur in all racial, ethnic, and socioeconomic groups and is more than four times more common among boys (3.23%) than girls (.70%; Blumberg et al., 2013).

Autism is a spectrum disorder with symptoms that vary across dimensions and in degree of severity (Meng-Chuan, Lombardo, Chakrabarti, & Baron-Cohen, 2013). The *DSM-5* (American Psychiatric Association, 2013) separates ASD into two behavioral domains consisting of social communication difficulties and repetitive behaviors or interests. Although children with ASD are as a group quite heterogeneous, there are core symptoms associated with the primary *DSM-5* diagnostic criteria: (a) deficits in social communication and social interaction; and (b) restrictive, repetitive behaviors, interests and activities. Numerous approaches have been devised to address these symptoms, but they differ considerably in terms of targeted outcomes, structure and intensity.

See 'significant findings' at the National Autism Center for more detialed information on ASD
http://www.nationalautismcenter.org/nsp/

IDENTIFICATION/ASSESSMENT STRATEGIES

In order to achieve the greatest outcome and reduce the severity of the symptoms associated with ASD, it is critical that interventions begin early (i.e., as soon as the child is diagnosed). According to Virues-Ortega, Rodríguez, and Yu (2013), intervention onset, intensity, duration, and pre-intervention functioning are all significant treatment success predictors. Because early intervention is directly tied to positive outcome, early assessment must be a priority for professional counselors.

Best practices in assessment require the process to be comprehensive, occur across multiple settings, days, and with multiple informants (Sheperis, Doggett, & Henington, 2005). Because autism is a spectrum, the assessment process for autism should be individualized to each child's needs, address various areas of developmental, and be multidisciplinary.

According to Matson and Sipes (2010), there are over 20 different assessment instruments that have been used to identify autism in infants, toddlers, and children. While these instruments have been identified in the professional literature, there is little support for the use of many ASD assessment instruments. In addition, because the diagnostic criteria for ASD have changed in the *DSM-5*, all instruments must be

updated and revised to reflect current diagnostic criteria. Some of the most common instruments used in the assessment of ASD follow:

Instrument	Author(s)
The Childhood Autism Rating Scale: Second Edition (CARS-2)	Schopler & Van Bourgondien (2010)
The Baby and Infant Screen for Children with Autistic Traits (BISCUIT)	Matson et al. (2009)
The Autism Diagnostic Observation Schedule (2nd ed.; ADOS-2)	Lord et al. (2012)
The Pervasive Developmental Disorders Screening Test (PDDST)	Seigel (1996)
The Early Screening of Autistic Traits Questionnaire (ESAT)	Dietz et al. (2006)
The systematic observation of Red Flags for Autism Spectrum Disorders in Young Children	Wetherby and Woods (2002)
Gilliam Autism Rating Scale (3rd ed; GARS-3)	Gilliam (2014)
Autism Diagnostic Interview Revised	Rutter, LeCouteur and Lord (2003)

INTERVENTION STRATEGIES

Applied Behavior Analysis

Though it is often referred to a treatment intervention, applied behavior analysis (ABA) is generally considered an overarching framework that can guide practice. Many separately-recognized interventions incorporate principles of ABA, and some of the main elements of ABA have emerged as individual interventions in the literature, including: (a) antecedent-based interventions, (b) differential reinforcement, (c) extinction, (d) fading, and (e) prompting. For more information on ABA visit http://autismpdc.fpg.unc.edu/content/briefs

Researchers found that children who receive intensive treatment based on the principles of ABA tend to make more significant improvements in more skill areas than do children who participated in other types of interventions. For more information on the ABA treatment literature visit http://www.ncbi.nlm.nih.gov/pubmed/19758537. What follows are several specific interventions based on ABA principles.

Discrete Trial Training. Discrete trial training (DTT) emphasizes the structured application of antecedents and consequences to shape behavior. DTT is best suited to skills that can be reduced to small steps. Each teaching sequence (or trial) affords the student an opportunity to complete the targeted skill. A variety of desired behaviors can be addressed and reinforced. For example, Tsiouri, Simmons, and Paul (2012) used DTT along with parent education to produce initial speech in nonverbal children. Other studies (http://autismpdc.fpg.unc.edu/sites/autismpdc.fpg.unc.edu/files/DTT_EvidenceBase_0.pdf) Demonstrate the effectiveness of DTT. Resources that can be used to learn more about DTT include the following:

Bogin, J. (2008). *Overview of discrete trial training.* Sacramento, CA: National Professional Development Center on Autism Spectrum Disorders, M.I.N.D. Institute, The University of California at Davis Medical School.

Eldevik, S., Hastings, R. P., Hughes, J. C., Jahr, E., Eikeseth, S., & Cross, S. (2009). Meta-analysis of early intensive behavioral interventions for children with autism. *Journal of Clinical Child and Adolescent Psychology, 38*, 439-450.

Pivotal Response Training. A unique feature of Pivotal Response Training (PRT) is that it imbeds instruction into child-centered activities. Vismara and Bogin (2009) emphasized that one key of PRT is its focus on student motivation and recommended a sequence of steps that will capitalize on the particular interests of the child while addressing four "pivotal" learning variables: motivation, responding to multiple cues, self-management, and self-initiation. Because it is child-centered, PRT offers natural motivation for the child to communicate and engage in social behaviors, largely through play. Research demonstrated that the vast majority of children who receive PRT prior to age 5 years will develop and use verbal skills as their primary mode of communication. A resource that can aid in the use of PRT is:

Koegel, R. L., & Koegel, L. K. (2006). *Pivotal response treatments for autism: Communication, social, and academic development*. Baltimore, MD: Brookes.

Verbal Behavior Therapy. Verbal Behavior Therapy focuses on teaching communication skills to students with ASD. It uses the principles of ABA to introduce, practice, and reinforce four basic types of communication: requesting, commenting, responding, and repeating. Through reinforcement, students are helped to understand that using communication leads to desired outcomes. However, communication does not have to be verbal. For children who are non-verbal, some researchers paired the use of sign language with vocalizations to eventually encourage self-initiated speech (Carbone, Sweeney-Kerwin, Attanasio, & Kasper, 2010). Most programs involve a minimum of one to three hours of therapy per week, while more intensive programs may involve many more hours. In addition, instructors train parents and other caregivers to use verbal-behavior principles throughout the student's daily life (for more information on this therapy see http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2774593/)

Social Pragmatic Strategies

Social pragmatic strategies serve to develop pragmatic social interactions in environments using people and materials with which the child is already familiar. These approaches are child-centered and use the child's interests to promote language production and social interaction skills (Ingersoll, Dvortcsak, Whalen, & Sikora, 2005).

Naturalistic Intervention

Naturalistic intervention involves the use of planned activities, the clients' interests, and choice-making opportunities to develop language and social interaction skills. ABA principles, such as modeling, prompting and reinforcing are also used to elicit targeted behavioral responses. Naturalistic interventions are designed to be used with learners at all cognitive levels, and have been used effectively at all grade levels. Naturalistic interventions have been used to facilitate communication and social skills, which may include expressive vocabulary, speech intelligibility, use of gesture, shared attention, and turn-taking (Ingersoll, Lewis, & Kroman, 2007; Yoder & Stone, 2006). This type of instruction occurs in the student's natural settings (e.g., home, school, community), and focuses on individual interests. Another resource that can be used to learn more about naturalistic interventions is:

Franzone, E. (2009). *Overview of naturalistic intervention*. Madison, WI: National Professional Development Center on Autism Spectrum Disorders, Waisman Center, University of Wisconsin.

Floortime (Developmental, Individual-Difference, Relationship-Based [DIR] model)
Floortime/DIR promotes social interaction through child-centered play. The focus is on shared attention, engagement and problem solving. Engagement and interaction help to keep the child focused and build social awareness. As the child matures, joint activities can focus on any special interests. Parents are an integral part of Floortime, and Hilton and Seal (2007) found that some families are more comfortable using Floortime than ABA-based interventions.

INTERVENTION STRATEGIES: TREATMENTS FOR YOUNG CHILDREN

A number of approaches (see http://www.ncbi.nlm.nih.gov/pubmed/23076956) combine ABA techniques with intensive, early intervention programs for children with ASD. These programs are typically designed to applied with children younger than 4 years of age, and consist of 20 to 40 hours of therapy per week over the course of 1 to 3 years.

The Early Start Denver Model (ESDM)
The Early Start Denver Model (ESDM) has been noted as an effective early intervention approach. It incorporates ABA principles and the use of interactions that encourage positive interpersonal communication and engagement in shared activities. This approach systematically teaches developmental skills and can be used by a variety of trained individuals, including parents, in various settings. Dawson et al. (2010) found improved outcomes for children diagnosed with ASD who were treated using this model (http://pediatrics.aappublications.org/content/125/1/e17.full). Other resources that can be used to learn more about ESDM include:

Rogers S. J., & Dawson, G. (2009). *Play and engagement in early autism: Early start Denver model. Vol. I, The treatment.* New York, NY: Guilford.
Rogers S. J., & Dawson, G. (2009). *Play and engagement in early autism. Early start Denver model. Vol. II, The curriculum.* New York, NY: Guilford.
Rogers S. J., Dawson, G., & Vismara, L. (2012). *An early start for your child with autism.* New York, NY: Guilford.

Social Communication, Emotional Regulation, and Transactional Supports (SCERTS)
SCERTS has some demonstrated effectiveness and involves a combination of multiple ABA techniques (see http://www.ncbi.nlm.nih.gov/pubmed/?term=autism+scerts). Wetherby and Woods (2006) noted increased frequency of communication and overall positive affect in children with ASD in the SCERTS program. A resource that can be used to learn more about SCERTS is:

Prizant, B. M., Wetherby, A. M., Rubin, E., Laurent, A. C., & Rydell, P. J. (2006). *The SCERTS model: A comprehensive educational approach for children with autism spectrum disorders.* Baltimore, MD: Brookes.

Treatment and Education of Autistic and Communication Handicapped Children (TEACCH)
Treatment and Education of Autistic and Communication Handicapped Children (TEACCH) is a therapeutic approach used in the treatment and support of individuals diagnosed with ASD. TEACCH invites parents to become active participants in treatment. Panerai et al. (2009) described the parents as "co-therapists" creating a structured continuous intervention system that supports the child's needs throughout an entire day's activities. TEACCH emphasizes four main components that highlight structured learning by physical organization, visual schedules, work system, and task organization. Physical organization refers to the actual setup of where a child can learn both functional and academic skills. Visual schedules

map out tasks in a pictorial form that a child can easily see during a scheduled event. An example might be steps to follow when making a sandwich or brushing teeth. Each small step must be represented in the pictorial representations. Work system informs the child of expected participation in a specific activity. Task organization informs the child of specific perimeters within a task that will be expected. All of these structured learning steps help to ensure consistency and structure within a well-defined learning environment. Additional information and resources for TEACCH include:

- Autism Web http://www.autismweb.com/teacch.htm
- National Autism Network http://nationalautismnetwork.com/about-autism/autism-treatments/teacch.html
- The National Autistic Society http://www.autism.org.uk/living-with-autism/strategies-and-approaches/teacch.aspx

Additional Information and Resources for ASD

The following resources provide additional information about prevalence, intervention, support, research, and treatment:

- Autism Society www.autism-society.org
- Learn the Signs. Act Early www.cdc.gov/ActEarly
- CDC Autism Information Center www.cdc.gov/autism
- Autism Society www.autism-society.org
- Family Voices www.familyvoices.org/
- Organization for Autism Research www.ResearchAutism.org
- The Autism Science Foundation www.autismsciencefoundation.org
- U.S. Department of Health and Human Services www.hhs.gov/autism/

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