School-Based Social Skills Programming to Increase Employment for Individuals with ASD

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Abstract

There is an increased number of individuals with Autism Spectrum Disorder who are reaching the age where they should be entering the workforce, however, 50-70% are unemployed and these percentages are higher than any other disability group. Although school-based programming attempts to prepare students to transition into the workplace, current literature suggests there are additional social skills that need to be addressed for successful employment and job retention. The purpose of this analysis and interpretation of the literature was to identify soft skills needed for successful employment and ways in which school-based programming can address these skills. Suggestions related to the types of social skills to address, and how social skills for vocational settings should be taught, are provided.

Keywords:
Autism Spectrum Disorder, Social Skills, Employment, School-Based Programming, Soft Skills

Introduction

In the United States, over the last 15 years, the prevalence of individuals diagnosed with Autism Spectrum Disorder (ASD) has increased from 1 in 150 (Center for Disease Control (CDC), 2000-2002) to 1 in 54 (CDC, 2020). With these increasing prevalence rates, there has been more research focused on interventions and supports for this population. The majority of this research, however, has focused on children with ASD; with research focused specifically on adults with ASD comprising only 2% of the autism research spending in 2015 (Interagency Autism Coordinating Committee (IACC), 2017).

This need for research to shift and focus on adults with ASD is important because, typically, when a child receives a diagnosis of autism, it is a lifelong developmental disorder that continues through adulthood (Helt et al., 2008). Assistance, in the form of training and support, continues to be required, but needs to focus more on day to day functioning as the individual ages (Shattuck et al., 2007). This shift to focus more on quality of life and increased independence has led researchers to identify employment as an area of research need.
Employment for Individuals with ASD

Research reports indicate that 50-70% of adults with ASD are unemployed (Hendricks, 2010); which is significantly higher than any other disability group (Roux et al., 2013) and the current national unemployment rate of 6.9% (Bureau of Labor Statistics, 2020). Within the percentage of individuals with ASD who are employed, research indicates that only 6% are employed full time (Chappell & Somers, 2010) and many are underemployed; meaning they are working less than they would like to work or working full time but not making a living wage (Migliore et al., 2012). In addition, 53% of young adults with ASD identify that they had never worked outside of the home after graduating from high school (Roux et al., 2013). With a growing number of individuals with ASD graduating from high school, and limited opportunities for employment (Roux et al., 2013), skills necessary to prepare these students for the workplace after graduation need to be identified and addressed.

When examining skills necessary to be successful in the workplace, it is important to consider that ASD falls on a continuum and presents differently from person to person. The core deficits associated with ASD include social communication, social interaction across multiple contexts, and restricted and repetitive patterns of behavior, interests, or activities (American Psychiatric Association, 2013). These symptoms manifest themselves in difficulty with social-emotional reciprocity, nonverbal communication, developing and maintaining relationships, stereotyped or repetitive motor movements, insistence on sameness, inflexible adherence to routines, highly fixated interests, or hypo- or hyper-reactivity to sensory input. With three levels of severity ranging from level 1 (requiring support) to level 3 (requiring substantial support), each individual with ASD will exhibit different behaviors and require individualized supports in the workplace (American Psychiatric Association, 2013).

In a literature review focused on predictors of work participation in individuals with ASD, cognitive ability was the only significant predictor identified that impeded employment; however, when examining a cohort of more “cognitively able” participants (verbal intellectual quotients (IQ) of over 70) McCauley et al. (2020) identified lower verbal IQ, being racially diverse, caregiver education below college completion, higher levels of internalizing symptoms, and a higher celebrated severity score as impacting employment. In addition, other studies have identified challenges to success in the workplace for individuals with average to above-average IQs typically relate to social communication skills and executive functioning.

Hedley et al. (2018) asked adults with ASD, their co-workers, and families to identify factors that influenced the success of the individual with ASD in the workplace. Individuals with ASD mentioned their ability to manage their time, organizational skills, concentrating and maintaining attention, and coping with change. The co-workers included workplace etiquette (the most commonly mentioned challenge from co-workers), including waiting for their turn (e.g. the elevator) and taking inconveniences at work personally (including network issues). Finally, family members identified the ability to manage work-related stress and having an abrasive communication style that others perceived as offensive. These findings suggest that individuals with ASD were more focused on personal challenges related to executive functioning; while co-workers and family members were focused on symptomatic social and communication difficulties.

Julian and Barron (2019) found that individuals with autism showed a great deal of pride in their work and were very productive, but also identified areas of self-improvement related to interviewing styles, decoding workplace politics, and environmental barriers. Within the interview process, individuals with ASD found the process of having multiple people in the room while interviewing and people taking notes while they were trying to answer questions increased their anxiety. They also misinterpreted some of the interview questions because they were taken literally or because they became distracted by noises in the environment. If the interview process was successful, employees then reported difficulty understanding team dynamics and workplace politics as a barrier to promotion or continued employment. The social skills necessary to join, respond, and maintain conversations, as well as read social cues, were also overwhelming. In addition, the physical environment, which included noises from nearby coworkers and fluorescent lights, added to the workplace discomfort.

The identification of communication and social areas of need are important for young workers with ASD because job retention is often impacted due to a lack of social skills and etiquette (Rao et al., 2008). Employees with ASD have many qualities that allow them to excel in the workplace including high levels of competency; however, when evaluated, employers often identify them as lacking flexibility and not being team players (Parr & Hunter, 2014; Scott et al., 2016). Employees with ASD can also exhibit frustration and loss of emotional control due to impairments in executive functioning that impact their ability to address new work-related challenges (Hendricks, 2010).
Executive functioning, which refers to being able to plan, organize, and regulate emotions (Ryan & Marshall, 2018), has also been found to influence communication and socialization and impact cognitive flexibility as well (Landa & Goldberg, 2005).

To address the skills identified by individuals with ASD and their employers that would assist with workplace satisfaction and increased employment opportunities, the United States Department of Labor's Office of Disability Employment Policy (ODEP, 2012) identified six categories of soft skills, which are described below. Specific social skills recognized within the literature were also included in each category to assist in identifying what should be addressed in school to support the transition to employment after graduation. In addition, the need for school-based programming as well as resources and strategies to enhance this programming is provided.

Table 1

<table>
<thead>
<tr>
<th>Soft Skills Identified by ODEP</th>
<th>ODEP Description /form of Soft Skills</th>
<th>Social Skills to Focus on within School Programming</th>
</tr>
</thead>
<tbody>
<tr>
<td>Communication</td>
<td>o Verbal (sounds/language/tone of voice) o Listening skills (receptive language) o Nonverbal skills (facial expressions/body language/posture) o Written (texts/directions/signs) o Visual (sign/symbols/pictures)</td>
<td>• Developing succinct resumes (Muller et al., 2003) • Knowing what information to include on a job application (Muller et al., 2003) • How to answer interview questions including amount of detail to provide (Muller et al., 2003) • Small talk during an interview including greetings (Hurlbutt &amp; Chamber, 2004) • Understanding sarcasm, in order to engage with coworkers (Hendricks, 2010) • Following workplace directions (Ryan &amp; Marshall, 2018) • Asking questions to clarify information (Ryan &amp; Marshall, 2018) • Communication style including tone of voice and directness (Hedley et al., 2018) • Joining, maintaining, and responding to conversations (Julian &amp; Barron, 2019) • Reading social cues/body language (Julian &amp; Barron, 2019)</td>
</tr>
<tr>
<td>Enthusiasm and Attitude</td>
<td>o Positive/negative attitude (understanding/demonstrating)</td>
<td>• Strategies to regulate emotions (Ryan &amp; Marshall, 2018)</td>
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<tr>
<td>Teamwork</td>
<td>o Working cooperatively o Contributing/collaborating in a group o Interactive communication o Demonstrating responsibility o Understanding differences in opinions/individual preferences/culture/customs o Ability to participate in group decision-making</td>
<td>• Working together with simultaneously with a team (Ryan &amp; Marshall, 2018) • Accepting the ideas of others (Ryan &amp; Marshall, 2018) • Understanding team dynamics (Julian &amp; Barron, 2019)</td>
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<tr>
<td>Networking</td>
<td>o Finding/locating jobs</td>
<td>• How to look for a job (Muller et al., 2003) • Initiating job contact (Muller et al., 2003) • Following up once contact is made (Muller et al., 2003)</td>
</tr>
<tr>
<td>Problem-solving/Critical thinking</td>
<td>o Understanding praise/criticism/feedback (giving and receiving)</td>
<td>• Strategies to handle unexpected change (Hedley et al., 2018, Parr &amp; Hunter, 2013) • Strategies to handle overstimulation/sensory overload (Parr &amp; Hunter, 2013) • Organizing tasks and prioritizing (Ryan &amp; Marshall, 2018, Hedley et al., 2018)</td>
</tr>
<tr>
<td>Professionalism</td>
<td>o Punctuality o Managing time o Grooming/cleanliness o Appearance/attire o Quality of work o Integrity</td>
<td>• Strategies for time management (Hedley et al., 2018) • Workplace etiquette (Hedley et al., 2018)</td>
</tr>
</tbody>
</table>
successfully transition into the workforce. Having school-based programming that acknowledges the need for a focus on transitioning to adulthood and employment as well as specific skills needed to make this transition successful will positively impact job attainment and retention for adults with ASD (Shogren & Wittenburg, 2020).

Need for School-Based Programming

Given the identified areas of need and burgeoning adult-age population, a shift in focus for social skills training is warranted. Currently, school-based programs continue to focus on year-long objectives and short-term goals, as per federal mandates related to the development of Individual Education Programs (IDEA, 2004). This limits the variety of educational services offered to students, as well as the development of supports and resources related to long term or life course goals (Shogren & Wittenburg, 2020). These limitations suggest there is a necessity for programs to change to improve employment and educational outcomes for individuals with ASD (Lee et al., 2019). The National Collaborative on Workforce and Disability (NCWD, 2016) cites school-based preparedness as well as career-based experiences as crucial factors impacting post-secondary success, thus placing an emphasis on education programs as well as ways to enhance social skills instruction, resources, and experiences for school-based populations.

To date, there is no right to employment, nor supports guaranteed for individuals during adulthood, rendering social skills instruction and interventions primarily focused on relevant skills for school-based settings (Shogren & Wittenburg, 2020). When considering expanding and enhancing school-based programs, two facets should be considered: a) the types of social skills taught, and b) how social skills for vocational settings are taught. As such, the evidence-based practices for social skills identified by the National Professional Development Center (NPDC, 2016) on Autism Spectrum Disorder have been used to target skills in the domains of behavior, functional communication, play skills, social interactions with peers, and school readiness. This research has subsequently impacted the development of evidence-based social skills curricula, which target the development of socially appropriate behavior for classrooms, use of functional-communication, and facilitation of appropriate peer-based interactions (Colorado Department of Education, 2017).

While the merit of this type of training cannot be disputed, not all of the skills taught in classrooms readily translate to a vocational setting. For example, turn-taking and sharing are commonly emphasized social skills for the classroom (Wong et al., 2015), but are not identified as paramount skills for workplace settings (ODEP, 2012). Moreover, certain skills, such as networking and interviewing have no relevance in a school-based setting, yet are critical to acquiring and sustaining employment (Sung et al., 2018). In addition, more specificity in the types of social skills for employment-related settings is needed. Consider skills related to appearance; school-based clothing is markedly different than workplace dress codes, wherein professional attire or uniforms may be required. And while many school-based settings incorporate programs such as community-based instruction to increase skills relevant to independent functioning as an adult, the primary goal of these programs is to successfully navigate communities and gain experience in daily living activities, such as shopping, banking, and utilizing transportation (Boggs Center, 2020). However, these skills are distinct from essential skills needed for entry-level employment, which the NCWD (2011) identifies as communication, interpersonal skills, decision-making, and lifelong learning skills. Moreover, Lee et al. (2019) identified core components of preparedness for the workplace as recognizing and understanding individual strengths and areas of interest, development of specific workplace skills, awareness of abilities, collaboration amongst team members, and identifying clear steps towards employment.

Resources and Strategies for Enhancing School-Based Programs

While expanding focus to soft skills may seem a daunting task, there are several resources and strategies that could be used to enhance existing programs in schools, as well as provide effective instruction on workplace-related social skills. Notably, the United States Department of Labor (2012) published a curriculum entitled ‘Soft Skills to Pay the Bills,’ a critical resource guiding soft skills development for adults with disabilities. Not only does this resource identify specific and critical areas of support needed to prepare individuals for employment, but it also describes activities that can be conducted to help acquire the six soft skills identified by ODEP (2012): communication, attitude, teamwork, networking, problem-solving and professionalism. Most of the activities are designed for facilitation in a group-based setting, making it conducive to school-based programs, and include explicit instruction, role-play exercises, and opportunities for performance and feedback. In addition, numerous extension activities and materials are available online, making it easy for families to carry over these skills at home (ODEP, 2012). This curriculum also fulfills a mandate identified by the NCWD (2016) for schools to conduct training on pertinent social communication skills needed for the workplace, as well as create opportunities for students to learn and practice these skills in school.
Next, it is important to re-consider the way social skills instruction is taught. A plethora of research points to numerous strategies for teaching social skills, which include: social narratives, video modeling, pivotal response training, scripting, technology-aided interventions, priming procedures, prompting, and self-monitoring (Bellini et al., 2008). While few of these studies specifically explored social communication skills for the workplace, each strategy is effective as a means of social skills instruction (Wong et al., 2015). Therefore, these strategies could be used to target the same types of skills, but with a distinct focus on social communication for the workplace. A helpful resource in understanding and incorporating social skills instruction in the classroom are online modules. These research-based resources can be used to enhance practitioner understanding of social skills instruction and training, as well as ways to enhance student programming in the classroom (Sam et al., 2017). To date, these modules are the Iris Peabody Center modules, which are published by Vanderbilt University (n.d.), the Autism Focused Intervention Resource Modules (AFIRM), which are published by the National Professional Development Center on Autism at University of North Carolina Chapel Hill (n.d.), and the Autism Intervention Modules (AIMS), which are published by the Ohio Center for Autism and Low Incidence Disabilities at Ashland University (n.d) (Sam et al., 2017). The value of these learning tools is just beginning to emerge; however, the applicability to school-based settings is evident as well as the utility for teachers (Sam et al., 2017).

Recently, there have been two empirical studies specifically focusing on effective strategies for teaching social skills for the workplace to individuals with autism. The first study was conducted by Sung et al. (2018) and used a didactic approach combined with video modeling to teach each of the core soft skills identified by the ODEP. Findings indicate that significant improvements were made in the areas of social communication, social cognition, social motivation, and social awareness. The second study was conducted by Walsh et al. (2018) and evaluated the effectiveness of teaching a social skills curriculum via video modeling. This study also found this approach was effective in increasing social skills for workplace inclusion. These studies both incorporated technology-based means (e.g., video modeling) as a strategy for providing repeated opportunities to view and practice specific social skills.

Technology-based interventions or visual representation of skills via modeling has been proven helpful for individuals with ASD in understanding and practicing social skills in relation to specific contexts (DiGennaro-Reed et al., 2010). Video modeling, specifically, has enabled individuals with autism to gain or increase novel social skills (Bellini & Akullian, 2007), as well as master more complex social communication skills (Bernard-Ripoll, 2007). In 2013, Strickland et al. began building upon this research, creating a transition to employment program emphasizing video modeling, as well as the use of virtual reality practice and visual aids. This National Institute of Health-funded program, called JobTIPS, is freely available online and offers a series of video models exemplifying social skills for the workplace, as well as virtual reality practice for interviewing, networking, and interactions with co-workers and supervisors.

In addition, it includes employment-related social skills assessments designed to define specific areas of need, as well as align vocational interests with social communication abilities. These strategies could be used as part of a stand-alone curriculum focusing on social skills for workplace preparedness, or as part of a community-based instruction program, wherein specific skills could be practiced alongside relevant vocational experiences used to enhance the application of instruction within employment settings. And while this type of program, as well as some of the previously mentioned strategies and approaches, are not necessarily designed for K-12 settings, schools offer an advantageous environment for social skills instruction, as it can formally be included into the daily schedule of an individual with ASD and supported by instructional figures.

Finally, it would be imperative to either design or adapt curricula, incorporating this vocational aim, in order to guide instruction and ensure educators, practitioners, and families have a clear focus and systematic process. Moreover, this would be an essential step for any individual with ASD who was learning these skills directly. In doing so, schools may offer the opportunity for better programs, feasibility, adherence, efficacy, and thus effectiveness.

Understanding and applying these strategies could be a means of social skills instruction (Wong et al., 2015). To date, these modules are the Iris Peabody Center modules, which are published by Vanderbilt University (n.d.), the Autism Focused Intervention Resource Modules (AFIRM), which are published by the National Professional Development Center on Autism at University of North Carolina Chapel Hill (n.d.), and the Autism Intervention Modules (AIMS), which are published by the Ohio Center for Autism and Low Incidence Disabilities at Ashland University (n.d) (Sam et al., 2017). The value of these learning tools is just beginning to emerge; however, the applicability to school-based settings is evident as well as the utility for teachers (Sam et al., 2017).

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Conclusion

This paper highlights an emerging area of need for individuals with autism. Given the projected influx of individuals with autism into the workforce, as well as obstacles faced in acquiring necessary soft skills for employment, the expansion of school-based social skills programming is paramount in ensuring optimal outcomes for the ASD population. Not only do current programs need to re-frame their approach for transition-aged populations, but supports and services need to be developed with consideration for life-long goals.

Helpful resources, such as curricula from the ODEP (2012), and tools, such as video models, and virtual reality sites, can be used to target skills across the domains of communication, attitude, teamwork, networking, problem-solving, and professionalism.
While these resources cannot overcome limitations in the array of school-based services (Lee et al., 2019), they can significantly enhance the type of instruction offered, as well as provide opportunities to practice soft skills prior to employment. Moreover, incorporating these strategies into Individual Education Programming (IEP) demonstrates a shift in focus of school-based supports for transition-aged individuals, as well as a proactive approach to increasing workplace readiness for students with ASD. This approach, which is essential to promoting positive change, may also be integrated prior to transition-age, as some individuals may benefit from increased time in acquiring the necessary life skills and emotional control. This would be especially important for those with more severe internalizing or externalizing behaviors. In these types of circumstances, it is important to discuss other types of treatment that may be used to augment social skills instruction. Similarly, it would be important to discuss vocational accommodations as dictated by the Americans with Disabilities Act (ADA) regulations and guidelines. Many families, as well as employers, are unaware of the kinds of accommodations that would be helpful, and some, such as mentoring and frequent check-ins regarding work performance, could help maintain employment.

While this paper offers suggestions for improving specific programming and practices related to social communication skills for work settings, a substantial gap remains in the literature. To date, only two empirical studies focusing on this topic have been conducted (Sung et al., 2018; Walsh et al., 2018), leaving critical areas of concern, such as strategies for generalization and maintenance of skills, as well as accessible ways of providing meaningful instruction to individuals who have already aged out of the school system, open for future studies. Future research could also focus on actionable steps for schools, such as the process of incorporating different programs into an IEP, ways to adapt and enhance existing social skills curricula, or procedures for implementing this type of instruction with students. Given the pressing needs related to this population, this topic must receive further investigation by researchers to inform the field of ways to enhance autism-focused social skills services and supports for the workplace.

References


