Work-Related Communication Barriers for Individuals with Autism: A Pilot Qualitative Study

Michelle McKnight-Lizotte

Department of Special Education and Rehabilitation, Emma Eccles Jones College of Education, Utah State University, USA

This study identified situations where communication was a barrier to employment for adults with autism spectrum disorders (ASD). Informant interviewees were six college graduates with ASD who have been employed for one year. Following the qualitative inductive analysis, five communication-related themes emerged: (1) job interviewing success, (2) negotiating co-worker interactions, (3) supervisory interactions, instruction, and feedback, (4) handling customer intercommunication, and (5) communication-oriented coping strategies. Participants were relatively more successful in communication coping strategies and supervisory interaction compared to difficulties with job interviewing and co-worker interactions. Vocational rehabilitation counsellors assisting clients with ASD should prioritize job interview communication skills and social skill education specific to appropriate interactions with co-workers and supervisors utilizing role play, social skill training, and job coaching.

Keywords: Autism, Employment, Social Skills, Communication, Bullying

Introduction

Employment in adulthood is vital as it provides social, financial, and psychological benefits that enable adults to be productive citizens in society who can exist as independently as possible (Wehman et al., 2014). Individuals diagnosed with autism spectrum disorder (ASD) may experience communication challenges, which may impact workforce participation. ASD is a neurodevelopmental disability characterized by impairments in social communication, including difficulties with conversational social reciprocity, inability to interpret non-verbal communication, and non-normative social behaviour (*DSM-5*, American Psychiatric Association (APA), 2013). ASD manifests both with and without comorbid intellectual impairments (Centers for Disease Control and Prevention (CDC), 2018). ASDs are diagnosed in 1 out of 59 children (CDC, 2018). Individuals diagnosed with ASD demonstrate social skill deficits, impairments in non-verbal behaviours such as lack of eye contact, a lack of social reciprocity, difficulty developing and maintaining relationships, and may demonstrate repetitive behaviours (APA, 2013). A significant number of

Address for correspondence: Michelle McKnight-Lizotte, Department of Special Education and Rehabilitation, Emma Eccles Jones College of Education, Utah State University, 2865 Old Main Hill, Logan, UT 84322-2865, USA. E-mail: mcknight.michelle@gmail.com

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individuals with ASD complete post-secondary education and attempt to become employed (Baio, 2014).

Impairment of social competence negatively affects the workforce participation of individuals with ASD (Carter, David, Klin, & Volkmar, 2005; Cimera, Burgess, & Wiley, 2013). Social competence has been defined as the effective use of social skills and behaviours in order to achieve desired goals (Odom, McConnell, & Brown, 2008). Hagner and Cooney (2005) indicated that supervisors frequently reported that communication issues negatively affected the job performance of their employees with ASD. Richards (2012) reported that individuals with ASD might struggle to engage in informal office discussions or projects that involve a team.

Individuals with ASD are unemployed and underemployed at rates that are greater than individuals in any other disability group (Howlin, Moss, Savage, & Rutter, 2013; Roux et al., 2013; Shattuck et al., 2012; Taylor & Selzter, 2011). In Australia, individuals without disabilities have an 83 per cent workforce participation rate, while only 53 per cent of all individuals with disabilities and 42 per cent of individuals with ASD reported with employment (Australian Bureau of Statistics (ABS), 2013, 2014). In comparison, the National Longitudinal Transition Study-2, an American study, found that only 33 per cent of young adults with ASD were employed when compared to 59 per cent of young adults with other disabilities (NLTS2, 2009).

Communication impairment in work settings may be referred to as 'soft skills'; the term soft skills is typically interchangeable with social skills. Social skills have been defined as having a positive attitude (Gilbride, Stenrud, Vandergoot, & Golden, 2003), working effectively with co-workers, and adhering to the unwritten socially normative behaviours expected at the workplace (Tyree, Kendrick, & Black, 2011). Although each individual is unique, individuals with ASD may not be aware of their own social deficits (Bolman, 2008). Addressing the social skill deficits that contribute to poor employment outcomes is necessary, as part of employment readiness training as functional social abilities directly affected the employment success of individuals with ASD.

Individuals with ASD are victimized by bullies at greater rates than peers without ASD (Kloosterman, Kelley, Craig, Parker, & Javier, 2013), likely due to social skill deficits and a lack of a close social network of friends (Schroeder et al., 2014). Van Roekel et al. (2010) reported that individuals with ASD have greater risk of being bullied because of their likelihood to react aggressively and emotionally. In addition, individuals with ASD are less likely to be aware that they are being bullied because of the limited social insight and social awareness innate to the condition. Furthermore, individuals with ASD may have restricted interests that isolate them from their peer group and can therefore lead to further victimization (White et al., 2012).

Research regarding ASD and social skills has focused on early communication interventions with young children, and less on the communication needs of adults with ASD. This is despite the fact that workplace social interaction 'roadblocks' may affect the quality of work life of the individual with ASD (Hurlbutt & Chalmers, 2004; Marriage, Wolverton, & Marriage, 2009). However, having completed post-secondary education may enhance the social communication abilities of people with ASD from greater opportunities to interact with diverse peers, faculty, and staff. A number of post-secondary institutions in the USA now offer

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ASD-specific programming to assist students with ASD obtain academic accommodations and social skill development (e.g. https://www.rcpd.msu.edu/programs/bond or http://www.uidaho.edu/current-students/cdar/raven-scholars). Adults with ASD who earn a college degree have better odds of obtaining competitive employment and earning higher wages when compared to individuals with ASD who complete only high school (Sung, Sanchez, Kuo, Wang, & Leahy, 2015). Ultimately, due to social competence impairments, individuals with ASD experience difficulty obtaining and maintaining employment even after the completion of post-secondary education (Bissonnette, 2013).

This study sought to explore the work-related communication experiences of individuals with ASD and post-secondary education. The following research question was of interest to this study: How do people with ASD with post-secondary education describe the impact of communication and social interaction on their vocational experiences? This study is part of a larger qualitative study broadly exploring the lived experience of employment for adults in the USA with ASD and a college degree (Lizotte, 2016).

Method

Research Design

This study utilized a qualitative, phenomenological approach to explore the lived vocational experiences of adults with ASD as it relates to social interactions. Phenomenological research seeks to identify the essence of the participant's lived experiences (Creswell, 2013; Giorgi, 1994). As this was an exploratory study, phenomenology was appropriate as it allowed for detailed descriptions of the participants' lived experiences for constructing themes to characterize the essential elements of the phenomenon under study (Creswell, 2013; Moustakas, 1994).

Participants and Setting

Participant were six college education individuals with ASD (females = 2, males = 4; age range = 26–37 years). Criteria for study inclusion were as follows: (1) minimum of 18 years of age and the participant must be their own legal guardian, (2) have a ASD diagnosis from an education or health professional (Asperger's Syndrome and 'high-functioning autism' are included), (3) have participated in competitive employment for a minimum of one year (does not have to be a consecutive year), and (4) must be a college graduate (minimum of an associate's degree). The participants ranged from 26 to 37 years old, with 30 years old as the mean age. All study participants identified themselves as white/Caucasian. Two study participants identified as female and the other four participants identified as male on the demographic form. Of the six participants, one had earned an associate's degree, four held bachelor's degrees, and one participant completed a master's degree.

Case descriptions The six study participants self-reported a diagnosis of Asperger Syndrome (AS). Prior to 2013, AS was diagnosed in individuals demonstrating significant and sustained impairments in social functioning as well as restricted behaviours or interests, similar to those with ASD (APA, 1994). Most recently, the *DSM-5* removed the diagnosis of AS entirely (APA, 2013). Individuals who previously would have

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been diagnosed with AS will now likely fall under the umbrella diagnosis of ASD or the new *DSM-5* diagnosis of social pragmatic disorder (APA, 2013). The participants in the current study would fall into these newly described diagnostic categories. This paper identifies participants as 'an individual with ASD', rather than using social pragmatic disorder or AS in order to best align with the current diagnostic terminology in the *DSM-5*.

A description of each participant's level of education, brief vocational history, and a description of the participants' employment setting at the time interview follows. In all cases, pseudonyms are utilized to maintain participant's confidentiality.

Anna – 34, female, bachelor's degree in English. She has worked at many jobs, though none have required a college degree. Her work history is sporadic, both in length of employment and work setting. Anna has been employed full-time in a production job at a warehouse for the past two years.

Brice – 27, male, bachelor's degree in zoology. He previously worked in a four-month temporary data entry position. Brice has been employed part-time in a data entry position for the past five years. While Brice reported enjoying his job, he reported feeling unchallenged by the job and frustrated by the lack of full-time job opportunities he has been offered.

Cassie – 35, female, bachelor's degree in accounting. Cassie started working at the age of 15, as a babysitter, and then at age 16, she obtained a retail job, where she stayed for five years. Cassie left the retail position to obtain employment on a part-time basis as a bank teller. Cassie left the bank teller position to deal with family medical issues. At the time of the interview, she worked in a part-time accounting and marking position for a non-profit organization that helps individuals with disabilities.

Daniel – 37, male, master's degree in computer science. After acquiring his bachelor's degree, Daniel reported he was unable to find work other than as a grocery store bagger, so he decided to attend graduate school. Daniel reported working full-time in a temporary position at a computer software design company that was originally expected to last for about six months; however, he remains employed in this position with no confirmation of an end date.

Evan – 26, male, associate's degree in computer support. Following completion of his schooling, Evan was unemployed and actively job seeking for approximately three years prior to obtaining his current part-time job as a dishwasher.

Finn– 30, male, bachelor's degree in drafting. Finn is currently working full-time at a thrift store where he has been employed for over four years.

Data Collection

Participants completed individual semi-structured interviews where they were asked open-ended questions related to the social experiences in employment settings. The interviews varied in length, with the interview lasting an average of 40 minutes. The interviews were audio recorded and the researcher kept a field note journal throughout the process. Field notes are considered a secondary data storage method and are considered vital to retain the data gathered in a qualitative research (Lofland & Lofland, 1999). The semi-structured interview questions included the following: How would you describe your social experiences/interactions while at work? Can you

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describe your experiences with the job interview process? How can a supervisor best communicate with you? Tell me about your relationships with your co-workers?

Procedure

Michigan State University's Institutional Review board approved the study and participants individually consented to be interviewed. The interviews occurred at locations that were mutually agreeable to the participant and researcher and the sole researcher conducted each of the six interviews. Five of the interviews were held in private conference rooms at libraries local to the participant, while the remaining interview occurred in a private conference room at a non-profit organization familiar to the participant.

Data Analysis

General inductive analysis was utilized to summarize the overall patterns and similarities amongst all the participant interviews in order to describe the commonalities in employment experiences of adults with ASD (Thomas, 2006). The inductive analysis included (1) initial reading and listening to interviews, (2) identifying segments related to research questions, (3) labelling the segments to create themes, (4) eliminating redundancy among themes, and (5) selection of appropriate quotes to convey core essence of a theme (Thomas, 2006). From the meaning units emerged the textual themes of the job interview, co-worker interactions, supervisor interactions, supervisory instruction and feedback, customer intercommunication, and techniques used to improve workplace communication skills.

Results

Five communication themes emerged related to the employment experiences of adults with ASD: (1) job interviewing for success, (2) negotiating co-worker interactions, (3) supervisory interaction, instruction, and feedback, (4) handling customer intercommunication, and (5) communication-oriented coping strategies. These five themes are discussed next with illustrative excerpts.

Theme 1. Job Interviewing for Success.

All six participants in the study described having anxiety and communication stressors that were heightened during the interview process. Such anxieties related to both the verbal and non-verbal components of the interview process. Anna shared her perspective on job interviews as:

> Interviews are hard . . . . I don't know how to find the right words . . . Sometimes they throw questions at me that I don't know how to answer without making myself look bad... I know they are looking for every single flaw, like eye contact, hand position, dress. I just feel like it's being under a microscope. And I don't like that.

Eye contact was an interview barrier described by multiple study participants. Cassie described struggling to maintain eye contact while answering interview questions, 'It's hard to make eye contact, and I knew I had to . . . . It was a little harder if they [interviewer] asked me a harder question and I'd have to make eye contact and answer it at the same time'. She went on to describe that she would stutter more when

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she answered interview questions due to the stress of attempting to make adequate eye contact. Evan also described experiencing difficulties with maintaining eye contact in interview settings, 'I get kind of nervous watching people's eyes. I'd prefer just to look off when answering questions. Some people get a little unnerved by that, but it helps me to concentrate'.

All participants reported the job interview process as a source of major anxiety and a venue in which their communication impairments were especially problematic. This finding is consistent with previous research that describes the common difficulties experienced by individuals with ASD during a job interview (Spirito-Dalgin & Bellini, 2008). Such difficulties are often due to impairments with reciprocal conversation or delayed cognitive processing speed, which impairs the individual's ability to think and respond quickly to interview questions (Richards, 2012). Despite having completed post-secondary education and a desire to work, the social skill deficits displayed at a job interview may hinder their ability to find work (Hendricks, 2010). Both Evan and Cassie described struggling to maintain eye contact in past job interview experiences. Previous studies have found that an impairment in socially normative behaviours can lead to employers generating a potentially negative first impression of the individual with ASD and making assumptions based solely on non-verbal communication (Vogeley, Kirchner, Gawronski, van Elst, & Dziobek, 2013). Thus, improving the job interview performance of individuals with ASD is of critical importance when seeking to address appropriate employment (Wadsworth, Nelson, Rossi, & Hill, 2016).

Theme 2. Negotiating Co-worker Interactions.

In most situations, maintaining employment requires the ability to get along with peers or co-workers. This can be difficult for individuals with ASD due to the socially inappropriate behaviours common to ASD. Co-existing with other employees necessitates both verbal and non-verbal interactions between the employee with ASD and his or her co-workers. Typically, co-worker interactions occur frequently both while working and while on break. Cassie described her struggles to understand the social rules and norms involving social interactions with co-workers. She would become especially perturbed when peers did not follow the employer's explicit policies. Cassie described a scenario that occurred when a co-worker did not adhere to the documented company policy:

> ...in that situation where someone would go outside the policy or break the rule or try and tell me it was different, and I would get very angry . . . . I would feel like tattling when somebody wasn't using the policy... I didn't understand the unwritten social thing where you don't go tattling on your co-workers... It was very stressful to try and know what to say and what not to say and when . . . I would call them [co-workers] out on things I'd be like "you know you're not supposed to do it that way", and they'd be like "mind your own business" ... Sometimes they would refuse to talk to me... One lady would pretend I didn't talk . . . she would ignore me, and I'm not sure why.

Cassie reported that it was more difficult socializing with co-workers who were near her age and easier to communicate with co-workers who were older than she was:

> I was more intimidated with socializing with people of my age. I was used to being at [retail store] and socializing with people that were older, and I learned how to talk to

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> them without being as abrasive. I just was never able to get, to socialize with peers until now.

Cassie detailed that her social interactions with co-workers were not limited to working hours or the worksite. She recalled several social situations in which she found that she was unprepared to socialize with her co-workers outside of the workplace, 'We went to Panera's one morning and I didn't know how to talk, or what they were doing so I just sort of sat there. It was very awkward and I was saying very rude things'. When questioned about the 'rude things' she reported saying, Cassie explained she did not understand the social norms regarding topics like age differences or someone's sexual orientation. Cassie explained, '. . . It wasn't that I didn't like her it was just the differences. I didn't have a filter. That was a huge issue. I was an outsider'. Cassie also reported having a difficult social experience at the holiday work party, 'The holiday party was the worst social interaction I've ever had. I didn't know what to do. I would go from person to person I knew and just stand there; I didn't know how to talk to them [co-workers]'.

Several participants detailed specific negative interactions with co-workers. Anna described an individual who was rude and mean to her at a temporary production type job, 'This one employee took it upon himself to make my life a living hell . . . like if I itched my nose, he'd go stop picking your nose Anna. I scratch my stomach [he'd say] don't scratch yourself there Anna'. Anna also described that the conversation captured below occurred with co-workers at a manufacturing job:

> Another, well, another little odd quirk is that whenever I told someone, whenever I talked to someone and it came out that I liked cats, it, for some reason it would be like a signal to tell them how they kill and abuse cats . . . [they'd tell me about] killing it, running it over, getting killed by dogs.

Finn described co-worker behaviour at his current place of employment, 'Sometimes they [co-workers] just like to, aggravate me just for fun . . . . Sometimes they laugh and it is not funny'. Anna also experienced being laughed at by co-workers, 'People [co-workers] would either laugh at me or yell at me and I'd have no idea why'. Anna described that because of these experiences, she is hypersensitive to this behaviour, 'If I even suspect someone's laughing at me, I go ballistic. I shout, "What is so funny? Are you laughing at me?"'

Individuals with an ASD or AS diagnosis may have advanced vocabularies and knowledge, Daniel demonstrated such characteristics. He spoke in a formal manner during the research interview. He reported that he often discussed his interests at length while ignoring attempts by others to change the conversation topic. Daniel provided an example of a unique verbal interaction that could bring attention to communication differences in an individual with ASD when he explained what it was like carpooling to work with a co-worker, 'I had to explain to [former co-worker], I spent quite of bit of time explaining elementary physics. I had to explain rolling frictions, especially under wet conditions, especially if they were following somebody too close'.

Co-worker interactions were reported to be a communication challenge both while working and when on break or attending after-hours work functions. Richards (2012) found that individuals with ASD often struggle with the everyday social

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interactions common in the workplace. Additionally, two participants described what the researcher perceived as bullying at their workplace. Neither participant used the term 'bullying' explicitly; however, it was apparent to the researcher that the participants had experienced bullying in the workplace. The previous literature examining bullying demonstrates that individuals who react to bullying with strong emotional or behavioural reactions are at risk of increased victimization as these reactions actually encourage the perpetrator of the bullying to continue (Schroeder, Cappadocia, Bebko, Pepler, & Weiss, 2014). Future research should focus on exploring the frequency and impact of individuals with ASD who are bullied by co-workers in employment settings.

Theme 3. Supervisory Interaction, Instruction, and Feedback.

The participants' shared reflections involving supervisory interactions that centred around three sub-categories: (a) *positive* supervisor interactions, (b) *negative* supervisor interactions, and (c) supervisory instruction and feedback.

Positive supervisory interactions

Anna explained what it was like to get a compliment from her supervisor at her current place of employment, 'I didn't even know how well I was doing until the boss himself actually said he wanted to keep me, [that he was] really glad he hired me . . . I practically floated out of the building'. Anna described what characteristics would make someone a good supervisor for her, '. . . .enforces the rules without micromanaging, is willing to give feedback about what I am doing wrong and how to fix it. It's best to take me to the side and discuss what's wrong and how I can improve'. Anna also reported that some of the most important feedback she has ever received from an employer was when she was working for a dog breeder:

> She finally told me what I've been doing wrong. I am very bad at following directions. I forget parts of the directions or I'd forget to do something. Or it would be ambiguous and I didn't know what she was talking about. So she started giving me as much detail as possible.

Cassie reported having a positive relationship with her current supervisors, 'I really enjoy the respect that I get, the communication. People have never talked to me that way before and it's encouraging and makes me want to be a better person'. Brice reported having a positive relationship with his supervisor. He believed that he and his supervisor had an effective working relationship. Brice described his relationship with his supervisor as '[he is] easygoing, supportive . . . [he's] available for me asking for help, and he seems like he'll defend me'.

Evan reported having a productive working relationship with his supervisor:

> He always checks to make sure I'm doing well, and if I need to leave early, like if I have something going on, like an appointment or something, they'll work with me on that. He's a very good guy. Like they want to see everyone succeed . . . They have told me that if I don't feel comfortable in my job to let them know and they'll try to work with me to get me where I feel comfortable in what I am doing.

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Negative supervisor interactions

Several study participants identified interactions with their boss or supervisors that were not beneficial or productive to them as an employee. Daniel described his frustration at the lack of communication he had with his supervisor when he was working part time for a refrigeration company:

> I mostly interacted with my immediate supervisor, but he didn't always answer my emails . . . my biggest problem with that job was communication, trying to figure out, okay, what am I supposed to do here? I ended up several days with nothing to do, because I couldn't get my boss to explain to me what I needed to do with something, and he was busy with every other project. Part of the problem was that I really needed to know what to do, and every time I tried communicating with my boss, he wouldn't answer.

After being terminated from the position he described above, Daniel reported he reacted defensively when his new supervisor would interact with him due to his previous negative interactions, 'My supervisor was all confused why I kept flinching whenever he came into my office. Eventually I had to explain I usually only talked to my previous supervisor whenever I was in trouble'.

Cassie reported that her supervisor at her retail sales position provided a poor example of appropriate communication, 'My boss and I did not get along. I thought she was rude. She would just say rude things to me, things you don't say to people. So she wasn't a good role model for learning social skills'.

Supervisory instruction and feedback

Anna explained the necessity of detailed employer instructions regarding her work tasks and expectations, 'I don't know if this is just me, or it's true for everyone like me, but I need detail. I need to know exactly what's what. Like directions, like my schedule. Otherwise, I'll start making stuff up'. Participants were asked how a supervisor could best assist them in learning a new job duty or task. Anna explained she needs the new instructions to be in writing rather than verbal when adjusting to a new work function, 'The instructions should probably be in writing if there's a lot of them. Written instructions with as much detail as possible are better. Verbally it gets a little garbled on the way in'. Beyond written instructions, some participants preferred their supervisor to physically model the desired task. Evan explained that he learned new tasks most effectively when he was provided examples:

> Lead by example, if they [employer] are teaching me how to prep food, for example, I like having one of the chefs come over and take whatever dish I'm supposed to be prepping. Have [the chef] take like a sample of it and prep it to show me how it's done. I do well with examples like that.

Multiple participants described desiring continual job performance feedback rather than waiting for an evaluation cycle. Daniel explained that his preference was to receive ongoing supervisory feedback and evaluation, 'Usually, they [the employer] discover that with me, they need [to provide] more continuous feedback rather than one review a year'. Anna also agreed that she would prefer timely feedback, '[a good supervisor] would let me know as soon as there was a problem, not let it build, let it build'. The lack of feedback has the potential to impact job performance; Daniel

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described an instance in which he felt that a lack of employer feedback resulted in him receiving poor annual reviews:

> Unfortunately, most of my annual reviews ended up him discussing how unreliable I was because I couldn't get anything done. I tried very hard to explain but it ended up sounding like I was making excuses. He complained about my unreliability, and I didn't want to tell him that part of the problem was the lack of feedback I was getting.

Theme 4. Handling Customer Intercommunication.

Individuals with ASD may find interactions with customers challenging due to the communication and social skill deficits innate to the condition. Most employment opportunities available necessitate intercommunication with customers and likewise, prioritize rapport with the customer and provide high-quality customer service through interpersonal communication. Daniel explained that after he completed his bachelor's degree in computer science, the only position he was able to obtain was that of a bagger at a local grocery store. He reported losing this job quickly due to his inability to communicate appropriately with customers:

> I was a bagger, and unfortunately, I, the problem is, I was good at bagging, but I had a problem with customers. I am not good at dealing with strange people . . . . The only thing I remember distinctly is yelling at a couple of customers when they were, I was trying to clean up something that was broken, and some customers started laughing at me, I started yelling at them.

Daniel also provided an example of a challenging client interaction in his current computer programming position when the client kept repeating the problem but did not provide Daniel with the information he needed to fix it, '[the client was] basically just repeating what his problem was. I finally got annoyed and snapped at him. I got in trouble for that'. Finn also described struggling with customer intercommunication at his retail job. When he initially started this job, one of his job tasks was to bring new products from the stock room out to the sales floor in a tote. Company policy did not permit customers to take items directly from the tote, rather, they needed to wait until a store employee removed them from the tote and placed them on the appropriate store shelf. Finn described his experience:

> I'm more comfortable in production because I didn't like customers to chase me down. You're supposed to talk to them [customers] if they needed help or if they were, like want to see what was in the totes, but they weren't allowed to touch them until they were on the shelves or wherever they belonged . . . It was sometimes a little difficult, occasionally a customer would be frantic. Once a customer was frantic about wanting to grab an item from the tote and they are not allowed to do that because we must first put it on the shelves or where it belongs first... [Finn got upset with the customer] and then I was written up for being negligent.

Intercommunication with customers proved to be a difficulty for the participants in the study. Finn described his struggle to communicate effectively with customers about existing employer policies. Daniel also described his inability to communicate well with a customer who was frustrated. Both of these examples are likely caused by the participant's difficulty with empathic communication, which is a known challenge for individuals with ASD (Baron-Cohen & Wheelwright, 2004). The use of scripting,

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role playing, and also having a social skills mentor could prove beneficial to assisting an employee with ASD in improving their social skills interacting with customers.

Theme 5. Communication-Oriented Coping Strategies.

Participants noted the communication interventions or social strategies that assisted their social skill development as it is related to employment. Cassie explained a solution she utilized to ease her interview anxiety was scripting, 'I would have things memorized and scripted before I would go in, like, what is your greatest accomplishment, what do you regret, things like that, and I would have all of that memorized'. Cassie also described the job training videos and role-playing that were helpful for improving her social skills and better understanding her employer's expectations when she worked at a bank:

> There were some videos that they would show us. You know, we are learning the value of knowing the customer's name. And he would, we would watch the videos and learn what they wanted us to do and how they wanted us to sell, and scripted interactions . . . . Sometimes my boss, I would ask him . . . how do you do that, because he was so good at selling. I'm like, how do you get them to tell you if they have money at another bank, and he would role play it.

One tool that Daniel reported finding advantageous to his communication in his current position is a computer chat programme the company utilizes that allows interactions between co-workers without leaving their computer, 'We [employees] usually use chat programs to interact. It helps immensely. You do not have to leave the cubicle. I get a little uncomfortable when somebody walks into my cubicle. I find it easier to communicate that way'.

Discussion

This study explored the communication difficulties related to employment experienced by six college graduates with ASD. Overall, interviewees described challenges related to social competence specifically related to the job interview process, and communication with co-workers, supervisors, and customers. Roux et al. (2013) noted that youth with ASD greater conversational abilities demonstrated a greater likelihood of employment. However, this is one of the only research studies exploring the relationship between social skills and employment for individuals with ASD. The findings of this study suggest the communication barriers experienced by individuals with ASD in employment situations spanning the entire vocational process.

The job interview process proved to be a significant challenge for all study participants. Morgan et al. (2014) found that the verbal and non-verbal social communication deficits unique to individuals with ASD were likely to interfere with the conversation flow and reciprocity with an interviewer. If unable to communicate effectively in a job interview, it is unlikely an individual with ASD will be offered employment. Thus, interview-related social skill development is a critical need for individuals with ASD to improve competitive employment opportunities and outcomes (Smith et al., 2014).

All interviewees noted interpersonal communication difficulties with co-workers, supervisors, and customers. This finding is reflected in the literature by other qualitative studies exploring employment experiences of adults with ASD (Hurlbutt &

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Chalmers, 2004; Muller, Schuler, Burton, & Yates, 2003). Notably, absent from the responses was any mention of participants disclosing their ASD diagnosis to their employer or co-workers. Disclosure may have provided a better understanding of the individual's social skill differences to peers and supervisors.

Participants relayed various ways they have learned to accommodate their social skill deficits in the workplace setting. Strategies noted by participants such as scripting, role playing, and alternative communication methods proved beneficial. However, both having the self-awareness to recognize a social skill error as well as the self-efficacy to seek a way to remediate the error are atypical for this population (Bolman, 2008). Future research should focus on effective vocational-related social skill interventions for adults with ASD.

Implications for Training and Practice Identifying the barriers faced by participants in employment settings is essential information for rehabilitation counsellors to understand as they interact with this population. An important finding of this study is that regardless of educational attainment level, adults with ASD are encountering communication barriers in their employment experiences. Additional social skills training may be necessary for rehabilitation counsellors to develop competency in addressing the unique communication barriers experienced by this population. A vocational rehabilitation counsellor may choose to appoint a job coach to act as a social coach on the job site in order to mitigate communication misunderstandings and to highlight the employer's social expectations to the client.

All six participants reported experiencing significant interview anxiety that they felt affected their interview performance and experience. It is imperative for rehabilitation counsellors to prepare this population for the job interview experience. Effective job interview preparation can include mock interviews, scripting potential interview answers, and practicing appropriate social skills expected in a job interview setting (Morgan, Leatzow, Clark, & Siller, 2014). The study data suggest additional communication with supervisors/employers of adults with ASD regarding preferred feedback and interaction styles that would be beneficial to the employee with ASD. Individuals with ASD may not recognize harassing communication to be bullying and inappropriate behaviour for the workplace. A rehabilitation counsellor may have to identify this behaviour for the client and discuss strategies for the individual to confront it either with the co-worker or by bringing the bullying to the attention of the employer.

Limitations and Future Research

While appropriate for phenomenological research, the small sample size in the study does not produce generalizable data that would be representative of the entire population of adults with ASD and a college degree. Future research should include large samples to address co-worker and employer interventions and communication in relation to the work participation of employees with ASD.

Conclusion

Regardless of the level of educational success, individuals with ASD experience communication difficulties specific to vocational settings. The job interview process was

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described as a primary communication barrier to employment success with participants describing struggling to engage in reciprocal conversation while processing the questions and containing their anxiety. Interviewees preferred their employers provide them with written detailed instructions and immediate feedback to be most successful on the job. The findings provide important preliminary information regarding the employment-related communication needs and barriers of adults with ASD without a co-occurring intellectual disability. In addition to detailed descriptions of experiences, the analysis generated realizations that may have applications to service delivery. The results of this study demonstrate the critical role communication has in employment success and illustrate several of the specific social barriers experienced by adults with ASD in the workplace.

Ethical Standards

The authors assert that all procedures contributing to this work comply with the ethical standards of the relevant national and institutional committees on human experimentation and with the Helsinki Declaration of 1975, as revised in 2008.

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