

## **Work and Individuals with Autism Spectrum Disorder**

Uzoamaka Barbara Okori, PhD  
University of Texas Rio Grande Valley, USA

**Correspondence:** Uzoamaka B. Okori (Email: uzoamakabokori@yahoo.com).

### **Abstract**

Employment is the basic desire of every human to be able to live an independent life. People with disabilities are no different in this desire, but they encounter more difficulties in getting employment than people without disabilities. This article will focus on the autistic population of individuals with disabilities. Generally, they are known to have social and communication problems that interfere with their work lives. This paper will review several literature on people with autism spectrum disorders and their struggle with employment due to their diagnoses. Existing research evidence for specific employment training programs and strategies for successful employment are considered, and research-based best practices are also suggested.

**Keywords:** autism spectrum disorders, high functioning, employment, social and communication deficits

### **Work and Individuals with Autism Spectrum Disorder**

Gaining or retaining employment is quite challenging for all, especially for people with disabilities (Hayward, McVilly, & Stokes, 2019). Individuals with Autism Spectrum disorder are the most challenged. It could be easy for the low-functioning individuals to understand that; it becomes difficult to comprehend when the high-functioning individuals with autism cannot maintain or gain employment. Most high-functioning individuals are brilliant and learn whatever they are taught and do well on the job, but they cannot keep the work longer than six months. The reason may not be far-fetched; inability to socialize with their colleagues at work. It is a repeated pattern in vocational rehabilitation centers where the rehabilitation counselors assist them in gaining employment. By the time their cases are closed as being successful after ninety days, they suddenly call to request assistance in getting another job.

According to Chen, Leader, Sung, and Leahy (2015), gaining and sustaining employment is a great challenge for individuals with autism due to the peculiarity of their disability. For instance, high-functioning individuals with autism came to the vocational rehabilitation office to seek employment assistance. When the counselor looked through his resume, he was surprised to see that this client had changed jobs six times in one year. He had a bachelor's degree in business and graduated with a high GPA above 3.5. He did not work what he studied; he instead went to a technical school to get certified in automotive. His reason for not working in the business field was because of his inability to socialize. He changed several jobs in a year due to interpersonal difficulties he had at his workplace.

Frith and Happe (2005) suggest that autism is diagnosed based on early-emerging social and communication impairments, and the American Psychiatric Association (2013) posits that people with autism have difficulty with social communication and often sensory sensitivity issues. Therefore, it is common knowledge that this population's employment problem is associated with social and communication impairments.

The purpose of this paper is to review the literature on employment-related research in individuals with ASD and increase our understanding of the factors that affect the employment situation of this population. The study will examine this population's employment outcomes, the challenges people with ASD face in finding and maintaining employment, social difficulties, comorbidity, education level, family support, employers' attitudes, access to services, and disability incentives' role in predicting their work.

### **What is Autism Spectrum Disorder?**

Autism is a developmental disorder diagnosed at the onset of childhood, affecting socializing and communication with others; they tend to have a rigid and repetitive behavior pattern (Frith & Happe, 2005). Lord, Brugha, Charman, et al. (2020) explain that autism spectrum disorder is a conceptual way of describing individuals with a specific combination of impairments in social communication and repetitive behaviors, highly restricted interests, and sensory behaviors in life. This condition is detected early in life according to the definition given by these authors. Another certain thing is that autism affects the communication and social life of this population. In another article by Campisi, Imran, Nazeer, Skokauskas, and Azeem (2018), they reported there is an agreement that autism spectrum disorder (ASD) has a sturdy hereditary component and a consensus that the described prevalence estimates have increased in the last five years. Hence, a need for strong support in using the broader spectrum disorder conceptualized by DSM-5. Another publication in *Developmental Disorders* (2014) by Fuentes, Bakare, Munir,

Aguayo, Gaddour, and Öner connotes autism spectrum disorder as a neurodevelopmental condition defined by various behavioral features that majors in two clinical areas of functioning – social and communication.

### **Individuals with Autism Spectrum Disorder**

In an article published by Weiss, Wingsong, and Lunsy (2013), they postulate that the parents of children diagnosed with an autism spectrum disorder report higher levels of depression, anxiety, and mental health-related issues, which sometimes develop into a crisis. According to DSM-5 (APA, 2013), individuals with autism spectrum disorder require substantial support because they have marked deficits in verbal and nonverbal social communication skills. Their social impairments are apparent even when there are supports in place, limited initiation of social interactions, and reduced or abnormal responses to social overtures from others.

When the self is explored in individuals with Autism Spectrum Disorders (ASDs), it is essential to measure it via both their perceptions of the self and their understanding of others' perceptions of themselves at a multidimensional level. Huang et al. (2017) reviewed existing research in this area using a three-dimension approach. They claimed that researchers have found that impairments in the self-system are usually correlated with these individuals' social and cognitive functioning levels: high-functioning individuals with ASD who have higher IQ are better aware of their limitations in social and communication domains than those with lower IQ. Many researchers believe that there are impairments in the psychological (but not physical) self in individuals with ASD, such as the theory of mind deficits due to social and communicative impairments. On the other hand, some researchers argue that individuals with ASD have selective rather than global impairments in the self. In other words, the impairment usually lies in a specific aspect of functioning in individuals with ASD. Insights from the review of existing literature on this topic may be able to shed some light on the development of effective intervention programs to improve social communication deficits in this population. Therefore, systematic social skill training targeting specific deficits may be offered to individuals with ASD to improve self-competence and, eventually, quality of life. In addition, individuals with ASD should have more opportunities to practice social skills (e.g., via modeling and role-play) in various social contexts and be offered feedback on their behaviors since human beings usually acquire self-awareness and knowledge by interacting with their environments.

The literature on sound sensitivity in people with and without autism spectrum disorders was reviewed in "Understanding sound sensitivity in individuals with autism spectrum disorders," by Stiegler and Davis (2010). When they examined the empirical evidence and described the physiological and psychoemotional-behavioral perspective, they found that there was virtually no evidence of actual physiological differences in the auditory systems of individuals with ASD. However, many people in this population feel fearful and anxious about sound; and may experience unpleasant physiological sensations because of autonomic and behavioral responses to nonpreferred sounds. They can learn to react in less stigmatizing and more effectively self-regulating ways.

An investigation conducted by Hayward et al. (2019) explores the claim that individuals with autism have a substantial contribution to the make in the technology sector because their intellectual abilities coupled with their focus and attention to detail are desirable traits that make them highly productive. Their findings indicate:

Those with ASD are more likely to suggest enablers for occupational longevity consistent with collegial understanding, the physical, and occupational environment, and circumstances that limit contact with others. The findings reflect what is known clinically about ASD, and it is consistent with the Conservation of Resources and Social Exchange (Hayward et al., 2019).

People with ASD are competent in technology; they only need to be provided with appropriate training and aids to demonstrate their competence. Another study was conducted by Strickland et al. (2013) to investigate the effectiveness of an internet-accessed training program that included a Theory of Mind-based guidance, video models, visual supports, and virtual reality practice sessions in teaching appropriate job interview skills to individuals with high-functioning ASD. Twenty-two youths, ages 16–19, were evaluated during two employment interviews. Half received a training intervention following the initial interview, and the half who served as a contrast group did not. Their performance pre and post-intervention was assessed by four independent raters using a scale that included evaluation of both Content and Delivery. The findings suggest that youth who completed the JobTIPS employment program demonstrated significantly more effective verbal content skills than those who did not.

This project's findings can help provide an increase in vocational assistance for individuals with autism who require intervention at both individual and organizational levels. Almost every individual with ASD is surprisingly good at something given their general level of ability. People with ASD can be remarkably good at spotting a detail in a picture, for instance. A detail-focused processing style is generally agreed to be typical of at least a proportion of the ASD population (Frith & Happe, 2005). Some people attribute their superior ability to process low-level perceptual features as the cause of their information-processing style. At the same time, some think it is because of their inferior ability to integrate pieces of information. Whichever way it may go, it is imperative to note that the number of high-functioning autistic individuals out there, if given the opportunity, can make the technological field with new high

techs into the technology world. Special provisions must be made for many who desire to continue their education beyond high school to get more training.

### **Role of Vocational Rehabilitation**

In a pilot study conducted by Muller et al. (2003) to investigate strategies for improving vocational placement and job retention for individuals with ASD, 18 adults with ASD were individually interviewed about their workplace experiences. They were asked to describe their vocational experiences' positive and negative aspects, identify major obstacles to successful employment, and recommend appropriate vocational supports to be provided by vocational rehabilitation counselors, employers, and co-workers. The interview transcripts' analysis revealed they had similar experiences and concerns, suggesting people with ASD should be recognized as different from others with more generalized developmental disabilities or mental retardation.

Another article in the *Journal of Autism Developmental Disorder*, titled "Use of Vocational Rehabilitative Services Among Adults With Autism," by Lawer et al. (2009), examined people with ASD's experiences in the US vocational rehabilitation system. Participants included all 382,221 adults ages 18-65 served by the VR whose cases were closed in 2005; 1,707 were diagnosed with ASD. Adults with ASD were more likely than adults with other impairments to be denied services because they were considered too severely disabled. Among those that were served, adults with ASD had the most expensive set of services. They and the adults with MR were most likely to be competitively employed at case closure. Post hoc analyses suggest that their employment was highly associated with on-the-job support. The findings of this study suggest the crucial roles of the VRS in serving adults with ASD.

Furthermore, employers feel more comfortable when Individuals with ASD are hired through the VR agencies because the VR agencies follow up with the employers and the employees with ASD to ensure that both parties are satisfied. Sometimes after the cases of these clients are closed, the follow-up still goes on.

### **Employment Challenges for Individuals with ASD**

People with ASD have several employment challenges, but they can and desire to work (Hendricks, 2010). Research has overwhelmingly demonstrated the disappointing employment outcomes of this population. Most of them are unemployed, and for those who get employed, it is common to see them underemployed. In another study investigated by Lopez and Keenan (2014) on the employment challenges of people with ASD, they report that they lack understanding from the employers and staff, and they also fail to make adjustments in the workplace. Nord et al. (2016) conducted a comparative analysis investigating a community employment age of working age (18-65) individuals with and without (ASD) who receive services in the intellectual and developmental disability (IDD) service systems in 19 states. The findings indicate that 18.2% of adult service users of IDD services had a community job. People with ASD and people with ID had significantly lower odds of being employed in the community compared to those without ASD, after controlling for age, health, mobility, gender, level of ID, and challenging behavior.

Furthermore, employment involves a complex social dynamic that continually changes according to different circumstances and requires flexible coping strategies, for which people with ASD have deficits. The unique features of employment increase the specific challenges for this population, which are characterized as experiencing lifelong difficulties in social interactions.

### **Strategies and Interventions to Consider When Working With People with ASD**

Chen et al. (2015) have noted that supported employment for people with ASD is a comprehensive scheme for assisting people with severe disability to achieve and maintain employment in competitive work settings. This support would also apply to people with ASD, but sometimes the agencies shy away from it due to the cost of supported employment. Mahwood and Howlin (1999) indicated that supported employment adequately meets the needs of individuals with ASD because it provides customized, intensive, and ongoing support. Hillier et al. (2007), examined the positive impact of long-term supported employment services in securing jobs and raising salaries for people with ASD and concluded that success is yet at the entry-level employment.

The establishment of the Individuals with Disabilities Education Act (IDEA) 2004 in the US greatly impacted the movement from school to adult life for people with disabilities, including those with ASD. The goal was to ensure these individuals achieve employment and independent living after graduation from high school. Wehmal et al. (2014) posited that goal-oriented transition services must occur before they exit school to help these individuals prepare for their post-school lives. A systematic review by Westbrook et al. (2014) indicates a lack of empirical research for transition programs and that future rigorous experimentally designed studies will be needed to determine the program's effectiveness. They also addressed some promising features of ASD-specific transition services, including behavior-shaping techniques, social skill interventions, and family-centered approaches.

Because technology is becoming a vital tool in everyday living, it is also leading to the improvement of daily living skills, such as the independence and employment of people with disabilities, including people with ASD. A variety of technologies such as tactile prompting, picture guiding, audio cueing, video modeling, computer-aided

instruction, virtual reality, and robotics have been developed and implemented among individuals with ASD (Chen et al., 2015).

According to Sherer et al. (2001), many existing studies have focused on improving social skills for people with ASD, and they have shown positive results. Successful outcomes were demonstrated in conversational skills, emotional understanding, perspective-taking (LeBlanc et al., 2003), and functional self-help skills (Shrestha et al., 2013). These studies were conducted in an employment environment; all social skills are highly relevant in the workplace.

Another strategy and intervention that is helpful to individuals with ASD for successful employment is providing a robust multidisciplinary collaboration. Chappel and Somers (2010) illustrated a roadmap for specialists in the education system who sought to lead the collaborations. They suggested that education service providers should seek early linkage with VR when supporting students with ASD to achieve their employment goals. They posit that a comprehensive model with all the collaboration team would lead to effectiveness and efficiency in understanding and solving employment-related problems, thus supporting overall vocational success.

### **Recommendation for Practice**

This research study of people with ASD and employment has useful and practical applications in the workplace concerning vocational rehabilitation services work with individuals with ASD.

- Customized employment services should be emphasized for this population to reduce the countless challenges that make employment unpleasant for them.
- ASD-specific strategies should be incorporated, including other supports like support, and individualized assistive technology.
- A strength-based approach should be implemented when matching the jobs for adults with ASD.
- A dynamic service scheme should be adopted based on collaboration among service users, the education system, the vocational service system, and their employers. Positive interactions between all the stakeholders that would lead to a better outcome should be encouraged.

### **Conclusion**

Individuals with ASD have come a long way in their struggle with gaining employment and retaining employment. This literature review has presented detailed information on research about employment for individuals with ASD. According to Brooke et al. (2018), as more individuals with ASD enter the workforce and there is a greater investment of time and resources from the state VR agencies and employment support officers, there will be a greater interest in job retention outcomes. If the best practices are maintained in assisting this population, there will be a rewarding outcome, and the resources invested in them will also be rewarding.

### **References**

- American Psychiatric Association [APA] (2013). *DSM-V diagnostic and statistical manual of mental disorders*. American Psychiatric Association.
- Brooke, V., Brooke, A. M., Schall, C., Wehman, P., McDonough, J., Thompson, K., & Smith, J. (2018). Employees with autism spectrum disorder achieving long-term employment success: a retrospective review of employment retention and intervention. *Research and Practice for Persons with Severe Disabilities*, 43(3), 181–193. <https://doi.org/10.1177/1540796918783202>
- Campisi, L., Imran, N., Nazeer, A., Skokauskas, N., & Azeem, M. W. (2018). Autism spectrum disorder. *British Medical Bulletin*, 127(1), 91–100. <https://doi.org/10.1093/bmb/ldy026>
- Chen, J. L., Leader, G., Sung, C., & Leahy, M. (2015). Trends in employment for individuals with autism spectrum disorder: A review of the research literature. *Review Journal of Autism and Developmental Disorders*, 2, 115–127. <https://doi.org/10.1007/s40489-014-0041-6>
- Frith, U., & Happe, F. (2005). Autism spectrum disorder. *Current Biology, Primer*. 15(19), R786-790. [https://www.cell.com/current-biology/pdf/S0960-9822\(05\)01103-6.pdf](https://www.cell.com/current-biology/pdf/S0960-9822(05)01103-6.pdf)
- Fuentes, J., Bakare, M., Munir, K., Aguayo, P., Gaddour, N., & Öner, O. (2014). Autism spectrum disorder. *Developmental Disorders*.
- Hayward, S. M., Mcvilly, K. R., & Stokes, M. A. (2019). Autism and employment: What works. *Research in Autism Spectrum Disorders*, 60, 48–58. <https://doi.org/10.1016/j.rasd.2019.01.006>
- Hendricks, D. (2010). Employment and adults with autism spectrum disorders: challenges and strategies for success. *Journal of Vocational Rehabilitation*, 32(2), 125-134
- Hillier, A., Fish, T., Cloppert, P., & Beversdorf, D. Q. (2007). Outcomes of social and vocational skills support group for adolescents and young adults on the autism spectrum. *Focus on Autism and Other Developmental Disabilities*, 22(2), 107–115. doi:10.1177/10883576070220020201.

- Huang, A. X., Hughes, T. L., Sutton, L. R., Lawrence, M., Chen, X., Ji, Z., & Zeleke, W. (2018). Understanding the self in individuals with autism spectrum disorders (ASD): a review of literature. *Frontiers in Psychology*, 8. <https://www.frontiersin.org/article/10.3389/fpsyg.2017.01422>
- Lawer, L., Brusilovskiy, E., Salzer, M. S., & Mandell, D. S. (2009). Use of vocational rehabilitative services among adults with autism. *Journal of Autism Developmental Disorder* 39, 487–494. <https://doi.org/10.1007/s10803-008-0649-4>
- LeBlanc, L. A., Coates, A. M., Daneshvar, S., Charlop-Christy, M. H., Morris, C., & Lancaster, B. M. (2003). Using video modeling and reinforcement to teach perspective-taking skills to children with autism. *Journal of Applied Behavior Analysis*, 36(2), 253–257. doi:10.1901/jaba.2003.36-253.
- Lopez, B., & Keenan, L. (2014). Barriers to employment in autism: future challenges to implementing the adult autism strategy. *Autism Research Network*.
- Lord, C., Brugha, T. S., Charman, T., & et al. (2020). Autism spectrum disorder. *Nature Reviews Disease Primers*, 5. <https://doi.org/10.1038/s41572-019-0138-4>
- Mawhood, L., & Howlin, P. (1999). The outcome of a supported employment scheme for high-functioning adults with autism or Asperger syndrome. *Autism*, 3(3), 229–254. doi:10.1177/1362361399003003003.
- McClanahan, L. E., MacDuff, G. S., & Krantz, P. J. (2002). Behavior analysis and intervention for adults with autism. *Behavior Modification*, 26(1), 9–26. doi: 10.1177/0145445502026001002
- Müller, E., Schuler, A., Burton, B. A., & Yates, G. B. (2003). Meeting the vocational support needs of individuals with Asperger's syndrome and other autism spectrum disabilities. *Journal of Vocational Rehabilitation*, 18(3), 163–175.
- Nord, D. K., Stanciliffe, R. J., Nye-Lengerman, K., & Hewitt, A. S. (2016). Employment in the community for people with and without autism: a comparative analysis. *Research in Autism Spectrum Disorders*, 24, 11–16. <https://doi.org/10.1016/j.rasd.2015.12.013>
- Sherer, M., Pierce, K. L., Paredes, S., Kisacky, K. L., Ingersoll, B., & Schreibman, L. (2001). Enhancing conversation skills in children with autism via video technology which is better, “self” or “other” as a model? *Behavior Modification*, 25(1), 140–158
- Shrestha, A., Anderson, A., & Moore, D. (2013). Using point-of-view video modeling and forward chaining to teach a functional self-help skill to a child with autism. *Journal of Behavioral Education*, 22(2), 157–167. doi:10.1007/s10864-012-9165-x.
- Stiegler, L. N., & Davis, R. (2010). Understanding sound sensitivity in individuals with autism spectrum disorders. *Focus on Autism and Other Developmental Disabilities*, 25(2), 67–75. <https://doi.org/10.1177/1088357610364530>
- Strickland, D. S., Coles, C. D., & Southern, L. B. (2013). JobTIPS: A transition to employment program for individuals with autism spectrum disorders. *Journal of Autism Developmental Disorder*, 3, 2472–2483.
- Wehman, P., Schall, C., Carr, S., Targett, P., West, M., & Cifu, G. (2014). Transition from school to adulthood for youth with autism spectrum disorder: what we know and what we need to know. *Journal of Disability, Policy Studies*, 25(1), 30–40.
- Weiss, J. A., Wingsong, A., & Lunsy, Y. (2013). Defining crisis in families of individuals with autism spectrum disorders. *Autism*, 18(8), 985–995. <https://doi.org/10.1177/1362361313508024>
- Westbrook, J. D., Fong, C. J., Nye, C., Williams, A., Wendt, O., & Cortopassi, T. (2014). Transition services for youth with autism: A systematic review. *Research on Social Work Practice*, 25(1), 1–11. <https://doi.org/10.1177/1049731514524836>