Transition From School to Adulthood for Youth With Autism Spectrum Disorders

Review and Recommendations

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The transition from school services to adulthood can be particularly difficult for many adolescents with autism spectrum disorders (ASD). Although some individuals with ASD are able to successfully transition, most are faced with significant obstacles in multiple areas as they attempt to negotiate their way into college, work, community participation, and independent living. This article contains a review of research related to the transition from school to adulthood for youth with ASD in the areas of education, employment, community living, and community integration. These key areas of the transition process are crucial for success in adulthood. A summary of principal conclusions drawn from the current literature and suggestions for future research are provided.

Keywords: postschool transition; autism spectrum disorders; community integration

Leaving high school can be an exciting time for many individuals as they transition to new challenges such as work, community college, university, trade school, or the armed services. However, the transition from school services to adulthood can be a particularly difficult time for many adolescents with significant disabilities (deFur & Patton, 1999; Schall & Wehman, 2008; Sitlington & Clark, 2006). For young people with autism spectrum disorders (ASD), this is especially true inasmuch as the postsecondary and employment opportunities for those students have traditionally been very limited (O’Brien & Daggett, 2006; Schall, Cortijo-Doval, Targett, & Wehman, 2006). Transition typically includes completing school, gaining employment, participating in postsecondary education, contributing to a household, participating in the community, and experiencing satisfactory personal and social relationships (Wehman, 2006). Although transition planning and postschool outcomes have received growing attention for many students with disabilities in the educational research (e.g., Sitlington & Clark, 2006), the expanded interest in services for youth with ASD results in a critical need to assess what is known currently about their transition to adulthood.

ASD refers to a continuum of disorders that range from severe to mild (American Psychiatric Association, 1994; Neisworth & Wolfe, 2005). Fombonne (2003) estimated that in the United States between 55,602 and 121,324 adolescents between the ages of 15 and 19 have an ASD. It is believed to be a permanent developmental disorder that will continue into adulthood, creating lifelong challenges for the individual (Gilchrist et al., 2001; Volkmar, Stier, & Cohen, 1985). As Seltzer, Shattuck, Abbeduto, and Greenberg (2004) indicated in their review, despite reports highlighting improvements in core behavioral characteristics in adolescence and adulthood, functioning seldom leads to normal ability and significant deficits continue for most.

With appropriate training and education, individuals with ASD can integrate meaningfully into the community (Schall et al., 2006) and work competitively (Gerhardt & Holmes, 2005; Hurlbutt & Chalmers, 2002, 2004). It becomes essential that professionals carefully plan for the transition to adulthood to ensure success. Given the heterogeneity found in the disorder, adolescents and young adults will require a wide range of services and supports that are individualized and need driven.

A review of research related to the transition from school to adulthood for youth with ASD is provided to give insights into the transition process and help identify

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needed service delivery and intervention. Transition is
defined as to include education, employment, commu-
nity living, and community integration. These areas are
crucial for success in adulthood for young people with
disabilities, including those with ASD.

Method

Publications pertaining to transition from school to
adulthood were obtained by conducting electronic and
ancestral searches for the years 1996 to 2008, inclusive.
An electronic database search of ERIC and PsycINFO
was conducted using the following terms: autism, autis-
tic, pervasive developmental disorder, Asperger syn-
drome (AS), youth, adolescent, adolescence, high school,
transition, post secondary, outcome, school, home, liv-
ing, work, employment, and community. Hand searches
were conducted on journals that publish research on
autism (i.e., Autism, Focus on Autism and Other
Developmental Disabilities, Journal of Autism and
Developmental Disorders, Education and Training in
Developmental Disabilities, and Journal for the
Association of Behavior Analysis). Because of the con-


Results

Preparing for Transition in School

The goals of education for individuals with ASD are the
same as the goals for any other student, that is, to provide
opportunities to acquire skills that increase personal inde-
pendence and social responsibility (Kavale & Forness,
1999). For those with ASD this means acquisition of skills
in academics, socialization, language and communication,
self-management, self-determination, home living,
employment, and community. Students must demonstrate
competence in such skills by fluidly applying knowledge
in a variety of life environments. Student achievement,
transition planning, and educational services influence
postschool outcomes.

Student achievement. Little research has focused on
academic achievement of students with ASD. According
to the U.S. Department of Education (USDOE, 2008),
rates for graduating with a diploma are low. In the year
2005–2006, 38% of students with ASD graduated with a
standard diploma or higher, 18% received a certificate,
6% reached maximum age, and another 6% dropped out
of school altogether. Adolescents with autism do not fare
nearly as well in academic achievement as their typically
developing peers (Thoma & Sale, 2005; Wagner, Marder
et al., 2003). Although those educated in the general
education classroom are reported by teachers as having
high grades and keeping up with academics, on average
they are more than 4 years behind grade level in reading
and nearly 5 years behind in mathematics (Myles &
(2006) evaluated academic achievement and functional
performance for students with disabilities ages 16 to 18.
Subtests of the Woodcock-Johnson III (Woodcock,
McGrew, & Mather, 2001) were used to assess competency in
language arts, mathematics, science, and social studies.
Average assessment scores for adolescents with autism
were three standard deviations below the mean of their
peers in the general population. Scores were consistently
lower in the four assessed areas for students with autism
than all other disability categories with the exception of
defeat-blindness, multiple disabilities, and intellectual dis-


of meetings attended by a special educator. On a positive note, parents and guardians were next, with more than 90% of meetings attended by at least one caretaker. Active participation by other team members was significantly lower. In all, 58% of meetings were attended by related service personnel, 40% by a general education teacher, and 30% by any external support agency.

Effective transition planning provides the opportunity for adolescents to learn about themselves and plan for their futures. This requires student involvement as an active, respected participant and preferably as a team leader (Wehman, 2006). Cameto et al. (2004) found that fewer than one third of students with autism actively participated in transition planning meetings, whereas only 3% led the discussion. A variety of supports have been demonstrated to increase involvement. Fullerton and Coyne (1999) successfully used visual, social, and organizational supports to facilitate young adults’ participation. Held, Thoma, and Thomas (2004) described one 17-year-old with autism who conducted his own transition meeting with the use of assistive technology.

Transition goals. Postsecondary goals dictate what students need to learn to function as an adult (Wehmeyer, 2002). Goals for students with ASD must be developed specifically for the individual and should be functional in nature, with a focus on skills needed in current and future environments (Iovannone, Dunlap, Huber, & Kincaid, 2003). It is recommended that goals for adolescents with ASD address communication and social skills in community, vocational, home, and leisure content (Schall et al., 2006) and academics related to transition goals (Downing, 2005; Nuehring & Sitlington, 2003). There is a limited amount of research evaluating goals contained within transition plans. The study by Cameto et al. (2004) evaluated the presence of goals related to postsecondary education, employment, living, and social development. For adolescents with autism, most plans contained employment-related goals. In all, 22% outlined goals for competitive employment, 39% supported employment, and another 39% sheltered employment. Goals related to living skills were also common, with 58% of such goals designed to maximize functional independence and 28% to live independently. Of transition plans, 23% included goals related to attending a 2- or 4-year college. Just more than half (57%) contained goals associated with social development needed to increase friendships and social interactions (Howlin, Goode, Hutton, & Rutter, 2004; Ormond, Krauss, & Seltzer, 2004).

Services and supports. Many individuals with ASD need to access a variety of services and supports to make progress toward transition goals (Wolfe, 2005). According to Levine, Marder, and Wagner (2004), students receive related services to address a wide range of educational issues. Speech-language therapy needed to ameliorate language and social deficits is the most commonly reported, with 75% receiving such services. Occupational therapy designed to improve activities of daily living and provide strategies for managing sensory abnormalities (Smith, 1994) is received by less than half. Assistive technology that can be used to support and enhance functional capabilities and improve communication (Individuals with Disabilities Education Act [IDEA], 2004) was received by 16% of students. Extended school year services devised to provide continuous support were received by approximately 43%. Parents expressed dissatisfaction with the related services their son or daughter received as well as the effort required to obtain those services (Levine et al., 2004). Parents reported lack of information, lack of availability, transportation difficulties, scheduling conflicts, and services of poor quality as barriers to their child receiving appropriate services.

As students leave the safety of the educational system, postschool services may be needed to facilitate personal and professional development (Smith, 1994). According to Cameto et al. (2004), approximately 88% of adolescents with autism had postschool services identified as part of their transition plan. Just more than half of plans identified the need for vocational services and a third for supported living services. Because ASD is a lifelong disability (Seltzer et al., 2004), services may include those designed to ameliorate the core characteristics of the disorder. For example, 19% of plans documented a need for behavioral intervention and 23% speech or communication therapy. Adolescents with ASD are reported to become more depressed and suffer from increased anxiety (Bellini, 2004; Ghaziuddin, Ghaziuddin, & Greden, 2002; Kim, Szatmari, Bryson, Streiner, & Wilson, 2000; Tanant, 1991). Mental health services needed for psychiatric comorbidity (Tsatsanis, Foley, & Donehower, 2004) were low, with 14% identifying this need. It is not enough to document the need for support services, but timely contacts to service agencies must be made to align programming between school and adult providers. Of students, 25% had job placement agencies contacted on their behalf, 36% supported employment agencies, 30% sheltered employment agencies, and 21% adult day programs. Of students, 21% had supported living agencies contacted and 5% congregate care facilities.

Implementation of transition plans. Cameto et al. (2004) reported that 66% of teachers surveyed had implemented an educational program to meet established transition goals. Transition plans lead to success only if the educational program is appropriately designed to help students achieve such goals. Transition plans dictate what students need to
learn. However, there are two other important considerations: where and how these skills will be taught so they will have meaning and be naturally occurring over time. Wagner, Newman, Cameto, Levine, and Marder (2003) surveyed teachers to determine secondary school experiences of students with disabilities. Results suggested that, on average, one third of the courses students take during high school are composed of general education courses and 62% special education courses. Regardless of the severity of the student’s disability, learning can be enhanced by providing instruction in natural community-based environments (Wehman & Kregel, 2004). Wagner, Newman, et al. (2003) noted that instruction outside of the classroom occurs more frequently as part of special education classes. In general education classrooms, 23% of students “often” participated in school-based activities outside of the classroom and 4% “often” participated in community-based experiences. In special education classrooms 47% “often” participated in school-based activities and 40% “often” received community-based instruction.

Transition instruction requires educators to be knowledgeable of a variety of teaching techniques and strategies, each individually applied to meet the strengths of the adolescent (Iovannone et al., 2003). Educational programming for this group is constrained by limited research on teaching strategies and curricula (McClannahan, MacDuff, & Krantz, 2001; Simpson et al., 2005). There is an abundance of published studies documenting the efficacy of educational strategies for young children with ASD (e.g., Bondy & Frost, 1993; Goin-Kochel, Myers, Hendricks, Carr, & Wiley, 2007; Gray, 1998; Green, 1996; Lovaas, 1987; Sheinkopf & Siegel, 1998), but research specifically focused on adolescents and adults is limited (Hart, 1993; National Research Council [NRC], 2001). Research with this age group has focused on teaching a variety of skills in the educational arena, including language development (Heimann, Nelson, & Tjus, 1995; Krantz, Zalewski, Hall, Fenski, & McClannahan, 1981; McIlvane, Bass, O’Brien, Gerovac, & Stoddard, 1984), replacement of inappropriate behavior (Carr & Durand, 1985; Schreibman & Carr, 1978), and literacy (Bedrosian, Lasker, Speidel, & Politsch, 2003; Collins & Stinson, 1994; Kamps, Leonard, Potucek, & Garrison-Harrell, 1995; O’Connor & Klein, 2004). In recent years, strategies designed to increase independence and participation have received much-needed attention (Agran et al., 2005; Kay, Harchik, & Luiselli, 2006; Myles, Ferguson, & Hagiwara, 2007).

**Home**

Adolescents with ASD may wish to reside in more integrated and independent settings as they get older. Smith and Philippen (1999) describe a continuum of living arrangements that includes living with family, living with a foster family, living independently, partially supported living, and fully supported living. The nature of the disorder demands such a continuum, which enables individuals to live within the community while receiving the level of support needed to be successful. Research demonstrates benefit for moving away from home. Parents of adolescents with ASD experience elevated caregiving demands (Holmes & Carr, 1991) and have higher levels of stress and depression compared to parents of other disability categories (Abbeduto et al., 2004). In a study by Krauss, Seltzer, and Jacobson (2005), mothers reported great benefit for their child with ASD who lived away from home, whereas those who coresided reported negative consequences including lack of contentment, not being pushed to be independent, and social isolation. Residential programs designed specifically for adults with autism may provide appropriate living arrangement for those needing intensive support. Beginning in the 1970s, residential programs of this type were developed, incorporating the use of instructional techniques to develop new skills (Holmes, 1990; Van Bourgondien & Reichle, 1997; Wall, 1990). Research suggests these residential treatment models result in increased community participation (Lu & Dyer, 1995), increased independent functioning and interpersonal behavior (Persson, 2000), and higher quality of life (Van Bourgondien, Reichle, & Schopler, 2003).

Although an array of residential options is available, research on living outcomes yield disappointing results. A small percentage of adults with ASD live alone and some reside in long-stay hospitals or institutions, but most continue to live at home with their parents (Billstedt, Gillberg, & Gillberg, 2005; Howlin et al., 2004). Wagner, Newman, Cameto, Garza, and Levine (2005) surveyed out of school youth and found 80% of those who had an educational label of autism while in high school were still living at home and 4% were living on their own. Howlin et al. (2004) investigated the living conditions of adults who had a performance IQ of at least 50 (mean age 29.3 years). Participants were split into two IQ bands: those with an IQ of 70 or greater and those with an IQ of 50 to 69. Overall, nearly 40% of participants lived at home and less than 5% lived independently. However, findings showed that those with IQ scores of less than 70 fared much worse than those with scores greater than 70. In a study conducted in Sweden, Cedurland, Hagberg, Billstedt, Gillberg, and Gillberg (2008) compared the outcomes of adults who had been diagnosed as children with either AS (ages 16 to 36) or autistic disorder (ages 16 to 38). In the AS group, 64% were living independently, whereas 8% from the autism
group were doing so. Although living away from their families, participants from both groups were described as dependent on their parents for support.

A number of researchers have documented supports and interventions that improve independence in the home environment. Much of the research has focused on increasing self-help skills and participation in activities of daily living (Bledsoe, Smith, & Simpson, 2003; Lasater & Brady, 1995; Lee, Poston, & Poston, 2007; Smith & Belcher, 1985). Researchers have successfully increased independence by reducing inappropriate behaviors in the residential setting (Brown, 1991; Reese, Sherman, & Sheldon, 1998).

**Work**

The many challenging characteristics and behaviors that individuals with ASD present can make them appear unsuitable for employment. Experience has proven, however, that these individuals can work in a variety of businesses and industries (O’Brien & Daggett, 2006). A spectrum of employment options is now available that include segregated training centers, supported employment, and competitive employment (Smith, Belcher, & Juhrs, 1995). The supported employment framework provides a variety of individualized supports and provisions designed to increase participation in community work settings (Smith & Philippen, 1999). The onset of supported employment increased employment rates, raised salaries (Howlin, Alcock, & Burkin, 2005), and improved the quality of life of individuals with ASD (Garcia-Villamisar, Wehman, & Navarro, 2002). Recently, Garcia-Villamisar and Hughes (2007) found improvement in cognitive performance as a result of being in supported employment.

Despite research documenting the benefit of community-based employment, the vast majority of people with ASD continue to be unemployed (National Organization on Disability, 2004; Wagner et al., 2005). In a study with 187 young adults with autism (mean age of 21.5), only one fourth were employed (Kobayashi & Murata, 1992). Mawhood, Howlin, and Rutter (2000) found that among 19 men with autism, only 1 was competitively employed and 3 worked in sheltered or voluntary jobs. The employment results for those with high-functioning autism (HFA) and AS indicate outcomes are generally much lower than would be expected on the basis of the individual’s intellectual functioning. Howlin et al. (2004) discovered that those with an IQ greater than 70 had only slightly higher rates of employment than those with IQs of less than 70. In addition, the majority of jobs were in sheltered employment or voluntary in nature. Cedurland et al. (2008) found that only 20% of the men with AS held jobs, with 10% working in competitive employment and another 10% working in sheltered employment.

Adults with ASD experience high unemployment and underemployment, switch jobs frequently, have difficulty adjusting to new job settings, make less money than their counterparts, and are much less likely to be employed than typically developing peers (Howlin, 2000; Hurlbutt & Chalmers, 2004; Jennes-Coussens, Magill-Evans, & Koning, 2006; Müller, Schuler, Burton, & Yates, 2003). Even for those individuals who have postsecondary educational experience, employment difficulties are common (Howlin, 2000). According to self-reports, vocational success is not contingent on completing job duties but lies in the social aspect of employment (Hurlbutt & Chalmers, 2004; Müller et al., 2003).

Participation in secondary education may provide a suitable alternative to employment; however, limited research in this area indicates participation is low. Howlin (2000) provided a literature review of outcome studies of adults with HFA and AS. The proportion of participants who had received a college or university education ranged from 7% to 50%. Cedurland et al. (2008) documented 11% of the AS group attended or were attending college, whereas another 2% had received a degree. None of the individuals in the autism group had attended college. Factors contributing to successful employment include attainment of communication and interpersonal skills and management of stereotyped patterns of behavior (Burt, Fuller, & Lewis, 1991). Specialized interventions and treatments can prepare the individual for employment by teaching important skills needed in the vocational setting. Several researchers have focused on the unique needs of individuals with ASD in the workplace. Most have used behavior management strategies to reduce inappropriate behavior, including aggression, self-injury, property destruction, and pica (Berkman & Meyer, 1988; Kemp & Carr, 1995; Smith, 1986, 1987; Smith & Coleman, 1986).

More recent research has focused on strategies designed to increase employment retention by matching the individual to a complimentary job. A variety of strategies have been successful in yielding an appropriate match, including offering choices (Nuehring & Sitlington, 2003), using assessments to determine task preferences (Lattimore, Parsons, & Reid, 2006; Nuehring & Sitlington, 2003), evaluating social and communication preferences (Lattimore, Parsons, & Reid, 2006; Nuehring & Sitlington, 2003), and adding necessary modifications and adaptations (Hagner & Cooney, 2005).

**Community**

Community participation is a critical component of the transition planning process. Planning must involve the entire community in which the person wishes to take part.
after high school and might include myriad activities, organizations, agencies, and institutions. Community participation includes productive engagement in these activities but, more important, encompasses the desired goal of integration into social networks and relationship development. For those with ASD, a variety of support services and interventions specifically designed to increase community participation likely are needed. Challenging behaviors (Smith, 1990; Van Bourgondien & Elgar, 1990), limited social skills (Arick, Krug, Fullerton, Loos, & Falco, 2005; Howlin, 2000; Orsmond et al., 2004), and low independence outside of the home (Wagner et al., 2005) are major deterrents. Luce and Dyer (1995) described the success of a decentralized community-based model that provided a full continuum of supports. Participants were assisted by trained staff and taught new skills using instructional and behavioral techniques. Individuals with ASD participated in the community at levels equal to or exceeding those without disabilities. This approach has been also used very successfully in the Life Long Inclusion for Everyone (Spence-Cochran & Pearl, 2006) for high school students with severe autism in Central Florida.

Little is known about the actual community integration experienced by individuals with ASD. The only data available in this area pertain to participation in recreation and leisure activities. For the adolescent or young adult with ASD, leisure pursuits are rarely community based and are likely to be isolated activities such as video games and watching television (Jennes-Coussens et al., 2006; Wagner et al., 2005). There are few studies that document supports and interventions that enhance community participation. Much of the research has focused on reducing the inappropriate behaviors that often accompany the disorder (Belcher, 1995; Carr & Carlson, 1993; Carr & Durand, 1985; Carr, Smith, Giacon, Whelan, & Pancari, 2003; McMorris & Fox, 1986). Other research has focused on strategies designed to increase safety skills (Taylor, Hughes, Richard, Hock, & Coello, 2004) as well as recreation and leisure participation (Jones & Block, 2006; Orsmond et al., 2004; Scheitner & Devine, 2001).

During adolescence, the social gap between individuals with ASD and typically developing peers often widens (Arick et al., 2005; Church, Alinsanski, & Amanullah, 2000; Collier & Schall, 2003). The prevalence of friendships and participation in social groups is low for these individuals despite where they are on the spectrum. Orsmond et al. (2004) investigated peer relationships among 235 adolescents and adults with autism. In all, 30% reported at least one friend, whereas nearly half reported no peer relationships. Mawhood et al. (2000) found that only 16% of young adults with HFA had at least one friend and almost half (47%) reported having no particular friends with whom they shared activities. Howlin et al. (2004) found only 26% of total participants with autism, regardless of intellectual functioning, were rated as having at least one friend, whereas the majority had neither friends nor acquaintances. More sophisticated relations are also sparse, as only a small portion of the population engage in intimate relations (Hellemans, Colson, Verbraeken, Vermeiren, & Deboutte, 2006; Jennes-Coussens et al., 2006) or get married (Cedurland et al., 2008; Howlin, 2000).

Despite the low incidence of social relationships, it is important to note that the individual may desire such relations but not possess skills needed to cultivate them. Adolescents with ASD report wanting friends (Marks, Schrader, Longaker, & Levine, 2000), intimate relations (Hellemans et al., 2006; Jennes-Coussens et al., 2006; Ruef & Turnbull, 2002), and having higher levels of loneliness than their typically developing peers (Bauminger & Kasari, 2000; Bauminger, Shulman, & Agam, 2003). A lack of necessary social skills, including failure to comprehend social stimuli, social rules, and affect intrinsic to social interactions, leads to limited success in this area (Koning & Magill-Evans, 2001; Tantam, 1991). Success is further hindered by possession of less knowledge about romantic relationships and sexual behaviors than typically developing peers (Stokes & Kaur, 2005; Stokes, Newton, & Kaur, 2007; Van Bourgondien, Reichle, & Palmer, 1997).

A number of interventions have been used to improve social functioning. Research has demonstrated the efficacy of a variety of techniques, including peer-mediated approaches (Farmer-Dougan, 1994; Haring & Breen, 1992), self-management strategies (Koegel & Frea, 1993), Social Stories and Comic Strip Conversations (Rogers & Myles, 2001), and audiotaped social scripts (Stevenson, Krantz, & McClannahan, 2000). In recent years, technology has received increased attention, as researchers have utilized virtual environments to increase social skills (Moore, Cheng, McGrath, & Powell, 2005; Parsons, Leonard, & Mitchell, 2006; Parsons, Mitchell, & Leonard, 2004).

**Recommendations for Effective Service Delivery Practices and Future Research**

Examination of the current research on adolescents with ASD who transition from high school to adulthood yields sobering results. Although some individuals with ASD are able to successfully transition, most are faced with significant obstacles in multiple areas. Even for those considered to be more skilled, many obstacles exist.
as they attempt to negotiate their way into college, work, community participation, and independent living.

Planning for transition needs to begin when students are between 10 and 13 years old, with more serious planning occurring as the child enters the early to middle teen years (Wehman, 2006). A successful transition requires thorough preparation and implementation. Furthermore, it requires resources within the school as well as adult service agencies that can provide needed support. These resources need to overlap with each other for a period of time. Continual involvement, planning, and careful coordination between the school and key community agencies are essential to improving outcomes through the transition process. There is obviously a great deal more for researchers and practitioners to learn to improve the quality of life for young people with ASD. What follows is a brief description of different research and service delivery practices needed in the areas of school, home, work, and community.

School

Efforts are needed to improve the transition planning process for adolescents with ASD. Placing the individual at the center of the transition process is a pivotal component of planning that has been greatly overlooked. Students should not be passive recipients and should have control over the intervention and support process (Everson & Reid, 1999). There is a need to explore methods for involving adolescents with ASD of all ability levels in transition planning and empowering individuals to become active change agents in their lives. Furthermore, efforts are needed to ensure transition goals help students reach their full potential. More opportunities exist than ever before. Student goals should include the full range of community pursuits and should not be based on perceived student limitations (Wehman, 2006).

Most students with ASD are not receiving a “seamless transition” experience, that is, one where the school services flow into adult services easily (e.g., Certo et al., 2003). There are currently a variety of postschool services designed to help adults with ASD live, work, and participate in the community (Rusch & Braddock, 2004). Efforts on the part of school personnel, parents, and service providers are needed to ensure collaboration and involvement of these agencies in the transition planning process. To prevent patterns of dependency and institutional care, it is necessary to establish measures for moving the individual systematically from the protected umbrella of the school to the adult service delivery system.

Efforts are undoubtedly needed to increase the academic achievement and rates of graduating with a diploma. This is a tremendous task, indeed, requiring efforts that stretch beyond the parameters of the transition period. At the heart of this issue, however, is the need for efficacious teaching strategies, as there is currently a dearth of research on instructional strategies effective with adolescents with ASD. Because there is not one single most effective method that works for all individuals on the spectrum (Heflin & Simpson, 1998; NRC, 2001), rigorous research on a variety of practices is needed. Adolescents require instruction in skills related to community, employment, home, and leisure (Schall et al., 2006) as well as academics related to the transition goals (Downing, 2005; Nuehring & Sitlington, 2003). Moreover, strategies for remedying communication, socialization, and behavioral deficits that profoundly and perpetually affect the individual are critical (Iovannone et al., 2003). Transition instruction is further complicated by the need for learning opportunities to be provided in a variety of settings, including the special education classroom, the general education classroom, out-of-classroom school environments, and community settings (Wehman & Kregel, 2004).

Home

Individuals with ASD should be assisted to live where they want and with whom they want. It is critical that ongoing planning and training take place beginning in the adolescent years (Wehman, 2006). This requires educators to begin planning during the transition period by exploring residential opportunities and working toward goals that will enable appropriate living situations within the community. Educators should collaborate with the individual and the parents to ensure the characteristics and goals of the individual, the role of the family, and the desired program components are at the heart of the planning process (Everson & Reid, 1999).

Although some individuals with ASD learn to live independently, many require ongoing supervision (Cedurland et al., 2008; Howlin, 2000). For those who are unable to access supported residential settings, parental and family support might be needed to allow the individual to remain in the community (Burt et al., 1991). Given the current state of affairs, it would be highly beneficial to educate family members and ensure they are well equipped to support their loved one. This includes providing up-to-date information about ASD and best practice as well as hands-on teaching of instructional strategies and implementation of much-needed behavior support plans.

There are a myriad of skills needed in the home setting. They include skills related to safety, activities of daily living, and financial accountability. For mastery, however, the individual must demonstrate increased levels of independence and self-sufficiency (Smith & Philippen, 1999).
Few strategies have undergone rigorous evaluation of their effectiveness with adolescents with ASD. This presents a tremendous need. Acquisition of such living skills might not only lead to better opportunities to stay in the community but also reduce stress in caregivers (Van Bourgondien & Reichle, 1997).

Work

Meaningful integrated employment should be a goal for all individuals with ASD who wish to work and should be the first choice offered (Luecking & Gramlich, 2003; Wehman, Inge, Revell, & Brooke, 2007; Wehman, Revell, & Brooke, 2003). Work experiences should begin while the student is in high school and include career exploration activities and assessments to determine task preferences (Smith, 1990). Furthermore, competitive work experience prior to graduation can help negate poor employment outcomes by helping the student develop relationships, learn valuable work skills, and create a strong work ethic (Targett, 2006).

For adolescents leaving school, learning specific work-related skills is necessary. Such skills should focus on not only job-related tasks but also, more important, the interpersonal skills that will foster a positive work experience (Fast, 2004). Currently, research on such strategies with adolescents with ASD is sparse and desperately needed.

An alternative to employment after high school might be postsecondary education. Involvement, however, is extremely limited for those with ASD (Wagner et al., 2005), and research on this topic is nearly nonexistent. Individuals with ASD likely will need specialized teaching strategies, supports, and accommodations in the post-secondary setting for a successful educational experience (Getzel & Wehman, 2005). Conducting investigations with individuals currently involved in higher education can yield valuable information about effective instructional and organizational measures needed to increase rates of participation and educational success.

Community

Full community integration is possible but is not yet a reality for many adolescents and young adults with ASD. This is especially true given that most have not achieved effective social integration (Howlin, 2000; Orsmond et al., 2004). The community is composed of myriad activities, organizations, agencies, and institutions, all of which involve different skills and competencies. For adolescents to learn requisite skills, education and training must be provided in the community during high school. Specifically, education must take place in community environments where the student is likely to frequent and utilize as an adult. This will ensure the student has opportunities to socialize in the community and learn applicable skills (Wehman & Thoma, 2006).

Progress in community integration is severely hampered by the limited research on efficacious strategies and supports needed to facilitate meaningful participation. Development of strategies specifically designed to increase community participation is essential to ensuring equal opportunities for this group. Rigorous research on a variety of practices that address the myriad of skills required in the wide array of community activities is needed.

The skills required for socialization are complex and are arguably the most difficult for an individual with ASD to learn, yet little empirical research has been conducted in this area. Unless social skills are taught, full community integration and social fulfillment remain a challenge. Much more is needed in this area, as extant research has focused on discrete skills, and little is known about methods for generalizing social skills across environments and people.

Conclusion

Federal measures have been put in place to ensure schools plan for transition (IDEA, 2004); however, transition planning and implementation is falling short of what the federal government intended for many with ASD (Certo et al., 2003; Luecking & Gramlich, 2003). Students often do not receive the services and supports needed to address the complex set of issues they possess. It is essential that professionals carefully plan for this transition to ensure adolescents and young adults are armed with the appropriate skills and supports needed to be successful. Individuals with ASD spend much more of their lifetime outside of the educational system than in the system; therefore, efforts to maximize this critical period are pivotal to improving outcomes.

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