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Perspective

Autism spectrum disorder in the workplace: a position paper to support an inclusive and neurodivergent approach to work participation and engagement

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Abstract

Autistic individuals often experience a wide range of barriers and challenges with employment across their lifetime. Despite their strengths and abilities to contribute to the workforce, many individuals experience unemployment, underemployment and malemployment. However, current supports and services are often inadequate to meet their needs. To allow autistic people to achieve vocational success, we explore four contributors to employment and expand upon the issues and potential solutions to each. These positions include the importance of family support and its consideration in the application of vocational support interventions, addressing transitional needs for autistic youth, building employer capacity, and conducting research that advises the development of meaningful programs and policies. By advocating for these positions, we aim to foster greater inclusivity and support for individuals with ASD in the workplace.

 $\textbf{Keywords} \ \ \text{Autism spectrum disorder} \cdot \text{Employment outcomes} \cdot \text{Family support} \cdot \text{Transitional needs} \cdot \text{Employer capacity} \cdot \text{Workplace accommodations}$

Abbreviations

IEST Integrated Employment Success Tool

PS-ASD Project SEARCH plus Austism Spectrum Disorder Supports

SES Socio-economic status

1 Introduction

Autism is a lifelong neurodevelopmental condition [1]. It is characterized by differences in social communication, and restrictive interests or repetitive behaviours [1]. Autistic people may have unconventional interpretations of body language and social cues, are less flexible with changes to routine, and display hypo- or hyper-sensitivity to environmental

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factors such as light or sound [2]. Despite these challenges, autistic individuals have great qualities that can contribute to an organization when the job aligns with their strengths [3, 4]. They demonstrate work behaviours such as dependability, punctuality, consistency, exceptional attention to detail, and work quality [4–6]. However, a concerning body of evidence highlights the reluctancy of employers to hire and accommodate autistic individuals due to a lack of appropriate understanding of the condition [7, 8].

Employment facilitates community engagement, acceptance and recognition, higher self-esteem, and financial independence [3, 9, 10]. However, autistic adults are more likely to be unemployed, underemployed (overeducated for the qualifications of their job), and malemployed (working at tasks for which they are unsuited) [3, 11, 12]. The 2017 Canadian Survey on Disability reports that 67% of working-age adults with autism are unemployed compared to 21% of people without a disability [13]. Not only do they have difficulty finding employment, but there is emerging evidence that autistic adults tend to experience short-term employment and declining levels of vocational independence over time [14]. This is concerning, as there has been a marked increase in the global prevalence of autism over the past few decades [15–17]. In Canada, about 1 in 50 children and adolescents are diagnosed with autism [18], and an estimated 50,000 autistic youth reach adulthood each year [19]. Evidently, there is a pressing need to develop suitable employment services and supports to aid autistic people in achieving vocational success and long-term occupational retainment. This position paper aims to advocate for more inclusive and supportive practices that promote employment engagement of autistic individuals.

2 Key positions

The authors of this paper propose four position points to address the challenges in securing and sustaining employment for autistic persons as shown in Fig. 1.

2.1 Position 1

While some may object to the involvement of parents or caregivers in the employment journey of autistic adults, family support provides both emotional encouragement and practical assistance in navigating workplace challenges and opportunities, and family circumstances contribute to vocational outcomes in complex ways.

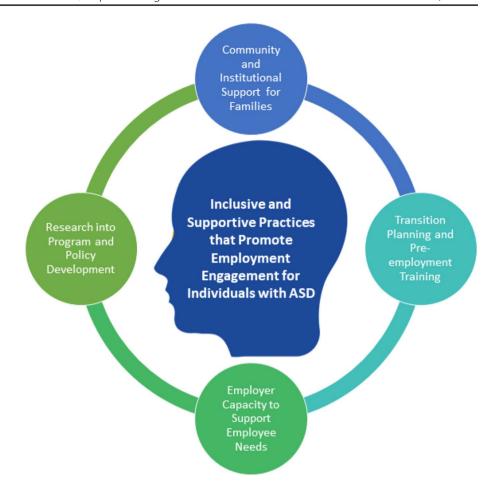
2.1.1 Inclusion of families in employment services

The needs of families and caregivers is underrepresented in adult-based autism practice and research [20]. Despite growing evidence that parents and caregivers shoulder much of the burden of seeking and navigating employment challenges, they are typically discouraged from partaking in vocational services offered for their adult children [21]. This is because parents need to learn to "let go" of their child once they become an adult. The journey to independence, however, often looks very different for autistic individuals. While some individuals achieve high levels of independence, most remain dependent on family or live in supported communities well into adulthood [22]. Moreover, it has been found that long-term family advocacy and encouragement is reflective of improvement in vocational engagement overtime [5, 23]. Instead of removing parents from the equation, adopt the concept of adaptive support or scaffolding [20]. Using this strategy, parents would incrementally reduce assistance, according to the individual's needs, in tasks such as job seeking and financial management with the goal of fostering greater independence for the autistic adult [20, 24].

The exclusion of parents and caregivers from vocational services and the lack of mental health support for this population may also be costly for the family unit because these individuals experience higher levels of depression, anxiety, and exhaustion compared to parents of neurotypical children [25]. A promising area of practice that combats the stress and isolation felt by caregivers is parent-to-parent support such as parent mentor programs [20, 26]. These programs can build robust social support systems which have been associated with lower psychological distress as well as higher positive affect for parents of autistic individuals [27]. The implementation of these interventions is only possible if more attention is given to research the family experience and how it impacts employment outcomes, and sufficient community resources are available to address the mental health needs of families.



Fig. 1 Inclusive and supportive practices that promote employment engagement for individuals with ASD



2.1.2 Family circumstances

A growing body of evidence indicates that higher family socio-economic status (SES), higher parental education, and larger maternal social networks are strong predictors for sustained employment among autistic youth [10, 28, 29]. It is suggested that higher-income families have greater access to supports such as vocational training programs and occupational counselling services. They may also live in urban areas with better job availability and better public transportation options [28]. Similarly, family members with extensive social networks may experience greater information exchange and can thereby introduce more job opportunities [28]. To reconcile circumstantial differences between individuals (SES, parental education, maternal social network), broader community resources need to be developed. To ensure higher quality of life and improved mental and physical well-being, vocational training programs and future interventions need to be aware of the role of families and understand the complicated effects of SES, parental education, and social networks on the employment outcomes of autistic adults.

2.2 Position 2

Transitioning from school to work is a pivotal phase in the lives of autistic people. To facilitate better employment outcomes for these individuals, it is paramount that education providers implement accessible supports such that they can succeed in obtaining the skills and experiences necessary to pursue their career goals.

A major contributor to transition outcomes for autistic youth is an employer's perception of vocational competency, which is defined as earning ability, qualifications to work in a specific role, and long-term work potential [30]. To that end, Chiang et al. (2013) found that having a high school diploma increases an individual's chances at employment by around 7.50 times [31]. It has also been found that individuals who pursue postsecondary education may attain even



better vocational success [32]. Whittenburg et al. (2019) reported that individuals with experience in postsecondary institutions had the highest employment rates, income, and average work hours compared to those with less education.

However, education providers have not been very effective at providing suitable supports for autistic youth [30]. Only 6% of Canadian postsecondary institutions provide autism specific supports [33]. Even when supports are available, students have reported multiple barriers to access, including being unaware that they are qualified for support, not knowing what services are available, and not knowing how to access support [33]. In a recent qualitative study, autistic students suggested that current systems, such as websites, are overly complex and difficult to navigate [34]. Their foremost recommendation was that postsecondary institutions provide simpler outlets so neurodiverse individuals can easily reach out for help [34]. The effectiveness of existing support strategies is also highly variable, suggesting the need for individualization [35]. A survey of staff and administrators from publicly funded Canadian universities cited insufficient funding, lack of specialized personnel, and inadequate institutional support as impediments to the development of more effective support strategies [36]. As expressed by Ames et al. (2022), there is a need for increased investment in research that addresses the knowledge gap on the educational experiences of autistic individuals at high school and postsecondary levels. Without up-to-date evidence-based data, it is challenging to determine the specific supports that are essential and effective for autistic students.

Pre-employment training or work-related experiences is another area of support that should be considered. A recent study found that employers considered the acquired skills, experiences, and interests of a job candidate as deciding factors to employment success [37]. In line with these findings, autistic people who held part-time jobs or volunteer positions as students were more likely to be employed after graduation from an education institution [12, 31]. To foster vocational success, it may be beneficial to encourage employment as part of a time-limited intervention before graduation. At the high school level, the Project SEARCH plus Austism Spectrum Disorder Supports (PS-ASD) model, has been shown to improve employment outcomes [38]. The PS-ASD program has been implemented in the final year of high school for a 9-month period. During this time, the autistic student partakes in a total of 720 h of internships at businesses such as a hospital, government organisation or bank, alongside 180 h of academic learning. At a 12-month follow-up it was found that 87% of students were able to obtain competitive employment compared to 12% of students that did not partake in the program. To avoid the problem of a one-size-fits-all approach, a job seeker profile was developed to identify and work towards a personal employment goal [38]. Future research could extend this work by applying the strategies to a wider academic context, such as a post-secondary setting as a modified co-operative education program.

2.3 Position 3

To allow for autistic individuals to thrive in their careers and allow for employers to benefit from the unique strengths of autistic employees, there is the need to build employer capacity and develop and implement suitable workplace accommodations.

2.3.1 Workplace policies

Disclosure of disability is crucial in enhancing quality of life and work productivity for autistic employees. Non-disclosure can hinder an individual's ability to receive workplace accommodations and lead to unsafe working conditions, poor job performance, and even unemployment [39]. However, many autistic adults shy away from disclosing due to stigma and discrimination [37, 39, 40]. Negative societal attitudes and difficulty with workplace relationships (e.g., gossip, ill-treatment or exclusion by co-workers, difficulties relating to others) is associated with a negative work experience, and higher levels of worker intention to leave a job [3, 21, 41].

To encourage individuals to request and receive workplace accommodations, robust anti-discrimination and zero tolerance policies should be implemented to explicitly prohibit discrimination, harassment, or bullying against neurodiverse employees. Open dialogue and transparent policies should be in place to create an environment where employees feel comfortable discussing their differences in ability. To create an environment where employees feel comfortable discussing their disability, mentorship and ally programs have also demonstrated success [41]. Mentors can offer meaningful advice, constructive role modeling, and build positive workplace relationships through shared experiences and mutual support for new employees [41]. It is also important to note that while some individuals may be comfortable disclosing to their employers, they may be reluctant to disclose to their co-workers. Thus, employers must assure employees that their disclosure will be kept confidential and will not negatively affect their career prospects or treatment within the organization.



2.3.2 Workplace accommodations

Workplace accommodations are imperative to promote better employee job satisfaction [42], performance [40, 42], and retention [43]. However, there is a lack of empirical research identifying reasonable accommodations to enhance the work participation of autistic employees [40].

Reasonable accommodations refer to work modifications that enable equal employment opportunities for individuals with disabilities, provided they can fulfill essential job duties and these adjustments do not impose an unreasonable burden on the workplace [44]. The issue however, is the lack of education given to employers that would inform them of autism as a condition and the necessity of providing suitable accommodations. Greater knowledge and understanding of autism encourages employees to self-advocate and to be confident in requesting accommodations, while allowing employers and co-workers to offer more effective support [42]. To that end, training and workshops on autism awareness and education have proven to be effective in promoting tolerance, minimizing conflict, and building acceptance among co-workers and employers [42, 45].

Sensory-friendly workspaces (e.g., special lighting, noise cancelling headphones, providing quiet spaces for breaks) are among the most common modifications required by autistic employees [3, 4, 45, 46]. Hayward et al. (2020) further emphasized the importance of clarity of communication from employers when relaying instructions [45]. Consistency in routines and assistance in task or time management (e.g., frequent check-ins, organizers and activity trackers) can further improve work performance and satisfaction [4, 45, 46]. The use of assistive technology is also an emerging area of research that leads to positive work experiences [43]. Video modeling and audio cuing are among the most common supports to have been implemented in the past few years to teach job tasks, expand employment opportunities, and maintain vocational skills overtime [47–49].

Khalifa et al. (2020) concluded in their review that existing workplace accommodations contribute to improved work performance but noted that there is a lack of standardized measures to guide employers on appropriate accommodations. A promising measure is the Integrated Employment Success Tool (IEST), a detailed manual that outlines autism-specific workplace modification strategies for employers [50]. The manual breaks the employment process into five phases: (1) advertising the job; (2) the interview; (3) job commencement and placement; (4) workplace modifications; (5) ongoing support. Each section includes three checklists to provide employers with a comprehensive way to ensure the appropriate accommodations have been implemented for the autistic individual. A preliminary study suggested that the IEST can promote employer confidence in providing targeted workplace modification to an autistic employee, and may be particularly helpful to employers with little autism-related experience by serving as a practical guide [51]. At the end of the day, every workplace is different, and the need of each individual varies across settings [40, 52]. Future research must focus on the development of assessment tools that allow employers to make reasonable adjustments to meet the needs of the unique autistic person rather than relying on generic advice and stereotypes [7, 40, 52].

2.3.3 A strengths-based approach

It is critical to recognize the unique and valuable abilities of autistic people and move away from the traditional focus on impairment and social deficits. This view encourages the application of a strengths-based approach to workplace inclusion that is mutually beneficial to both employers and employees [53–55]. Job carving, also called job customization, is a promising solution to improving employment outcomes using this approach [55, 56]. Job carving is a flexible process that involves the customization or creation of a job tailored to an individual's skills and the organization's needs [56]. The process typically begins with a task analysis of an existing job that breaks down the tasks and responsibilities associated with the position, allowing the employer or vocational specialist to identify the components that produce the best job fit. Tasks can be "carved out" from multiple positions to combine into a new job to simultaneously meet the unique needs of the employee and employer. This solution may be a more compatible solution for organizations that are unsuited or unable to provide external supports such as a job coach, because it capitalizes on supports available in the natural environment to maximize independence [56].



2.4 Position 4

Despite being a lifelong condition, autism is understudied in adult populations. To improve employment for autistic persons, further research that addresses informational, such as qualitative research and longitudinal studies, need to be conducted to develop effective programs and inform policies.

Disproportionately little research exists for autistic adults compared to children [20, 57]. Optimistically, there has been a greater focus for research on adult autism supports in recent years, but multiple gaps continue to be unaddressed in practice and policy. In fact, many existing vocational support programs lack a strong evidence-based foundation [20]. To guide policy and ensure the development of meaningful interventions for autistic adults, a multidisciplinary collaboration between educators, caregivers, vocational training providers, and the individual, is necessary for success [58].

The lived experiences of autistic individuals should be included in the production of research and support services. However, the primary limitations of current studies are small sample sizes and the lack of diversity among participants. The vast majority of research on autism is conducted on a western population, and more problematically, very few studies measure demographic variables such as gender, age, ethnic/cultural background, and comorbid health conditions. Furthermore, qualitative research often omits individuals that need more substantial support according to DSM-5 guidelines in favour of individuals who often have a higher IQ, have fewer differences with communication, and need fewer supports. The practical reasons for the selection of these individuals in research may include the relative ease in collecting data through conversational mediums such as interviews, and the ethical considerations of obtaining informed consent. However, individuals with greater impairment are also more vulnerable to issues such as unemployment. There is a need to prioritize the inclusion of these participants in future research.

Finally, there is a need for longitudinal studies to address the growing body of evidence that suggests sustained support for autistic individuals results in better vocational outcomes over time compared to support programs that do not extend beyond the initial employment search.

3 Conclusion

This paper presents four positions to promote inclusive and enabling environments for autistic people. To address gaps in practice and research, we propose the following solutions: (1) increase community and institutional support for caregivers of autistic adults, (2) enhance transition planning and pre-employment training, (3) build employer capacity, and (4) advance research for program development. For autistic people, having a job is both fulfilling and valuable. Overall, the degree of engagement from families, the availability of vocational support services, and the willingness of employers to incorporate this group into their workforce are decisive factors for positive employment outcomes for autistic people. However, high quality studies regarding predictors of work outcomes in autistic individuals, as well as instruments and intervention programs are limited. The authors of this paper emphasize the need for future research that can provide an evidence-based solution for the development of adequate services such as supported employment programs, accommodation services offered by high school and postsecondary institutions, and guidelines for workplace practices and accommodations. These supports need to be geared towards the needs of the individuals with ASD to help them adjust to the psychosocial demands of society.

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