
The Scope of Occupational Therapy Services for Individuals With an Autism Spectrum Disorder Across the Life Course

The primary purpose of this paper is to define the role of occupational therapy and the scope of occupational therapy services available for individuals with an autism spectrum disorder (ASD) to persons outside of the occupational therapy profession. In addition, this document is intended to clarify the role of occupational therapy with this population for occupational therapists and occupational therapy assistants. “The American Occupational Therapy Association (AOTA) asserts that occupational therapy services are grounded in the belief that persons with an ASD are integral members of their families and communities and have the right to fully participate in the educational, social, cultural, political, and economic life of society” (AOTA, 2009a, p. 843). Occupational therapy practitioners work collaboratively with individuals on the autism spectrum, their families, other professionals, organizations, and community members in multiple contexts to advocate for and provide a range of needed resources and services that support the individuals’ ability to participate fully in life (Case-Smith & Arbesman, 2008). According to a study conducted by the Interactive Autism Network (2009), occupational therapy ranks second to speech and language as the most frequently provided services for people with autism throughout the United States.

Prevalence data suggest that autism currently affects approximately 1 in 100 children (Centers for Disease Control and Prevention, 2009), with the same rate being reported in adults (Brugha et al., 2009). Other estimates of ASD diagnoses in the United States have suggested that these rates might be higher, with as many as 1 in 91 children ages 3–17 having a parent-reported diagnosis on the autism spectrum (Kogan et al., 2009). These figures reflect a dramatic increase in the number of individuals living with an ASD in the United States over the past 15 years.

Pervasive developmental disorder (PDD) is the diagnosis used in the *Diagnostic and Statistical Manual of Mental Disorders, 4th edition, text revision* (DSM-IV-TR; American Psychiatric Association [APA], 2000) and in the *International Classification of Functioning, Disability and Health* (ICF; World Health Organization [WHO], 2001) to describe the cluster of symptoms that range in type and severity and include (1) qualitative impairment in social interaction; (2) communication disorders; and (3) stereotyped, repetitive patterns of behaviors or a restricted range of interests. Depending on the level and distribution of symptoms across these categories, a child can be diagnosed with autistic disorder, Asperger disorder, or pervasive developmental disorder—not otherwise specified (PDD–NOS). At present, this range of disorders often is referred to as the *autism spectrum disorders* (ASD) rather than the PDDs. This shift in terminology reflects better awareness on the part of researchers and clinicians that services often appropriate for individuals with autism are suitable for other individuals on the spectrum (Johnson, Myers, & Council on Children With Disabilities, 2007; Lord & Risi, 2000). It reflects general agreement that individuals with lesser impairments should also be considered part of the spectrum.

Rather than using the term *ASD*, the Individuals with Disabilities Education Improvement Act of 2004 (IDEA; P. L. 108–446) uses the term *autism* as a disability category under which children might be eligible

¹When the term *occupational therapy practitioner* is used in this document, it refers to both occupational therapists and occupational therapy assistants (AOTA, 2006). *Occupational therapists* are responsible for all aspects of occupational therapy service delivery and are accountable for the safety and effectiveness of the occupational therapy service delivery process. *Occupational therapy assistants* deliver occupational therapy services under the supervision of and in partnership with an occupational therapist (AOTA, 2009b).

for special education and related services. The IDEA regulations define *autism* as a developmental disability significantly affecting verbal and non-verbal communication and social interaction generally evident before age 3 that adversely affects a child’s educational performance. Other characteristics often associated with autism are engagement in repetitive activities and stereotyped movements, resistance to environmental change or change in daily routines, and unusual responses to sensory experiences. (IDEA, 2004, §300.8[c][1][i])

Under Part B of IDEA, occupational therapy is a related service; under Part C, occupational therapy is a primary service. Thus, occupational therapy must be provided to students with autism if those services will help the student to benefit from special education (IDEA, 2004, §602[26][A]). Because educational classification and identification criteria vary considerably from state to state, readers are referred to the specific state policies and requirements.

Occupational Therapy Domain and Process

The aim of occupational therapy is to support individuals’ health and participation in life through engagement in occupations (AOTA, 2008). Occupations are activities that are meaningful to individuals and that support their health, well-being, and development (AOTA, 2008). Occupational therapy services focus on enhancing participation in and performance of activities of daily living (ADLs), instrumental activities of daily living (IADLs), rest and sleep, education, work, play, leisure, and social participation within their natural and daily contexts. Consistent with all occupational therapy intervention, the focus of services for individuals with an ASD is determined by their specific goals and priorities for participation. Given that individuals with an ASD may experience complex challenges including social–communication difficulties, the collaboration with key people such as family members, caregivers, and educators is important for determining goals and priorities. Some examples of occupations (ADLs) that may be challenging for people with an ASD and that can be addressed by the occupational therapy practitioner are included in Table 1.

Table 1. Potentially Challenging Areas of Occupation

Areas of Occupation	Examples of Occupations (Daily Life Activities) That May Be Challenging for People With an ASD
Activities of daily living (ADLs)	Bathing, showering, dressing, eating, toilet hygiene, personal hygiene and grooming, sexual activity
Instrumental activities of daily living (IADLs)	Communication management, community mobility, meal preparation, fiscal management, health management and maintenance, home establishment and management, meal preparation and cleanup, safety and emergency maintenance, shopping
Rest and sleep	Achieving a calm state, sleep preparation, developing routines that support sleep, sleep participation
Education	Formal and informal education participation; written language skills; computer use; assistive technology; skills needed to access the curriculum; participation and transition within school environments such as classroom, cafeteria, playground, hallways, auditorium; and other school activities
Work	Employment interests and pursuits, employment seeking and acquisition, job performance, retirement preparation and adjustment, volunteer exploration, volunteer participation
Play and leisure	Play and leisure, exploration and participation
Social participation	Appropriate interactions with others (e.g., family, peers and friends, community), social competencies and management of novel situations, behavior management

The process of occupational therapy service delivery includes evaluation, intervention, and assessment of outcomes. Services can be provided to the client at the individual, organizational, and population levels and may include direct service, consultation, education, and advocacy to support the individual, family members, health professionals, educational staff, and community agencies. At the individual level, collaboration with family, caregivers, educators, and other team members is essential for understanding the daily life experiences of individuals with an ASD and those with whom they interact. At the organizational level, services may focus on educating staff and designing programs and environments that are more socially inclusive for persons on the autism spectrum. At the population level, occupational therapy practitioners may engage in education, consultation, and advocacy initiatives with ASD consumer groups.

The evaluation process is designed to gain an understanding of the client's occupational profile and occupational performance. This process includes an analysis of the client's strengths and challenges related to occupations, performance skills, performance patterns, body functions and body structures, and activity demands. The evaluation process is comprehensive and tailored to the concerns of the specific client, organization, or population. Evaluation information collected through interviews, structured observations, and standardized assessments guides occupational therapy services. Because the literature shows that individuals with an ASD may have difficulties in areas of occupation such as self-care; IADLs; sleep; functional and pretend play; leisure pursuits; social participation; education and work performance; and performance skills such as sensory modulation, self-regulation, praxis, and motor imitation, occupational therapy evaluations conducted at the individual level should assess these areas (Baranek, 2002; Case-Smith & Bryan, 1999; Dawson & Watling, 2000; Kientz & Dunn, 1997; Libby, Powell, Messer, & Jordan, 1998; Rutherford & Rogers, 2003; Shattuck et al., 2007; Watson, Baranek, & DiLavore, 2003; Zaks, 2006). At the organizational level the evaluation process may focus on analyzing the program structure, resources, and services that support persons on the autism spectrum to engage in desired occupations. At the population level the evaluation process may focus on collaborating with ASD consumer groups to identify their capacities and needs to support societal participation. Recent textbook chapters and practice guidelines have been developed to inform the practice of occupational therapy related to ASD and include comprehensive chapters on the evaluation process (Frolek Clark, Miller-Kuhanek, & Watling, 2004; Tomchek, 2001; Tomchek & Case-Smith, 2009; Watling, 2010).

Occupational therapy intervention is based on the results of the evaluation and is implemented to foster occupational engagement and social participation by attending to the transaction among the client, the activity, and the environment. The goal of intervention is to promote engagement in and performance of daily activities, personal satisfaction, adaptation, health and wellness, role competence, quality of life, and occupational justice for people with an ASD within the contexts of their families and communities. At the individual level the intervention may emphasize social engagement and participation, include strategies to improve adaptive behaviors and occupational performance, and support family priorities. Some research has demonstrated the effectiveness of occupational therapy interventions for children and adolescents with an ASD that lead to improvement in self-care and play and that include the use of activities that promote social interaction, problem solving, and pivotal behaviors (e.g., joint attention, initiative, persistence, executive functioning, cooperation) in addition to addressing specific skill acquisition (Case-Smith & Arbesman, 2008). Effective interventions also address contextual factors such as structure, consistency of routine, sensory environments that optimize attention and arousal, and caregiver skills that contribute to occupational performance. Research evidence indicates that the occupational therapy intervention process should be individualized, intensive, and comprehensive; include the family; and facilitate active engagement of the individual (Tomchek & Case-Smith, 2009). There is additional support in the literature for the use of developmental and behavioral approaches to intervention for individuals with an ASD, in particular, for young children (Callahan, Henson, & Cowan, 2008; Dawson et al., 2009; Rogers & Vismara, 2008). Environmental modification to address problem behaviors also has been shown to be effective (Horner, Carr, Strain, Todd, & Reed, 2002).

At the organizational level, interventions could include recommendations for educational and policy initiatives, provision of staff education, and development of new programs. At the population level, emphasis may be on inclusion and advocacy initiatives.

Assessing the outcomes of service is an integral part of the occupational therapy process and is important for determining future actions and for evaluating occupational therapy services provided for the individual, organization, or population. This assessment involves monitoring the client's responses to intervention, reevaluating and modifying the intervention plan, and measuring intervention success through outcomes that are important to the client within the dynamic physical and social environments and cultural contexts where functioning occurs. Progress is noted through improvement in the client's occupational performance, adaptation, participation in desired activities, satisfaction, role competence, health and wellness, and quality of life and through prevention of further difficulties and facilitation of effective transitions. Occupational therapy practice for individuals with an ASD is consistent with the WHO's 2001 *ICF* and the National Research Council's 2001 recommended practices for educating individuals with an ASD. Table 2 provides case examples that reflect a range of occupational therapy evaluation and intervention services for people with an ASD at the individual, organizational, and population levels across the lifespan.

Table 2. Case Studies of Occupational Therapy Evaluation and Intervention Services for People With an ASD

Description of Client	Evaluation	Occupational Therapy Intervention
<ul style="list-style-type: none"> • Kamau is a 2 ½ -year-old boy with autism. His language consists of single-word utterances. He has an intense interest in a few objects such as wheels and mobiles. • His mother's primary concerns are his limited social interaction, delayed pretend play, hyperactive behaviors, and picky eating. • Kamau also is receiving speech therapy services and an applied behavioral analysis program at home through the state early intervention program. 	<ul style="list-style-type: none"> • Develop occupational profile of play behaviors, family interactions, and food preferences through parent interview. • Gather clinical observations of behavior, self-regulation, and parent-child interaction during free play and interactive parent-child play. • Conduct structured observation of parent-child interaction during play and while Kamau is eating. • Administer Infant/Toddler Sensory Profile (Dunn, 2002), Bayley Scales of Infant and Toddler Development (Bayley, 2006), and Pediatric Evaluation of Disability Inventory, Self-Care Scale (Haley et al., 1992). 	<ul style="list-style-type: none"> • Provide weekly occupational therapy in the home setting with mother present to facilitate Kamau to establish self-regulation, social engagement, and pretend-play skills (Greenspan & Wieder, 1997; Kasari, Freeman, & Paparella, 2006; Mahoney & Perales, 2005; Salt et al., 2001). • Utilize sensory integration methods; behavioral strategies, including positive reinforcement; and reciprocal play to improve social interaction. • Collaborate with the speech-language pathologist regarding Kamau's intervention program, and arrange co-treatment sessions to promote social interaction. • Collaborate with the behavioral therapist (Cohen, Amerine-Dickens, & Smith, 2006; Smith, Groen, & Wynn, 2000) to integrate sensory and behavioral strategies helpful in modulating Kamau's behavior. • Provide parent training related to sensory processing and behavior management strategies and social participation. • Provide parent consultation to improve the family's mealtime routine and the variety of foods Kamau eats (Horner et al., 2002; Ledford & Gast, 2006).

Table 2. Case Studies of Occupational Therapy Evaluation and Intervention Services for People With an ASD (cont.)

Description of Client	Evaluation	Occupational Therapy Intervention
<ul style="list-style-type: none"> • Heang is a 4-year-old girl with autism and attends an inclusive preschool through her school district. • Her parents have sought individualized occupational therapy services from an outpatient clinic. • She uses only a few basic gestures to communicate. • She primarily engages in solitary sensory–motor exploration of her environment and does not yet spontaneously play beside other children or with toys. • She has frequent tantrums and screams particularly when there are changes in the environment or when being directed toward a specific task. 	<ul style="list-style-type: none"> • Develop an occupational profile of behavior and self-regulation in play through parent and teacher interview. • Conduct clinical observations of behavior, self-regulation, parent–child and teacher–child interaction, and play skills. • Administer the Sensory Profile (Dunn, 1999) and the First STEp Developmental Screening (Miller, 1993). 	<ul style="list-style-type: none"> • Provide weekly occupational therapy in a clinical setting with the parent present. • Consult with preschool team, including teacher and speech–language pathologist. • Provide interventions to improve self-regulation to allow for socially appropriate behavior (Greenspan & Wieder, 1997; Kasari et al., 2006; Mahoney & Perales, 2005; Salt et al., 2001, 2002). • Incorporate sensory integration techniques (Baranek, 2002); visual supports for structure (Ozonoff & Cathcart, 1998) and communication; and behavioral strategies, including positive reinforcement, redirection, elimination of antecedents to her tantrums, and reinforcement of her positive behaviors (Horner et al., 2002; Rogers & Vismara, 2008). • Educate parents on how to recognize when Heang is becoming over-aroused, and implement both positive behavior (Horner et al., 2002) and sensory-based strategies to help her modulate her arousal (Baranek, 2002).
<ul style="list-style-type: none"> • Jorge is a 6-year-old kindergarten boy with a diagnosis of PDD–NOS. • He demonstrates minimal social initiation with peers, although he interacts better with adults. • When peers initiate interaction, he withdraws or responds aggressively. • He needs direct adult supervision to manage his school materials and complete school tasks. 	<ul style="list-style-type: none"> • Develop an occupational profile of play, work/reward routine, and behavior regulation through parent and teacher interview. • Conduct structured clinical observations of classroom behavior, social–communication, parent–child interaction, and play skills. • Administer Short Sensory Profile (McIntosh, Miller, & Shyu, 1999) and School Function Assessment (Cognitive/Behavior Scales; Coster, Deeney, Haltiwanger, & Haley, 1998). • Conduct formal functional behavior analysis of aggressive behaviors. 	<ul style="list-style-type: none"> • Provide occupational therapy services within the school setting. • Collaborate with teacher to implement structured teaching methods based on TEACCH (Ozonoff & Cathcart, 1998; Panerai, Ferrante, & Zingale, 2002) and a visual schedule in the classroom (Ganz, 2007). • Implement positive behavior supports (Horner et al., 2002) and a sensory diet, including strategies for self-regulation based on the functional analysis of aggressive behaviors (Borrero & Borrero, 2008) • Develop and implement social stories (Reynhout & Carter, 2006) prior to challenging school situations (e.g., standing in line, assemblies, fire drills) to encourage appropriate behavior. • Develop peer buddies and modeling program to build social–communication skills during naturally occurring play activities (Harper, Symon, & Frea, 2008). • Consult with the classroom teacher and family to promote generalization of strategies across home and school settings.

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Table 2. Case Studies of Occupational Therapy Evaluation and Intervention Services for People With an ASD (cont.)

Description of Client	Evaluation	Occupational Therapy Intervention
<ul style="list-style-type: none"> • The local museum of science is interested in making the museum more accessible to people with an ASD. • The museum hosts school classes on a daily basis and specialized weekend learning programs. 	<ul style="list-style-type: none"> • Develop an occupational profile of supports and inhibitors to engagement in museum activities through observation of museum patrons of various ages interacting with museum exhibits. • Complete structured observation of behavioral, sensory, and social demands of the museum, including structure, timing, and transitions of docent-led groups, signage, “way-finding” materials, and universal design features of physical space. • Conduct focus groups at the museum with parents who have children with an ASD to elicit their recommendations for improving accessibility. 	<ul style="list-style-type: none"> • Provide an educational presentation to museum education staff about the characteristics associated with an ASD and strategies for supporting informal learning. • Consult with museum staff to develop a Social Story to be placed on museum Web site for families to use before visiting the museum. • Consult with museum staff to develop an after-school program for adolescents with an ASD.
<ul style="list-style-type: none"> • T. J. is a 21-year-old young man with Asperger syndrome. T. J. currently is enrolled in a junior college and is having difficulty finding a needed part-time job. • He lives independently in an apartment. • He presents with poor grooming and hygiene skills and pragmatic language deficits. • He has several interests but spends most of his free time reading about antique cars. • His interest in cars has led to distractibility during driving and resulted in a minor auto accident and a traffic citation for failing to stop at a stop sign. 	<ul style="list-style-type: none"> • Develop an occupational profile of ADL and IADL performance, leisure activities, and driving behaviors through personal interview about his concerns and his interests. • Conduct structured observation of role playing a job interview. • Administer the Scales of Independent Behavior–Revised (SIB–R; Bruininks, Woodcock, Weatherman, & Hill, 1997) and Occupational Self Assessment (Baron, Kielhofner, Lyenger, Goldhammer, & Wolenski, 2006). 	<ul style="list-style-type: none"> • Initially provide occupational therapy on a weekly basis in the clinic, then in the community. • Provide direct intervention to address grooming and hygiene needs through the use of a specific step-by-step self-monitoring system. • Consult with the Division of Vocational Rehabilitation to assist in the employment search. • Use role playing, video self-modeling, and collaborative problem solving to address social communication/pragmatic language needs related to the interview process and interaction with coworkers. • Initiate job coaching to allow T. J. to learn and master job functions and to problem solve when needed. • Refer to an occupational therapy driving rehabilitation specialist to assess driving safety and provide interventions to improve executive functioning and focused attention during driving occupations (Stav, Hunt, & Arbesman, 2006).

Table 2. Case Studies of Occupational Therapy Evaluation and Intervention Services for People With an ASD (cont.)

Description of Client	Evaluation	Occupational Therapy Intervention
T.J. (cont.)	<ul style="list-style-type: none"> • Develop an occupational profile regarding behavior regulation and interpersonal relatedness through interview. 	<ul style="list-style-type: none"> • Facilitate T. J.'s enrollment in an existing on campus support group of other college students with Asperger disorder.
<ul style="list-style-type: none"> • Sanjaya is a 34-year-old man diagnosed with Asperger disorder. • He lives in an apartment with his wife and contributes to the family income through an online business. • Sanjaya has challenges with arousal regulation and coping skills, difficulty with body space awareness, and difficulty reading and sending body language signals that affect his social participation. • Sanjaya has tactile defensiveness, which leads to difficulties with intimacy. 	<ul style="list-style-type: none"> • Administer the Adolescent/Adult Sensory Profile (Brown & Dunn, 2002) and the Canadian Occupational Performance Measure (Law et al., 1998). 	<ul style="list-style-type: none"> • Initially provide occupational therapy services in the therapist's office to address Sanjaya's poor processing of tactile, vestibular, and proprioceptive input. • Develop a sensory diet for Sanjaya to implement on a daily basis in his natural environment. • Consult with and train Sanjaya and his wife in the Alert Program (Williams & Shellenberger, 1996) to recognize when his arousal level is high and to provide a language to aid in their communication. • Perform video analysis (Bellini & Akullian, 2007) and role playing to help develop an awareness of non-verbal communication through facial expression and body language as well as practice pragmatic skills. • Train Sanjaya and his wife in the use of deep tactile pressure and proprioceptive input to diminish tactile defensiveness.
<ul style="list-style-type: none"> • Martina is a 47-year-old woman with high-functioning autism who has recently transitioned from her parent's home to a group home with 24-hour supervision due to her parents' declining ability to care for her. • She works at a local bookstore where she shelves books and organizes incoming orders. • She has funding for services through the Department of Developmental Disabilities and a small amount of private resources. • Martina becomes anxious when her routine is disturbed, demands are placed on her, or her desires are not granted. 	<ul style="list-style-type: none"> • Develop an occupational profile of ADL and IADL routines through interview with Martina and her parents. • Administer the Canadian Occupational Performance Measure (Law et al., 1998), Adolescent/Adult Sensory Profile (Brown & Dunn, 2002), and Test of Grocery Shopping Skills (Brown, Rempfer, & Hamera, 2009). • Conduct clinical observations of behavior during self-care, cooking activities, laundry, and cleaning tasks, as well as path finding and skills for using public transportation. 	<ul style="list-style-type: none"> • Provide occupational therapy services in the group home to help Martina organize her belongings; establish a routine for daily self-care and weekly household tasks; and ensure her success in using the available stove, washer, dryer, and vacuum. • Coach Martina to access online bus schedules, match the bus schedule to her work schedule, walk from the house to the bus stop, board the bus, pay the fare, watch for her stop, exit the bus, and walk to work, as well as learn the steps necessary to return home after her work day.

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Table 2. Case Studies of Occupational Therapy Evaluation and Intervention Services for People With an ASD (cont.)

Description of Client	Evaluation	Occupational Therapy Intervention
<p>Martina (cont.)</p> <ul style="list-style-type: none">• Her parents arranged for contract occupational therapy services to facilitate her transition to the group home, with a focus on establishing routines for self-care and household chores, understanding and using transportation services to and from work, and regulatory difficulties that are known to affect her sleep cycles when substantial transitions occur.		<ul style="list-style-type: none">• Teach residential program staff to implement educational strategies, such as forward and backward chaining, visual supports, and environmental structure to support success during intervention (Horner et al., 2002; Hwang & Hughes, 2000) and during everyday activities.• Conduct staff training regarding environmental accommodations and environmental supports.• Collaborate with Martina to develop an evening routine that includes making a phone call or sending email to her parents, preparing for the next day's activities, and enjoying soothing music in preparation for sleep (Reed et al., 2009). Martina will use a sleep chart each morning to record which strategies she used the night before, whether she felt anxious or relaxed at bedtime, and how late she remembers being awake. The occupational therapist monitors the sleep chart weekly and makes needed adjustments to her evening routine until it reflects a successful return to a regular and effective sleep cycle.

References

- American Occupational Therapy Association. (2006). Policy 1.44: Categories of occupational therapy personnel. In *Policy manual* (2009 ed.). Bethesda, MD: Author.
- American Occupational Therapy Association. (2008). Occupational therapy practice framework: Domain and process (2nd ed.). *American Journal of Occupational Therapy, 62*, 625–688.
- American Occupational Therapy Association. (2009a). AOTA's societal statement on autism spectrum disorders. *American Journal of Occupational Therapy, 63*(6), 843–844.
- American Occupational Therapy Association. (2009b). Guidelines for supervision, roles, and responsibilities during the delivery of occupational therapy services. *American Journal of Occupational Therapy, 63*, 796–803.
- American Psychiatric Association. (2000). *Diagnostic and statistical manual of mental disorders* (4th ed., text rev.). Washington, DC: Author.
- Baranek, G. T. (2002). Efficacy of sensory and motor interventions in children with autism. *Journal of Autism and Developmental Disorders, 32*(5), 397–422.
- Baron, K., Kielhofner, G., Iyenger, A., Goldhammer, V., & Wolenski, J. (2006). *Occupational Self Assessment (OSA)* (version 2.2). Chicago: MOHO Clearinghouse.
- Bayley, N. (2006). *Bayley Scales of Infant and Toddler Development* (3rd ed.). San Antonio, TX: Psychological Corporation.
- Bellini, S., & Akullian, J. (2007). A meta-analysis of video modeling and video self-modeling interventions for children and adolescents with autism spectrum disorders. *Exceptional Children, 73*(3), 264–287.
- Borrero, C. S., & Borrero, J. C. (2008). Descriptive and experimental analyses of potential precursors to problem behavior. *Journal of Applied Behavior Analysis, 41*, 83–96.
- Brown, C., & Dunn, W. (2002). *Adolescent/Adult Sensory Profile*. San Antonio, TX: Pearson.
- Brown, C., Rempfer, M., & Hamera, E. (2009). *Test of Grocery Shopping Skills*. Bethesda, MD: AOTA Press.
- Brugha, T., McManus, S., Meltzer, H., Smith, J., Scott, F. J., Purdon, S., et al. (2009). *Autism spectrum disorders in adults living in households throughout England: Report from the Adult Psychiatric Morbidity Survey 2007*. Leeds, England: Health and Social Care Information Centre, Social Care Statistics. Retrieved January 11, 2010, from <http://www.ic.nhs.uk/statistics-and-data-collections/mental-health/mental-health-surveys/autism-spectrum-disorders-in-adults-living-in-households-throughout-england--report-from-the-adult-psychiatric-morbidity-survey-2007>
- Bruininks, R. H., Woodcock, R. W., Weatherman, R. F., & Hill, B. K. (1997). *Scales of Independent Behavior-Revised*. Rolling Meadows, IL: Riverside.
- Callahan, K., Henson, R. K., & Cowan, A. K. (2008). Social validation of evidence-based practices in autism by parents, teachers, and administrators. *Journal of Autism and Developmental Disorders, 38*, 678–692.
- Case-Smith, J., & Arbesman, M. (2008). Evidence-based review of interventions for autism used in or of relevance to occupational therapy. *American Journal of Occupational Therapy, 62*, 416–429.
- Case-Smith, J., & Bryan, T. (1999). The effects of occupational therapy with sensory integration emphasis on preschool-age children with autism. *American Journal of Occupational Therapy, 53*, 489–497.
- Centers for Disease Control and Prevention. (2009, December 18). Prevalence of autism spectrum disorders? Autism and Developmental Disabilities Monitoring Network, United States, 2006. *Morbidity and Mortality Weekly Report, 58*, SS-10.

- Cohen, H., Amerine-Dickens, M., & Smith, T. (2006). Early intensive behavioral treatment: Replication of the UCLA model in a community setting. *Development and Behavioral Pediatrics, 27*, S145–S155.
- Coster, W., Deeney, T., Haltiwanger, J., & Haley, S. (1998). *School Function Assessment*. San Antonio, TX: Psychological Corporation.
- Dawson, G., Rogers, S., Munson, J., Smith, M., Winter, J., Greenson, J., et al. (2009). Randomized, controlled trial of an intervention for toddlers with autism: The Early Start Denver Model. *Pediatrics, 121*(1), 17–23.
- Dawson, G., & Watling, R. (2000). Interventions to facilitate auditory, visual, and motor integration in autism: A review of the evidence. *Journal of Autism and Developmental Disorders, 30*, 415–421.
- Dunn, W. (1999). *Sensory Profile*. San Antonio, TX: Psychological Corporation.
- Dunn, W. (2002). *Infant/Toddler Sensory Profile*. San Antonio, TX: Psychological Corporation.
- Frolek Clark, G., Miller-Kuhaneck, H., & Watling, R. (2004). Evaluation of the child with an autism spectrum disorder. In H. Miller-Kuhaneck (Ed.), *Autism: A comprehensive occupational therapy approach* (2nd ed., pp. 107–153). Bethesda, MD: AOTA Press.
- Ganz, J. B. (2007). Classroom structuring methods and strategies for children and youth with autism spectrum disorders. *Exceptionality, 15*, 249–260.
- Greenspan, S. I., & Wieder, S. (1997). Developmental patterns and outcomes in infants and children with disorders in relating and communicating: A chart review of 200 cases of children with autistic spectrum diagnoses. *Journal of Developmental and Learning Disorders, 1*, 87–142.
- Haley, S. M., Coster, W. J., Ludlow, L. H., Haltiwanger, J. T., & Andrellos, P. J. (1992). *Pediatric Evaluation of Disability Inventory*. San Antonio, TX: Psychological Corporation.
- Harper, C. B., Symon, J. B., & Frea, W. D. (2008). Recess is time-in: Using peers to improve social skills of children with autism. *Journal of Autism and Developmental Disorders, 38*, 815–826.
- Horner, R., Carr, E., Strain, P., Todd, A., & Reed, H. (2002). Problem behavior interventions for young children. *Journal of Autism and Developmental Disorders, 32*, 423–446.
- Hwang, B., & Hughes, C. (2000). The effects of social interactive training on early social communicative skills of children with autism. *Journal of Autism and Developmental Disorders, 30*, 331–343.
- Individuals with Disabilities Education Improvement Act of 2004, Pub. Law 108–446, 20 U.S.C.
- Interactive Autism Network. (2009). Most popular treatments. *IAN Treatment Reports*. Retrieved from http://www.iancommunity.org/cs/therapies_treatments/
- Johnson, C. P., Myers, S. M., & Council on Children With Disabilities. (2007). Identification and evaluation of children with autism spectrum disorders. *Pediatrics, 119*, 1183–1215.
- Kasari, C., Freeman, S., & Paparella, T. (2006). Joint attention and symbolic play in young children with autism: A randomized controlled intervention study. *Journal of Child Psychology and Psychiatry and Allied Disciplines, 47*, 611–620.
- Kientz, M. A., & Dunn, W. (1997). A comparison of the performance of children with and without autism on the Sensory Profile. *American Journal of Occupational Therapy, 51*, 530–537.
- Kogan, M. D., Perrin, M., Ghandour, R. M., Singh, G. K., Strickland, B. B., Trevathan, E., et al. (2009). Prevalence of parent-reported diagnosis of autism spectrum disorder among children in the US, 2007. *Pediatrics, 124*, 1–9.

- Law, M., Baptiste, S., Carswell, A., McColl, M., Polatajko, H., & Pollack, N. (1998). *Canadian Occupational Performance Measure* (3rd ed.). Ottawa, ON: CAOT Publications.
- Ledford, J. R., & Gast, D. L. (2006). Feeding problems in children with autism spectrum disorders: A review. *Focus on Autism and Other Developmental Disabilities, 21*(3), 153–166.
- Libby, S., Powell, S., Messer, D., & Jordan, R. (1998). Spontaneous play in children with autism: A reappraisal. *Journal of Autism and Developmental Disorders, 28*, 487–497.
- Lord, C., & Risi, S. (2000). Diagnosis of autism spectrum disorders in young children. In A. M. Wetherby & B. M. Prizant (Eds.), *Autism spectrum disorders: A transactional developmental perspective* (pp. 167–190). Baltimore: Brookes.
- Mahoney, G., & Perales, F. (2005). Relationship-focused early intervention with children with pervasive developmental disorders and other disabilities: A comparative study. *Developmental and Behavioral Pediatrics, 26*, 77–85.
- McIntosh, D. N., Miller L. J., & Shyu, V. (1999). *Short Sensory Profile*. San Antonio, TX: Psychological Corporation.
- Miller, L. J. (1993). *First STEp screening tool*. San Antonio, TX: Psychological Corporation.
- National Research Council. (2001). *Educating children with autism*. Washington, DC: National Academy Press.
- Ozonoff, S., & Cathcart, K. (1998). Effectiveness of a home program intervention for young children with autism. *Journal of Autism and Developmental Disorders, 28*, 25–32.
- Panerai, S., Ferrante, L., & Zingale, M. (2002). Benefits of the treatment and education of autistic and communication handicapped children (TEACCH) programme as compared with a non-specific approach. *Journal of Intellectual Disability Research, 46*, 318–327.
- Parham, D., & Ecker, C. J. (2007). *Sensory Processing Measure—Home form*. Los Angeles: Western Psychological Services.
- Reed, H. E., McGrew, S. G., Artibee, K., Surdkya, K., Goldman, S. E., Frank, K., et al. (2009). Parent-based sleep education workshops in autism. *Journal of Child Neurology, 24*(8), 936–945.
- Reynhout, G., & Carter, M. (2006). Social Stories for children with disabilities. *Journal of Autism and Developmental Disorders, 36*, 445–469.
- Rogers, S. J., & Vismara, L. A. (2008). Evidence-based comprehensive treatments for early autism. *Journal of Clinical Child and Adolescent Psychology, 37*, 8–38.
- Rutherford, M. D., & Rogers, S. J. (2003). Cognitive underpinnings of pretend play in autism. *Journal of Autism and Developmental Disorders, 33*, 289–302.
- Salt, J., Shemilt, J., Sellars, V., Boyd, S., Coulson, T., & McCool, S. (2001). The Scottish Centre for Autism preschool treatment programme. I: A developmental approach to early intervention. *Autism, 5*(4), 362–373.
- Salt, J., Shemilt, J., Sellars, V., Boyd, S., Coulson, T., & McCool, S. (2002). The Scottish Centre for Autism preschool treatment programme. II: The results of a controlled treatment outcome study. *Autism, 6*(1), 34–46.
- Shattuck, P. T., Seltzer, M. M., Greenberg, J. S., Orzmond, G. I., Lounds, J., Kring, S., et al. (2007). Changes in autism symptoms and maladaptive behaviors in adolescents and adults with autism spectrum disorders. *Journal of Autism and Developmental Disorders, 37*, 1735–1747.

- Smith, T., Groen, A. D., & Wynn, J. W. (2000). Randomized trial of intensive early intervention for children with pervasive developmental disorder. *American Journal on Mental Retardation*, 105(4), 269–285.
- Sparrow, S. S., Cichetti, D. V., & Balla, D. A. (2005). *Vineland Adaptive Behavior Scales* (2nd ed.). Circle Pines, MN: American Guidance Services.
- Stav, W. B., Hunt, L. A., & Arbesman, M. A. (2006). *Occupational therapy practice guidelines for driving and community mobility for older adults*. Bethesda, MD: AOTA Press.
- Tomchek, S. D. (2001). Sensorimotor assessment of individuals with autism spectrum disorders. In R. Huebner (Ed.), *Autism and related disorders: A sensorimotor approach to management* (pp. 103-138). Gaithersburg, MD: Aspen.
- Tomchek, S. D., & Case-Smith, J. (2009). *Occupational therapy practice guidelines for children and adolescents with autism*. Bethesda, MD: AOTA Press.
- Watling, R. (2010). Occupational therapy evaluation for individuals with an autism spectrum disorder. In H. Miller Kuhaneck & R. Watling (Eds.), *Autism: A comprehensive occupational therapy approach* (3rd ed., pp. 285–303). Bethesda, MD: AOTA Press.
- Watson, L. R., Baranek, G. T., & DiLavore, P. C. (2003). Toddlers with autism: Developmental perspectives. *Infants and Young Children*, 16, 201–214.
- Williams, M. S., & Shellenberger, S. (1996). *How does your engine run? A leader's guide to the Alert Program for Self-Regulation*. Albuquerque, NM: Therapy Works.
- World Health Organization. (2001). *International classification of functioning, disability and health (ICF)*. Geneva, Switzerland: Author.
- Zaks, Z. (2006). *Life and love: Positive strategies for autistic adults*. Shawnee Mission, KS: Autism Asperger Publishing.

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