

## Autism Summer Employment Program: An Evaluation of a Community-Based Pilot Program

*Programme de travail d'été en autisme: Évaluation d'un programme pilote d'approche  
communautaire*

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### Abstract

**Background:** *The Autism (formerly Asperger) Summer Employment Program (ASEP) was a community-based pilot program designed to provide summer vocational support to autistic university and college students. The ASEP was the initiative of community agencies interested in identifying service gaps for autistic adults during transition periods, such as entering the workforce following post-secondary education. The current study reports on a program evaluation of the ASEP developed by a community agency in Toronto in which two workforce specialists provided ongoing training and support for 17 autistic adults over a four-month summer period. Twelve participants obtained paid employment, three obtained volunteer positions, and two were unsuccessful in obtaining summer placements.*

**Methods:** *Evaluation of the ASEP was based on responses to a questionnaire by participants and reports from employers. Participants completed questionnaires before and after the program, while employers completed questionnaires at the end of the program.*

**Results:** *Self-rated autism symptom severity was high and correlated with some self-reported job-related knowledge and skills. Participants reported a significant increase in their job-related knowledge and skills from pre- to post-program. At the conclusion of the program, employers reviewed participant's job as "good" on average. When asked if participants would*

*be considered for future employment, most employers responded positively, while some had some concerns.*

**Conclusion:** *Overall, the results suggest that with appropriate support, successful summer vocational experiences are accessible to autistic students. Clinical implications are discussed.*

## Résumé

**Contexte.** L'ASEP ou « programme de travail d'été pour personnes autistes (anciennement Asperger) » était un programme pilote d'approche communautaire conçu pour fournir un soutien professionnel d'été aux étudiants autistes de niveau universitaire et collégial. L'ASEP était l'initiative d'organismes communautaires intéressés à identifier les lacunes en matière de services pour les adultes autistes pendant les périodes de transition telles que l'entrée sur le marché du travail après des études post-secondaires. La présente étude rend compte d'une évaluation de programme de l'ASEP. Ce programme fut mis en place par un organisme communautaire de Toronto au sein duquel deux spécialistes de la main-d'œuvre ont fourni une formation et un soutien continu à 17 adultes autistes au cours d'une période estivale de quatre mois. Douze participants ont obtenu un emploi rémunéré, trois ont obtenu un poste de bénévole et deux n'ont pu obtenir un poste pour un emploi d'été.

**Méthode.** L'évaluation de l'ASEP s'est appuyée sur les réponses à un questionnaire rempli par les participants et sur les rapports des employeurs. Les participants ont rempli les questionnaires avant et après le programme, alors que les employeurs ont rempli les questionnaires à la fin du programme.

**Résultats.** L'intensité auto-rapportée des traits autistes était élevée et était corrélée à certaines connaissances et compétences liées au travail auto-rapportées. Les participants ont évoqué une augmentation significative de leurs connaissances et de leurs compétences liées au travail après le programme comparativement à avant celui-ci. Au terme du programme, les employeurs ont évalué le travail des participants comme « bon » en moyenne. Lorsqu'on leur a demandé si les participants seraient considérés pour un emploi futur, la plupart des employeurs ont répondu positivement, tandis que certains avaient des inquiétudes.

**Conclusion.** Dans l'ensemble, les résultats suggèrent qu'avec un soutien adéquat, des expériences de travail d'été réussies sont accessibles pour les étudiants autistes. Les incidences cliniques sont discutées.

**Mots clés :** Autisme, travail, évaluation de programme, post-secondaire, transition

## Introduction

The transition from more structured educational institutions into the workforce and self-sufficiency can be anxiety provoking for many people. This transition may be particularly challenging for autistic individuals due to core characteristics of conditions within the autism spectrum (Cashin et al., 2018; McDonough & Revell, 2010). For example, difficulties with nonverbal communication and social functioning can impede successful navigation of the labour

market (Hagner & Cooney, 2005; van Schalkwyk & Volkmar, 2017). Furthermore, many autistic students are unable to concurrently sustain employment while enrolled in postsecondary education (Zukerman et al., 2019). Limited or absent employment experience of emerging adults are common within this population and may represent a serious disadvantage in a competitive labour market. Therefore, supporting emerging autistic adults in successfully obtaining and maintaining employment-related skills requires a tailored approach.

To capitalize on the potential of this group, a strengths-based approach may be employed (Anderson et al., 2018; Mawhood & Howlin, 1999; Olney, 2000). Specifically, autistic individuals may possess a high degree of accuracy in visual perception, an ability to sustain concentration, excellent long-term memory, and a higher tolerance for repetitive activity, relative to the general population within the labour market (Hagner & Cooney, 2005). For example, in a retail setting, the ability to memorize large amounts of rote information may translate into an extensive knowledge of the merchandise (Simone & Grandin, 2010). Therefore, an exploration of an individual's unique skill profile can result in successful job placement (Simone & Grandin, 2010). Concurrently, a growing body of research supports the effectiveness of supported employment programs tailored to the needs of this population (Garcia-Villamizar et al., 2002; Schall et al., 2015). Employer flexibility in adapting employee expectations and responsibilities has been associated with superior outcomes in obtaining and maintaining employment (Van Bourgondien & Woods, 1992). For example, promoting use of personal organizers, minimizing unstructured time, and providing reminders may bolster workplace performance (Hagner & Cooney, 2005; Wehman et al., 2016).

Based on the aforementioned evidence and the focus of the current study, the Autism Summer Employment Program (ASEP) was a community-based pilot program designed to enhance the "employability" of autistic postsecondary students. Funded by a working group of community agencies, the ASEP aims to fill a notable gap in services to support the transition from post-secondary education. The current study is based on a program evaluation of the ASEP

## **Materials and Methods**

Data for this study were collected through the ASEP. Ethics approval was received from the Office of Research Ethics at York University in Toronto, Canada. The program was carried out by Jewish Vocational Services (JVS), a non-denominational hub for vocational skills building in Toronto with a mandate to help people from all skill levels and background attain employment. JVS maintains connections with large and small businesses in the city to help facilitate the process of obtaining employment.

### **Participants**

Eighteen self-identifying autistic students were referred and applied to the ASEP. One student withdrew prior to the start of the program because he obtained employment. Participant characteristics are reported in the Results.

## Procedure

Participants were referred to the ASEP by school counsellors or programs offering services to the autism community. Applicants were screened by ASEP coordinators for eligibility for the program, which included: 1) a self-reported diagnosis of an autism spectrum condition, 2) interest in obtaining summer employment, 3) current enrolment or a recent graduate of a post-secondary institution, and 4) sufficient independence to maintain employment with minimal support (e.g., able to travel to work, make appointments, etc.).

Two workforce specialists (registered occupational therapists with experience in developmental disabilities) were employed for the duration of the ASEP. Their responsibilities included the delivery of employment workshops specific to the autistic population (see Table 1 for an overview of workshop topics), job searching, accompaniment of ASEP participants to job interviews, building relationships with employers, job site visits, and the provision of ongoing job-related support. These topics had been identified in previous iterations of the program as the most desired by participants. The program commenced with a week-long workshop series, followed by retention workshops that occurred periodically for the duration of the program. Workforce specialists conducted mock interviews with participants that were videotaped and reviewed.

Each participant was provided with the following materials: a career booklet provided by the Toronto District School Board; the book “Asperger’s on the Job: Must-Have Advice for People with Asperger’s or High Functioning Autism and their Employers, Educators, and Advocates” (Simone & Grandin, 2010); a USB, a journal with lined pages, an agenda, a binder, and a divider package. Participants were encouraged to review the book, but it was not mandatory. Workshops involved didactic components (e.g., best practices for resume writing) as well as times to practice learned skills with interactive activities.

**Table 1**

*Overview of Workshop Topics*

Workshop #	Workshop Topic
1	Resume Writing & Interview Skills
2 <sup>a</sup>	Job Readiness Workshops (Introduction, Group Guidelines, Discussion of AS, Special Interests, Hidden Job Market, Job Development, Disclosure, Reasonable Accommodation, Employment Standards Act, Mock Interviews, Etiquette, Professionalism, Employer Expectations)
	Social Skills at Work (Small Talk, Dealing with Difficult Situations, Internet & Computer Use at Work)
4	Accommodations at Work
5	Email Etiquette & Conflict Tips
6	Dealing with Conflict on the Job

7	Informational Interviews & Professional Networks
8	Professionalism
9	Do's & Don'ts on the Job
10	Giving & Receiving Feedback & Criticism
11	Guest Speaker (Various Topics within Employment & AS)
12	Teamwork
13	Bullying in the Workplace
14	Communication & Positive Attitude at Work

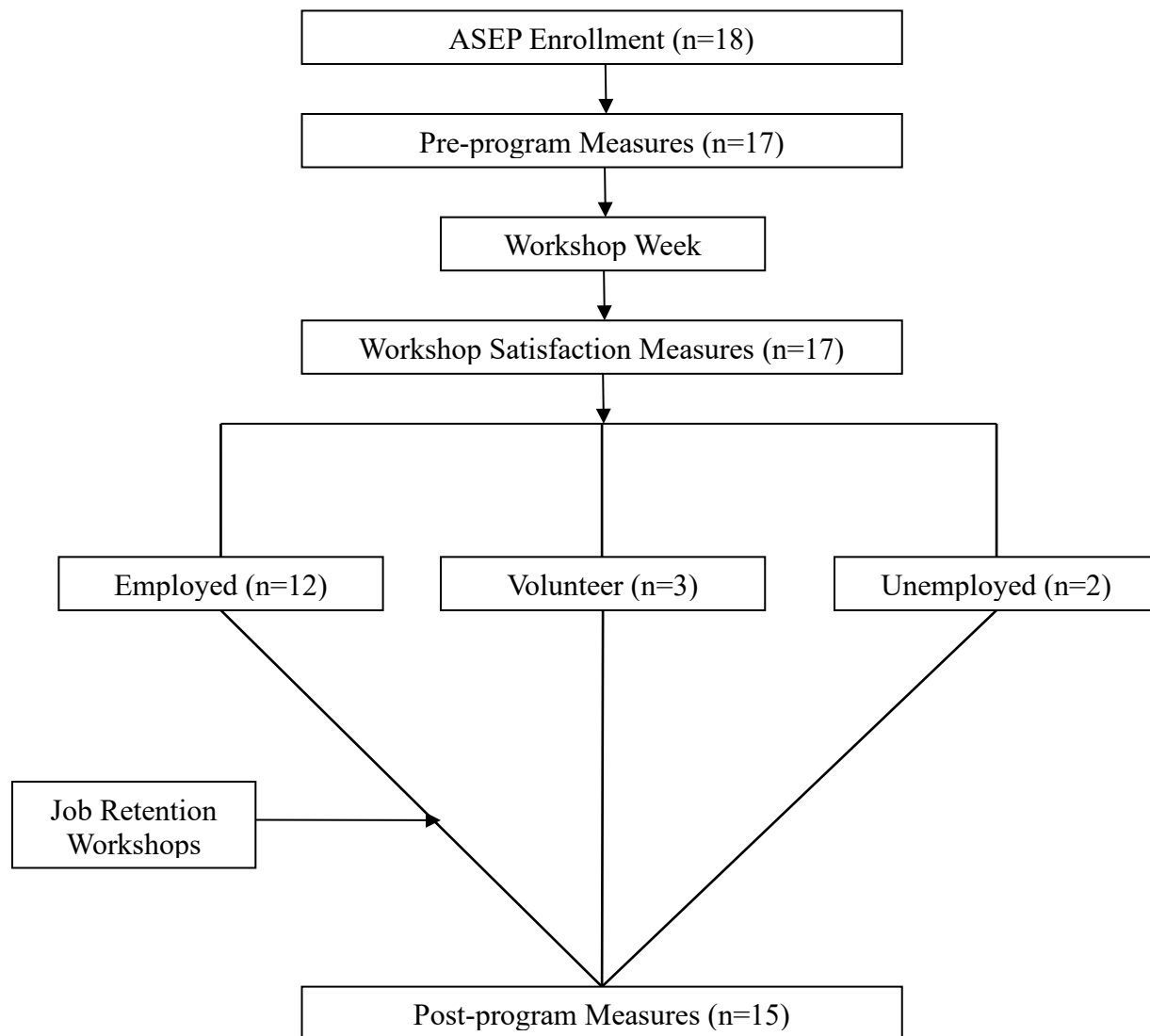
<sup>a</sup> Five continuous days of workshops Mon – Fri, 9am – 2pm

### Approach and Data Collection

In order to identify the goals for data collection, writers (AP, JB, MS, SK) met with key stakeholders at JVS. We created a logic model identifying the core pieces of the training program, as well as what outcome variables would look like. Based on this logic model, we identified measures in the literature or created measures to address the specific issues to be addressed over the course of the program. The following goals were addressed: 1) Identify factors associated with employment success; 2) Evaluate gains in employment-related knowledge and skills; 3) Evaluate the effectiveness of various aspects of service delivery and overall participants' program satisfaction.

Figure 1 illustrates the data collection procedure and general timeline of the ASEP.

Program evaluators administered pre- and post-program measures to the participants. The workforce specialists documented all contact both with and on behalf of participants by completing online progress notes and a brief online questionnaire following individual meetings with participants. Quantitative data was obtained through the administration of a battery of questionnaires both in-person and online. The authors developed the battery of evaluation measures based upon existing measures derived from similar studies of vocational support programs (e.g., Hillier et al., 2007). The measures used for this study do not have norms for comparison and were developed specifically for the students in this pilot program. Qualitative data were obtained from responses to open-ended questions on evaluation measures, progress notes kept by the workforce specialists, and written descriptions provided by the participants.

**Figure 1***Timeline of the ASEP Program***Measures**

**Student Application Form – pre-program measure.** This measure provided demographic information, health information (e.g., primary diagnosis and special needs); and previous employment/volunteer experience.

**Education and Employment History (Segers & Konanur, 2012) – pre-program measure.** This questionnaire queried participants' education and employment history. Items included highest level of education obtained, current/most recent educational institution, current/most recent degree/diploma program, major area of study, annual income (before taxes), job search frequency, number of interviews completed, and description of employment and/or volunteer experience (e.g., level of responsibility).

**The Autism Spectrum Quotient-Short (AQ-Short; Hoekstra et al., 2011) – pre-program measure.** The AQ-Short is a 28 item self-report questionnaire assessing the degree to which adults with average intelligence exhibit symptoms characteristic of autism spectrum conditions. Correlations with the full AQ were high ( $r = 0.93$ ) and internal consistency was acceptable to good (between .77 and .86; Hoekstra et al., 2011). The AQ-Short asks respondents to rate themselves on the following domains: social skills, adherence and preference for routine, imagination, preference for numbers and patterns, and ability to switch attention from one task or event to another. Individuals with a formal diagnosis of autism spectrum disorder scored significantly higher on the AQ-Short than controls, and an overall score of  $> 65$  is suggested as a diagnostic cutoff (Hoekstra et al., 2011).

**The Empathy Quotient (EQ; Baron-Cohen & Wheelwright, 2004) – pre-program measure.** The EQ is a 40 item self-report measure assessing how attuned one is to other people's feelings and how strongly they are affected by other people's feelings by rating themselves on degree of agreement with various statements. The internal consistency of the measure is high (0.92) and it shows good discriminant validity (Baron-Cohen & Wheelwright, 2004). The EQ was standardized on clinical and non-clinical groups (Baron-Cohen & Wheelwright, 2004); autistic adults scored significantly lower than the non-clinical control group. A cutoff score of less than or equal to 30 resulted in 81.1% autistic adults, scoring at or below this cutoff compared to 12.1% of the control group. The inverse relationship between the EQ and the AQ indicates its validity; respondents scoring lower on the EQ tend to score higher on the AQ.

**Job Readiness Questionnaire (JRQ; Konanur & Segers, 2012) – pre- and post-program measure.** This measure was developed as an indicator of participants' perception of their own knowledge and skills related to employment. The JRQ was based on the integration of items and categories derived from existing measures utilized by community partners for previous employment program for autistic individuals. Face validity was important in the creation of this questionnaire. Participants rated themselves on a five-point Likert-type scale (1 = strongly disagree, 5 = strongly agree) on 10 items within each of the following six domains: long-term and short-term career goals; job-seeking skills; interview skills; employee rights and responsibilities; on-the-job communication and social skills, and job-related confidence. (See Figure 2)

**Participant Progress Report (Segers & Konanur, 2012) – collected after every interaction.** Progress reports were tracked online using "Google Forms," which allowed workforce specialists to enter information into a survey template. The workforce specialists completed online progress reports following each interaction with or on the behalf of a participant. The online progress report queried the following: meeting type (e.g., individual meeting, group workshop); meeting format (e.g., in person, phone); meeting length; and meeting topics. The workforce specialists were asked to rate the participants on punctuality, hygiene, mood, motivation, and preparation. The form also included additional space for case notes on actions taken and plans formulated during meetings.

**Employer Performance Evaluation (Segers & Konanur, 2012b) – post-program measure.** This measure was adapted from the Assessment Worksheet developed by Hillier and colleagues (2007) in a two-year evaluation of a supported employment program to collect information about the employers (e.g., sector, number of employees). Employers also rated participants on 30 items, including level of independence, ability to manage conflict, organizational skills, quality of work (i.e., comparison to a typical competitive employee),

interactions with co-workers, and whether the employer would consider the participant as a candidate for future employment.

**Program Satisfaction Questionnaire (Konanur & Segers, 2012b) – workshop satisfaction measure.** The Student Program Satisfaction Questionnaire was adapted from an existing measure utilized by one of the community partners (Jewish Vocational Services, Toronto) for previous employment programs for autistic individuals. Participants rated the ASEP on 6 items such as, “I found the employment program to be useful,” and “I would recommend the employment program to other students looking for jobs.” Participants were also asked to respond to two open-ended items related to program gains and how it could be improved.

## Results

We have organized the results by first discussing participant characteristics and self-reported autism spectrum condition symptoms. We then examine job readiness before and after the program. After this, we turn to program specifics including utilization of meetings and resources, employer satisfaction and participant satisfaction with the program.

### Participant Characteristics

The sample consisted of 13 (mean age = 19.76,  $SD = 1.19$ ) male and four female participants who were enrolled in community college ( $n = 8$ ) or university ( $n = 9$ ). Students' annual income from employment was reported as “below \$5,000” ( $n = 12$ ), “\$5,000 to \$9,999” ( $n = 3$ ), and “\$10,000 to \$14,999” ( $n = 2$ ). Eight participants reported having previous employment experience in roles of sales associate ( $n = 2$ ), warehouse assistant, warehouse worker ( $n = 2$ ), childcare worker, environmental group worker, and librarian's assistant. Participants with previous employment experience held these positions for 8 months on average ( $SD = 6$ ) earning near minimum wage, and indicated having left the positions due to circumstantial ( $n = 3$ ), voluntary ( $n = 2$ ), and involuntary ( $n = 2$ ) reasons (one participant did not indicate the reason they left). The frequencies of current job search efforts were reported as everyday ( $n = 1$ ), three times per week ( $n = 7$ ), once per week ( $n = 2$ ), once per month ( $n = 6$ ), and one participant did not provide a response.

### Participant Endorsed Symptoms

Participants in ASEP approached or exceeded the cutoff values for the two measures assessing symptoms associated with an autism spectrum condition. Specifically, all but one scored above the cutoff of 65 on the AQ (Hoekstra et al., 2011; i.e., these 16 participants had clinically high levels on this measure). On the EQ, 11 participants scored below the cutoff of 30 (i.e., clinically low levels on this measure; see Table 2).

The relationship between symptom severity (i.e., a greater number of symptoms associated with an autism spectrum condition) as measured on the AQ and the EQ and the JRQ was assessed. Before the ASEP program began, only the Confidence domain was significantly negatively correlated with AQ severity ( $r = -.52, p = .03$ ), suggesting that participants with greater self-



reported symptom severity had lower confidence related to job readiness. In regards to the EQ, three of the domains within the JRQ were significantly correlated with the EQ. Specifically, Job Seeking Skills ( $r = .77, p < .01$ ), knowledge of Employee Rights & Responsibilities ( $r = .50, p = .04$ ), and Communications/Social Skills ( $r = .77, p < .01$ ), were associated with higher levels of reported empathy. After the program, severity assessed by the AQ was significantly correlated only with the Long-term and Short-term Job Goals ( $r = .71, p < .01$ ). The EQ was significantly correlated with Long-term and Short-term Job Goals ( $r = .57, p = .02$ ), Job Seeking Goals ( $r = .56, p = .03$ ), Interview Skills ( $r = .54, p = .04$ ), and Communication/Social Skills ( $r = .83, p < .01$ ), and Confidence ( $r = .80, p < .01$ ).

### Employment Success

With the support of the workforce specialists, 15 participants secured placements at agencies. Twelve of those were paid positions, while three participants were in volunteer placements. For the 12 who had successfully obtained employment, job retention was 100% for the duration of the program. Of the 15 participants who obtained placements (as employees or volunteers), positions were among various sectors including community service, retail and sales, and administrative and office work. The majority of job sites were small in size with approximately 20 employees.

### Job-Related Knowledge and Skills

Due to missing data from 1 participant during each cycle, 15 of the 17 participants completed both administrations of the JRQ and were included in the repeated measures analysis. Overall, there was a significant increase (using paired-sample t-tests) in participants' post-program scores compared to their pre-program scores, indicating perceived improvement in their job skills averaged across all domains ( $t(14) = 5.33, p < .01$ ). Post-program scores showed a significant improvement in the following domains: Long-term and Short-term Goals ( $t(14) = 4.21, p < .01$ ), Interview Skills ( $t(14) = 2.34, p = .03$ ), Knowledge of Employee Rights & Responsibilities ( $t(14) = 2.25, p = .04$ ), and Communication/Social Skills ( $t(14) = 2.98, p < .01$ ), with only Job Seeking Skills and Job Confidence not showing significant improvement. (see Figure 3 and Table 3).

**Table 2**

*Descriptive Statistics for Questionnaires Assessing Symptoms Associated with an Autism Spectrum Condition*

Measure	<i>n</i>	<i>M</i>	<i>SD</i>	<i>Range</i>
AQ-Short	17	73.94	7.15	67 - 76
EQ	15	25.87	11.04	21 - 38

*Note.* AQ-Short = Autism Spectrum Quotient-Short (Hoekstra et al., 2011), EQ = Empathy Quotient (Baron-Cohen & Wheelwright, 2004)

**Table 3**

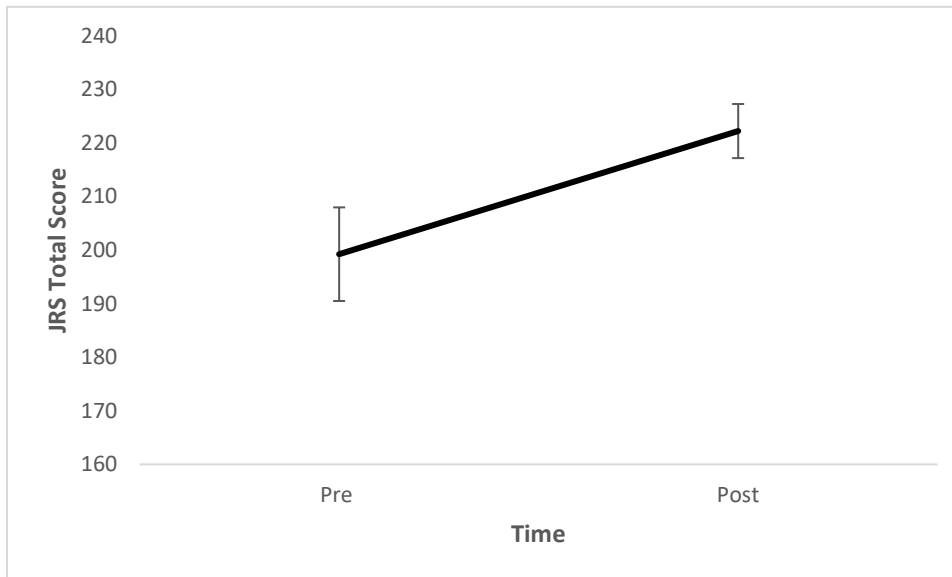
*Descriptive Statistics for Job Readiness Questionnaire*

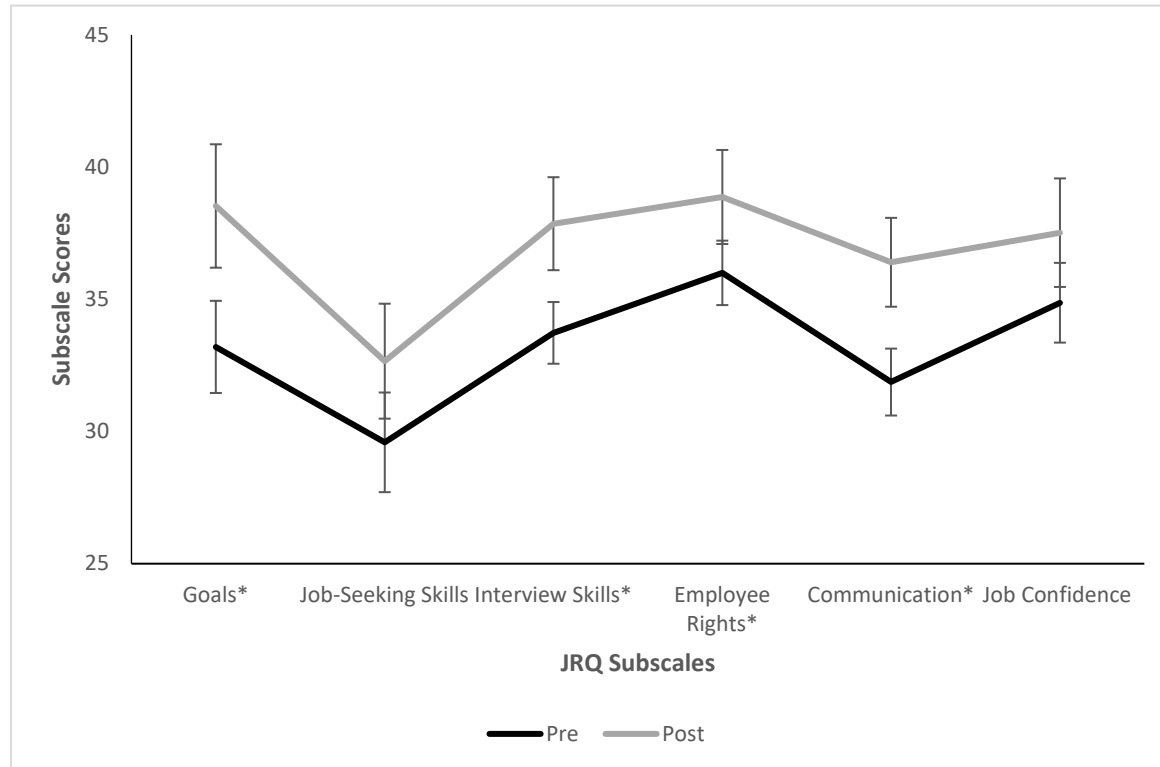
Domain	<i>M</i> (pre-program)	<i>sd</i>	<i>M</i> (post-program)	<i>sd</i>
Goals*	33.20	9.04	38.53	6.75
Job-Seeking Skills	29.59	8.42	32.66	7.30
Interview Skills*	33.73	6.81	37.86	4.52
Employee Rights*	36.00	6.89	38.87	4.72
Communication*	31.87	6.51	36.40	4.90
Job Confidence *	34.87	7.95	37.52	5.84
Total*	199.27	33.86	222.27	19.57

Note: \* indicates a significant level of  $p < .05$

**Figure 2**

*Total Job Readiness Questionnaire (JRQ) Scores Increase from Pre- to Post-program*



**Figure 3***Job Readiness Scores Across Domains*

Note: \* denotes a statistically significant difference

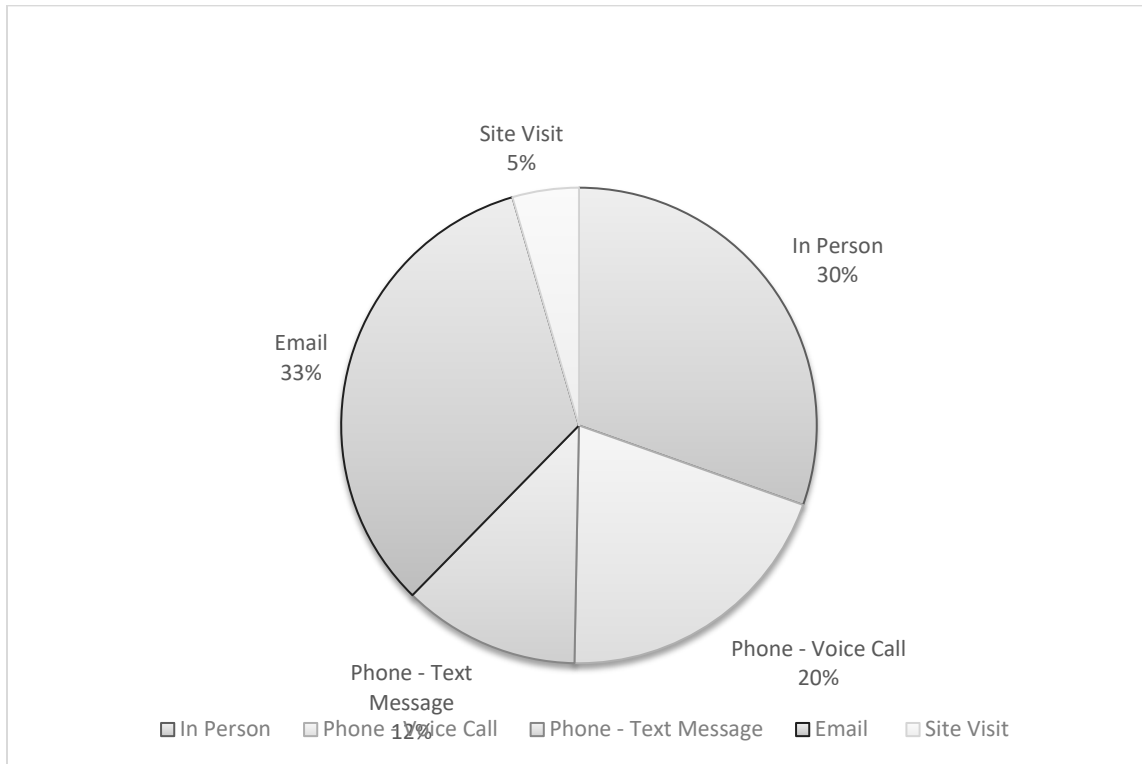
### Student Support & Program Engagement

Level of support was measured by the number of meetings the workshop specialists engaged in with the ASEP participants via an online tracking system with a mean number of individual meetings from May to August was 27 per participant ( $SD = 6.40$ , range = 18 – 36). The total number of hours the workforce specialists dedicated to supporting students individually ranged from 10.5 hours to 30.5 hours over the course of the program ( $M = 22.50$ ,  $SD = 6.60$ ). Meeting duration was also recorded: 49% of meetings were under 30 minutes, 51% were longer, with very few over 90 mins (10%).

Topics that were most frequently addressed during individual meetings were mapped onto the six domains that were used to assess “Job Readiness” as well as two additional domains, ‘Mental health issues’ and ‘information related to autism spectrum disorder’. Short-term goals (39%), job seeking skills (13%), and social and communication skills (12%) were the most frequently discussed topics, with a range of other topics discussed to a lesser degree. The meeting format between specialists and participants was tracked and it was determined that in-person and email correspondence were preferred (30% and 33% of communication, respectively; see Figure 4).

**Figure 4**

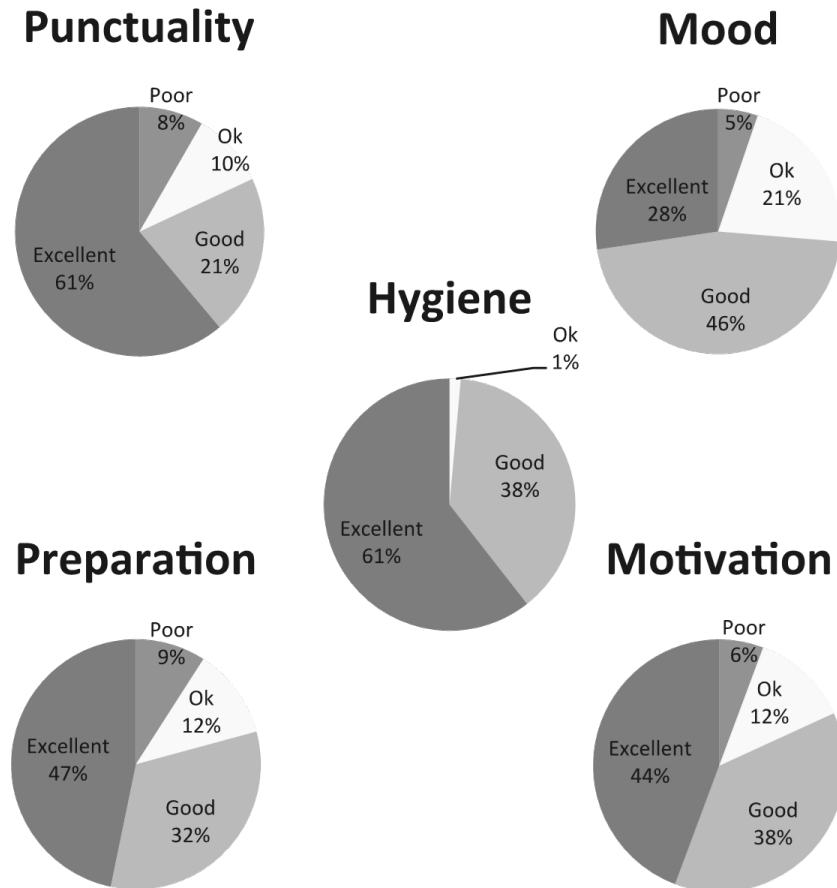
*Percentage of Meeting Time Across Format Type*



Lastly, workforce specialists rated participants on several personal characteristics considered relevant for obtaining and maintaining employment. Participants were rated as either “good” or “excellent” across domains, the majority of the time: mood (74%), hygiene (99%), preparedness (79%), motivation (82%), and punctuality (82%) (see Figure 5).

**Figure 5**

*Workforce Specialist Ratings of Student Characteristics During In-person Meetings*



**Performance Evaluations.** Employer feedback was only obtained for one cycle, as this questionnaire was added by the researchers to the study after the first cycle. Employers and volunteer supervisors rated participants on their work performance during their summer placements. One rating was not provided; the others ( $n = 6$ ) were based on a period with a range of three to eight weeks. For the purposes of this evaluation and due to the small sample size, evaluations from volunteer and paid placements were combined. On average, supervisors rated participants' work performance as "good" ( $M = 4$ ,  $SD = 1$ ) (1 -being unsatisfactory to 5 being excellent). When asked whether performance was comparable to a typical competitive worker on a 10-pt scale (0 = never, 5 = sometimes, 10 = always), ratings were more modest ( $M = 5.5$ ,  $SD = 3.11$ ). Supervisors also indicated that participants were on average, only "sometimes" able to socialize appropriately with coworkers ( $M = 5.83$ ,  $SD = 3.37$ ). Finally, when asked if participants would be considered for future employment, half of the supervisors responded affirmatively, two responded that it was a possibility ("maybe"), and one responded that the participant would not be rehired.

Supervisors were asked to comment on the participants' strengths and weaknesses in the workplace. Aggregated comments revealed that many were perceived to be hard-working, committed, and pleasant in their respective work roles with most difficulties within communication and social domains. Qualitatively, supervisors made comments reflecting on the participants being hard workers, working consistently and being responsible. Some also highlighted that the participants were friendly and nice to work with. With regards to weaknesses, they noted concerns with initiating and maintain social interactions, communication being difficult and some focus on their own interests.

### **Program Satisfaction**

Participants' perception of ASEP was considered an important component of the success of the program. Participants tended to "Agree" or "Strongly Agree" that the workshops were enjoyable (87%), useful (93%), increased job-related knowledge (87%), increased job-related skills (67%), that they liked the style and format (73%) and would recommend the workshops to others (87%). Some of the reported gains of the program included an increased knowledge about job searching, job interviews, on-the-job etiquette and job maintenance. They also identified that they had learned to cope with the demands of the workplace, and learned practical skills (e.g., communication or resume writing) An increase in guest speakers and one-on-one meetings and a larger focus on self-advocacy skills were reported for improvement opportunities. Participants also shared that they had been working towards their independence by being involved with the program and eventually contributing to those around them.

### **Discussion**

Little is understood about the employment experiences of autistic postsecondary students and limited information is available regarding evidence-based intervention and supports for this unique population (Seaman & Cannella-Malone, 2016). Even when programs are available, they are often long-term programs that focus on career development, whereas summer employment or limited-time employment may be a valuable steppingstone in building skills and confidence for a future career (Modestino & Paulsen, 2019). The ASEP was a pilot community initiative that provided effective vocational intervention for individuals self-identified with an autism spectrum condition. Participants received ongoing group and individual vocational support in many areas related to obtaining and retaining employment.

Student-participants in the program reported having symptoms characteristic of an autism spectrum condition that met the diagnostic cutoff on a commonly used symptom measure, thus supporting their fit for the ASEP (Hoekstra et al., 2011). Symptom severity was associated with long-term and short-term job goals likely indicating a difficulty with appropriate goal setting. On the other hand, scores on the EQ were significantly correlated with most of the sub-domains. Having good emotional skills is a core facet of job skills (Momm et al., 2015) and therefore it is not surprising that many job-related skills are associated with EQ items (Communications/Social Skills ( $r = .83$ ) and Confidence subdomains ( $r = .80$ )). Participants' responses on these measures indicated self-awareness of difficulties with social interactions and were further supported by employer feedback revealing challenges to engage socially with colleagues. Workshops were tailored to participants' needs and requests and appeared to provide a two-fold benefit: 1) the

provision of employment-related content and training (e.g., role play) and 2) an unintentional benefit of creating an opportunity for participants to socialize and connect with others whose experiences were similar to their own (i.e., providing a sense of normalization).

The majority of the participants successfully obtained and retained employment or volunteer experience in small and medium-sized organizations. Smaller job sites may be beneficial to autistic individuals for several reasons as they may be less intimidating, more personable, and perhaps more flexible than large-scale workplaces.

Low attrition and participant feedback indicate that students perceived the program to be a beneficial experience. Participants reported a significant and substantial increase in their job-related skill set and knowledge base after participation in the ASEP. Areas in which participants reported the highest degree of improvement were in setting short and long-term career goals, developing interview skills, and interpersonal relations in the workplace. In terms of participants' confidence, it may be that this particular group of students began the program with a fairly high level of confidence.

While participants received intensive training in job seeking (e.g., online search, networking tools, resume writing), the workforce specialists were instrumental in securing jobs for the students by using pre-existing partnerships in the community to assist students in obtaining positions. Three individuals obtained employment at a community agency that was in partnership with the ASEP and provides supports for autistic adults. where there would likely be awareness and sensitivity to the challenges and accommodations involved in supporting an employee with ASD.

For the most part, students required ongoing and frequent support from the workforce specialists. Meetings tended to be short in duration (<30 minutes), with online and phone contact used equally as often as face-to-face interactions. Text-based communication (i.e., email, text-messaging) proved to be a common and efficient tool for connecting that may prove to be an effective strategy to reduce specialist load.

### **Clinical Implications**

Finding employment is an important developmental milestone for many autistic adults, a point that was highlighted by program participants (see Table 5). On an individual level, employment can make one feel valued and can promote healthy emotional development. From a systemic stance, gaining new skills and competencies will likely increase personal and financial independence and reduce reliance on family members and governmental supports.

The results of the ASEP provide a basis for recommendations to practitioners providing vocational support to autistic students. While the program was short compared to those that are implemented over years (e.g., Hillier et al., 2007), financial feasibility and access to resources must be considered for post-secondary or governments that implement these programs. However, there are several key takeaways from this study that will help in the implementation of a program. First, symptom severity associated with autism spectrum conditions was found to be related to self-reported job skills, but not to program outcome variables, which may be due to a lack of statistical power resulting from the small sample size. Nevertheless, participants' self-reports on these measures indicated some unique difficulties that are likely related to the symptoms associated with an autism spectrum condition, including difficulty with emotional

intelligence. Employer feedback also revealed that the participants experienced difficulties in engaging socially with their colleagues. Therefore, social skills training and workplace-specific social etiquette should be a significant component of any vocational intervention tailored to the needs of autistic individuals.

Feedback from stakeholders and community partners emphasized that the exceptional quality of the workforce specialists was a major strength and contributor to the success of the program. Their sensitivity, awareness, and prior experience with the population were critical components in providing the needed vocational support. They were particularly adept in tailoring workshops to participants' needs and requests. Furthermore, flexibility around scheduling and one-on-one meetings allowed for a truly individualized approach that was sensitive to student needs. Instances in which students contacted workforce specialists from their employment settings in order to receive immediate social support and/or job-related advice were not uncommon.

Third, community connections were another critical component in the ASEP, and existing relationships and partnerships were utilized to increase student's likelihood of finding job placements. Searching for employment can be a difficult process fraught with rejection, possibly affecting the emotional and mental wellbeing of the students. While students should be encouraged to develop their independence by trying to find employment through the use of their acquired skills, it is useful to have a "bank" of jobs available, if the students are unsuccessful through their own efforts. Regardless of how jobs are obtained, having a successful work experience will increase individuals' confidence and skills and provide them with references for future employment.

### **Limitations**

The results of this study are limited by the small sample size, short length of the program, and missing data (thus requiring the combination of paid employment and volunteer data). While it may be beneficial to evaluate these placements separately, many of the expectations and responsibilities of paid and volunteer settings overlap. Finally, no control group was included; however, the pre-post program comparisons help obviate the need for a comparison group where an intervention is withheld. In addition, extant literature is replete with information about outcomes for the general labour market where no employment-related training opportunities have been available.

### **Conclusions**

Lack of personalized support for autistic postsecondary students has resulted in competent, skilled, and highly educated individuals consistently failing at reaching personal goals of independent employment. While previous employment programs have been implemented and found effective (Hillier et al., 2007; Seaman & Cannella-Malone, 2016), most employment programs for autistic adults are implemented over a period of years not months, and/or require significant funding (Lawer et al. 2009; Mawhood, & Howlin, 1999; McLaren et al. 2017; Wehman et al. 2016). The current study highlights the potential benefits of a short-term program, the ASEP, which can be cost-effective compared to multi-year programs. The program was developed to support postsecondary autistic students in finding paid summer employment and as



an opportunity to build employment skills in a safe and supported environment. Students reported a significant and substantial increase in their job-related skill set and knowledge base and had generally constructive work experiences during the program. Perhaps the greatest indicator of program success was the overwhelmingly positive feedback of satisfaction that was received from the students themselves.

### **Key Messages from this Article**

**People with Disabilities.** If available in your area, participating in a summer employment program for autistic students can be a wonderful opportunity to hone important skills necessary to obtain and maintain a job. Developing some of these skills can greatly enhance your experience in the workplace.

**Professionals.** Many autistic adults are capable of being employed, volunteering or contributing in some meaningful way. As professionals, we need to be mindful that many essential skills can be taught and learned by people we work with. These skills include job searching, interview skills, and on-the-job communication. In this study, many autistic participants were able to successfully learn these skills and do well in a job environment.

**Policymakers.** All employees need different levels of support and autistic employees are no different. This study reviews a program that provided such support to people who were having difficulty entering the workforce. With this, they were able to have success in the workplace. It is essential that programs that support marginalized groups entering the workforce be supported, promoted, and evaluated for continual improvement.

### **Messages clés de cet article**

**Personnes ayant une incapacité.** S'il est disponible dans votre région, participer à un programme de travail d'été pour étudiants autistes peut être une merveilleuse occasion de perfectionner les compétences importantes nécessaires pour obtenir et conserver un travail. Le développement de certaines de ces compétences peut grandement améliorer votre expérience en milieu de travail.

**Professionnels.** De nombreux adultes autistes sont capables d'être employés, de faire du bénévolat ou de contribuer de manière significative. En tant que professionnels, nous devons garder en tête que de nombreuses compétences essentielles peuvent être enseignées et acquises par les personnes avec lesquelles nous travaillons. Ces compétences incluent la recherche d'emploi, les techniques d'entrevue et la communication sur le lieu de travail. Dans cette étude, plusieurs participants autistes ont réussi à acquérir ces compétences et à réussir dans un environnement de travail.

**Décideurs.** Tous les employés ont besoin de différents niveaux de soutien et les employés autistes ne sont pas différents. Cette étude examine un programme qui offrait un tel soutien aux personnes qui avaient de la difficulté à entrer sur le marché du travail. Grâce à ce programme, ils ont pu réussir sur le lieu de travail. Il est essentiel que les programmes qui

appuient les groupes marginalisés entrant sur le marché du travail soient soutenus, promus et évalués pour une amélioration continue.

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