

**Salient employability skills for youth with intellectual and developmental disabilities in  
Singapore: The perspectives of job developers.**

### Abstract

**Objective:** In order to increase employment opportunities for individuals with intellectual and developmental disabilities (IDDs), professionals are tasked with designing and implementing job training services to youth preparing to enter the job market. Having a better understanding of desirable employability skills aids in allowing professionals to develop programs that will target the needs of those who make decisions relating to human resources.

**Methods:** This study features a qualitative research design to identify employability skills that individuals with IDD in Singapore should possess to be successful in the workplace. Job developers were interviewed to identify and explore desirable employability skills.

**Results:** Results from interviews suggest that soft skills, such as *attitude, dependability, stamina, flexibility,* and *communication* are valued over skills that are more job-specific technical skills.

**Conclusion:** These findings highlight the importance including instruction in these skill areas when training youth with IDD to find and maintain employment.

**Keywords:** intellectual disability, developmental disability, employment, job training, Singapore, employability, interview, qualitative

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The opportunity to work is often taken for granted. Employment provides opportunities for individuals to find personal fulfillment, bestow a public and individual identity, and give structure in day-to-day life (Brown & Lent, 2013). Yet many people with disabilities are not afforded this opportunity to contribute to society through work. A study conducted by the Organization for Economic Cooperation and Development (2010) suggests a difference of more than 30 percentage points between the employment of working-age people with and without disabilities worldwide.

In many countries around the world, schools are tasked with providing training for youth with disabilities to be successful in the workplace. In Singapore, special education schools have developed training programs designed to dramatically increase the extent to which citizens with intellectual and developmental disabilities (IDDs) are employed in integrated settings (Singapore Ministry of Social and Family Development, 2012). In order to provide the most informed curricula within these training programs, it is important to understand which skills are most valued in the workplace. Supporting the development of these desired skills is vital in order to prepare students for sustained, long-term, integrated employment.

As such, this study features qualitative interviews with Singaporean job developers to answer the following question: What are the salient employability skills necessary for youth with IDDs to be successful in the workplace? Having a better understanding of these skills will provide guidance to professionals developing work-training programs for youth with IDDs in Singapore and beyond.

## **Literature Review**

When discussing employability skills, it is necessary to define certain terms that are often present in this conversation. For this paper, *soft skills* are operationally defined using Moss and Tilly's (1996) description as 'skills, abilities, and traits that pertain to personality, attitude, and behavior rather than to formal or technical knowledge' (p. 253). However, some argue that many of these are, in fact, personal attributes rather than skills and also may reflect an individual's cultural competency (Zamudio & Lichter, 2008). The decision was made to use the Moss and Tilly definition because many of these attributes are directly taught to students with disabilities while they are in school (Test et al., 2009). In contrast, terms *hard skills* and *technical skills* are used in this paper to describe academic skills or those skills that are specific to a job. Robles (2012) describe these skills as 'achievements that are included on a résumé, such as education, work experience, knowledge, and level of expertise' (p. 457)

### ***Skills valued by employers***

While technical skills are important for employees, research exploring the traits valued by employers suggests that both soft and hard skills have been identified as necessary for employees. Casner-Lotto and Barrington (2006) provided employers a list of both soft skills and technical skills and asked them to identify what skills are needed for high school graduates. Reading comprehension was the only academic or technical skill rated in the top five by prospective employers.

The value that employers put on soft skills has not changed since the Casner-Lotto and Barrington 2006 study. In their Job Outlook 2015, the National Association of Colleges and Employers (2014) indicated skills valued by their members. The top four skills identified by

employers were all soft skills and include (in order): *ability to work as a team, decision making and problem solving; verbal communication; and plan, organize and prioritize work*. While these were the four highest rated skills on the list, the next five most valued skills happen to be hard skills. These include: *work planning and organization; acquire and process information; quantitative data analysis; job-specific technical knowledge; computer skills, and produce and edit written reports*.

Lindsay et al. (2014) interviewed employers and employment counselors and found that respondents value skills that are not specific to a job. These professionals described the ideal job candidate as one who is well-prepared for the interview, has a positive attitude, and exhibits strong communication skills. Respondents generally emphasized the value of soft skills and explained that while previous work experience is valued, it is not always necessary for entry-level positions. For those without a proven record of work experience, exhibiting strong soft skills are especially important because they can predict a successful job candidate.

Recognizing the importance of soft skills, Robles (2012) surveyed business executives to identify which of these are most valued by employers when considering perspective employees. The ten most frequently identified soft skills include: ‘integrity, communication, courtesy, responsibility, social skills, positive attitude, professionalism, flexibility, teamwork, and work ethic’ (p. 453).

Individuals with disabilities entering the workforce may be viewed differently than their neurotypical peers by prospective employers. While many of the hard and soft skills will remain consistent for individuals with and without disabilities, it is also important that employment preparation curricula take into account the unique needs and training that can be required for certain individuals with special needs.

Ju, Zhang, and Pacha (2012) sought to identify skills valued by employers when considering employing individuals *with* and *without* disabilities. Results suggest that there is little difference in the skills employers seek in employees, regardless of their disability status. For each group, the top four most frequently identified employability skills were all soft skills, including: *integrity/honesty*, *ability to follow directions*, *respectful towards others*, and *dependability*. The fifth most frequently identified skill for individuals *with* disabilities was the *ability to show high regard for safety procedures*, while for those without disabilities was the *ability to read with understanding*.

Agran, Hughes, Thoma, and Scott (2016) surveyed personnel involved with providing transition services to youth with disabilities to explore social skills valued by employers. Respondents identified the following specific skills as being most important: ‘seeking clarification for unclear instructions, refrains from inappropriately touching others, carrying out immediate instructions, notifying supervisor when needed, and arriving at work on time’ (p. 6). While it was less of a concern for employees without disabilities, employers noted concern regarding safety skills for employees with disabilities (Ju et al., 2012), which were echoed by Ju et al. (2014).

When compared to individuals with other disabilities, employers may have less favorable views of hiring employees with IDD (Ju, Roberts, & Zhang, 2013). Employers who have had experiences with individuals with IDD may be more open to hiring again (Morgan & Alexander, 2005; Unger, 2002), which is perhaps a result of challenging stereotypes employers may hold about this population (Luecking, 2011). Employment opportunities may also be impacted the extent to which an individual with an IDD possesses skills or traits valued by

employers, including workplace safety, productivity, dependability, and the ability to behave in an appropriate manner (Ellenkamp, Brouwers, Embregts, Joosen, & van Weeghel, 2016).

The employability of an individual, regardless of his or her ability or disability, is ultimately determined by the employer. While this may be the case, employers also have the responsibility to establish a workplace environment that can accommodate all employees (Zapella, 2015). When tasks are delegated based on the strengths of the employee, “the employer is compared to a tailor, who must create a bespoke suit for his employees” (Zapella, 2015, p. 7).

### *The Singapore context*

Singapore is a country with few natural resources. The country relies heavily on training and institutional support to develop and nurture a well-educated and developed society (Gopinathan, 2012; Lim & Nam, 2000). Singapore annually sits among the top performers in global assessments (Learning Curve, 2014) and the country’s career and vocational training programs are lauded for their ability to develop a well-trained and highly employable workforce (Cavanagh, 2009). A strong vocational education for Singaporeans, coupled with an increased awareness and promotion of an inclusive Singaporean society (Lim, Thaver, & Slee, 2008; Lee, 2004) would allowed Singaporeans to place more emphasis on vocational education for those with disabilities.

Although there is institutional support for individuals with disabilities in Singapore, often, cultural influences can pose as supports or barriers. For example, Singaporeans from a Chinese background, which are the majority in the country, come from a more collectivist society in which extended family and social circles are a key part of their everyday lives. With this in mind, research has shown that Chinese families that have a child with a disability may impose stress and could negatively reflect on these extended relationships with family members

and friends (Ow & Katz, 1999; Mak & Ho, 2007). Others state that a more contemporary society recognizes that people with disabilities have the right to have a quality, independent and productive life (Xu, Wang, Xiang, & Hu, 2005), including attitudes towards marriage (Chen, 2002).

While Singapore's 2012-2016 Enabling Masterplan is designed to support individuals with disabilities and promote an inclusive society (Singapore Ministry of Social and Family Development, 2012), employment rates for individuals with disabilities are not well-documented or reported (Manup, 2012). Due to increased attention to post-school job training, there is evidence to suggest that the percentage of graduates with disabilities finding employment is increasing (Singapore Ministry of Social and Family Development, 2012). However, the types of jobs received, whether it is full-time or part-time work, compensation, and the conditions of employment are not reported.

Singapore's political and structural emphasis on economics and job development led to a dual educational system in which students attend either mainstream schools or special schools (Lim & Nam, 2000; Poon, Musti-Rao, & Wettasinghe, 2013; Walker, 2016). Mainstream schools are designed for typically developing students while special schools are designed for those with Special Educational Needs (SEN). Special schools have traditionally been managed by Voluntary Welfare Organizations (VWOs). Mainstream schools are funded completely by the Ministry of Education (MOE) while the 20 special schools receive funding from the managing VWO, the MOE, and the Ministry of Community Development, Youth, and Sports (Poon et al., 2013). These schools do not have to follow a curriculum and are not held to any academic or assessment standards. Individuals who attend special schools have a variety of disabilities ranging from mild to moderate and are focused on life skills (Poon et al., 2013).



While these characteristics highlight many of the differences between the Western Countries' and Singapore's educational systems, many of the traits and skills valued by employers between the two countries are similar. Sung, Ng, Loke, and Ramos (2013) surveyed employers to identify the extent to which nine employability skills were valued by Singaporean employers across multiple industries. Results indicate that the three skills most valued by employers include: teamwork, problem solving abilities, and planning skills. Academic skills identified by employers including literacy skills (ranked fifth in the survey) and numeracy skills (ranked ninth in the survey) were ranked below the soft skills.

### **Method**

In order to identify and explore salient employability skills for youth with IDD in Singapore, a qualitative study featuring interviews was conducted.

### ***Design***

While other studies have explored similar topics using quantitative methods (Agran, et al., 2016; Casner-Lotto & Barrington, 2006; Ju et al., 2012), an exploratory qualitative approach was chosen to encourage comprehensive and open participant responses. The research design allowed participants to share their thoughts and reflect on the research question without being influenced by pre-determined ideas. Additionally, as this research question has not been previously explored in Singapore, it was especially important to allow participants to respond freely to capture any cultural nuances. Approval was received from the Institutional Review Board (IRB) at the researcher's home institution in the U.S. prior to data collection.

### ***Participants***

Interviewees who had knowledge of the disability and employment landscape in Singapore were found with the support of the country's Ministry of Education. Purposeful

sampling (Creswell, 2014) was used to identify participants who had knowledge of the research question. Twelve participants shared their personal views on multiple topics involving the employment of youth with IDD in Singapore. In addition to the aforementioned research question, specific interview covered topics included: (a) identifying disability-friendly industries, (b) strategies and challenges associated with facilitating student work experiences, (c) building relationships with employers, (d) potential challenges faced by students in the workplace, and (e) the impact on co-workers and customers. While interviewees had a variety of job titles (e.g., Job Developer, Job Coach, Job Placement Officer), each supported with youth with IDD in a community-based job placement. As such, each participant has intimate knowledge of the skills necessary for students with IDDs to be successful in the workplace. For the purposes of this paper, interviewees will collectively be referred to as job developers. Table 1 provides information about each of the participants.

Specifically, 10 of the 12 job developers that participated in this study were employed by four different special education schools in Singapore. While each of the four schools specializes in teaching students with intellectual disabilities, they also serve a small population of students with autism spectrum disorder. The final two job developers were employed by a government agency tasked with supporting job training for citizens with any disability. Job developers had been working in their respective positions ranging from three months to five years, with the majority having been employed for two to three years.

### ***Data collection procedures***

Participants were interviewed to explore their perspectives and experiences regarding a range of topics, all of which involved supporting youth with IDDs involved in community-based work experiences. While eight of the participants were interviewed individually, four were

interviewed with a colleague from the same institution (two groups of two) due to logistical needs. The interviewer was an American researcher who has expertise and experience in the field of special education and job development. The interviews were semi-structured, utilizing a pre-determined protocol with the flexibility to deviate organically as the conversation progressed (Lodico et al., 2010). In order to gain their views on this particular research question, each participant was specifically asked ‘what skills or traits in workers do you think businesses value?’ All interviews were conducted in English and each interviewee identified himself or herself as a proficient English speaker. Interviews were audio recorded and transcribed verbatim.

### ***Data analysis***

Transcribed data related to the research question were collected and entered into tables within a Microsoft Word document for analysis. Descriptive coding methods, outlined by Saldaña (2013), were utilized to explore themes within the data. Saldaña's approach involves using short words or phrases to summarize the content of a passage. Passages were then organized into groups of the same code, which were then reviewed to explore themes. The contents of each theme were then reviewed to ensure the quotations from the interviews had been properly coded. In order to increase credibility of the findings, this study features *investigator triangulation* (Brantlinger et al., 2005). Data were coded individually by two researchers and then reviewed collectively to support the results of the qualitative study.

### **Results**

Employees from four special education schools and one government agency who support youth with IDD in community-based work experiences were interviewed to identify and explore desirable employability skills. Table 1 provides information describing each participant and the

codes associated with his or her responses in the interview, while Figure 1 provides a visual representation of the themes and sub-themes.

[Table 1 near here]

After initial coding of the data, codes were grouped in to two major themes: soft skills and technical skills (hard skills) by using the Moss and Tilly (1996) definition of *soft skills* as being the characteristics or abilities unrelated to formal or technical skills.

[Figure 1 near here]

### *Soft skills*

All but one job developer spoke to some extent about the desire of businesses to hire individuals who demonstrate strong soft skills. The larger theme of *soft skills* was further organized into sub-themes, including: *attitude, dependability, stamina, flexibility, and communication*. Each of these sub-themes are described below.

#### *Attitude*

The importance of at least one soft skill was discussed by all but one job developer. One participant explained that technical skills can be learned on the job site, while ‘soft skills determine the success factor of the students.’ The most frequently discussed soft skill involved *attitude*, which was included in responses for nine interviewees. While most of these interviewees used the word *attitude* directly in their responses, other participants discussed the need for individuals to be positive and maintain a pleasant demeanor. More specifically, interviewees mentioned that perspective employees should exhibit the following traits: willingness to learn, good working conduct, positive self-image, and initiative. Interviewees explained that people with positive attitude may have more opportunities and may be more successful in their training placement.

Noting that while some job positions do have specific qualifications of employees, one job developer explained, ‘the basic requirement that the employers do require, is the work attitude.’ This was echoed by another interviewee who explained, ‘skills can always be picked up, but the correct attitude will help success.’ Job developers note that employers may be looking for individuals who have the ability to externalize or present a positive attitude, which may be more important in certain fields. One interviewee explained, ‘Many [students] are working in hospitality, so many times it is the personality, they must be pleasant and cheerful, and also they are looking into students who like to smile.’

### *Dependability*

Nearly as many job developers described skills and traits related to *dependability* as being highly-valued by employers ( $n=6$ ). Comments made by job developers relating to attendance, punctuality, reliability, and loyalty were coded to be included within the theme of *dependability*. One of the more notable quotes came from a job developer who explained that individuals with disabilities may show their value to employers by being dependable in the work place. He explained, ‘I am a firm believer in attendance and punctuality. Taking our students into account that they may be slower, some of them, and less productivity, but what makes them stand out is that they are reliable.’

### *Stamina*

While it is less of a behavior or trait, four job developers explained that employers value an employee with *stamina*. The theme *stamina* includes quotations involving endurance or the ability to work for the amount of time expected by an employer. Participants noted that employers in Singapore desire employees who have the endurance to work a full eight- or nine-hour shift, six days per week. One job developer noted that the inability of a person to work an

entire shift may be detrimental to an individual competing against someone without a disability for the same job. This interviewee elaborated on this by explaining that this may be especially important in Singapore where foreign workers may be interested in the same kinds of entry-level jobs. She said, '[Foreign workers] can actually work like three shifts or two shifts and our [students] are not able to do that. So this is the main competition which they have. Our students are competing with them for the same position.'

### *Communication*

Three job developers discussed *communication* directly in their quotes. The theme includes quotations that relate to communication skills, both with their employer and the customers. One job developer explained that employers want employees who can communicate their basic needs. For example, she described the need for students to be able to inform the employer when they are not able to attend work. She explained, 'For whether valid reason or not, they will tend to avoid the issue and not call in. So, we have been teaching [this practice].' Another interviewee described the need for many students working in hospitality or food and beverage to 'learn how to actually interact with guests appropriately'.

### *Flexibility*

While only two job developers discussed items related to *flexibility*, they were very detailed in their rationale for including this as something valued by employers. The theme *flexibility* includes quotations that pertain to a student's ability to adapt or complete tasks outside of a regular routine.

One job developer explained that students at job sites face the reality of performing many tasks within one job. While training at school, students may have only learned to complete one or two tasks, but employers will want them to be able to do many more. This interviewee explained

‘At school attachment, we are always teaching our clients maybe just one specific tasks of the job. But, as they go into open employment, it’s not just one task. They need to learn how to multitask.’ Another job developer said, ‘A lot of our clients are very used to routine work, but there may be jobs that require them to do very ad hoc things.’ Both explained that employers value an employee who can perform a wide variety of tasks on the job site.

### ***Technical Skills***

While the desire for employees with soft skills was more present in the data, four of the job developers also discussed the importance of hard or technical skills. Most of the comments included in these themes were broad statements about the value of these skills. Job developers made statements such as: ‘they must have the basic requirements for the job’, ‘[students need to have] an understanding of their work,’ and ‘they must have the hard skills, whatever is needed for the job’. One job developer explained that in order to be successful in certain jobs, students will need to have already learned some of the job tasks. One example he provided involved hospitality, which he explained requires ‘a certain set of prerequisite skills. For example, the client must already know how to really mop. How to do vacuum cleaning, how to do the wiping of the windows. So it seems like it is a very simple job, but there are many, many areas that our client needs to be trained in.’

### ***Skill certificates***

A sub-theme featuring quotations about government-issued training certificates was identified under in the *technical skills* theme. Singapore offers specialized certificates for any individual, *with* or *without* a disability, who completes the requisite training.

One job developer discussed these training certificates that are awarded to Singaporeans and how there are viewed by potential employers. She explained that some industries require

employees to obtain these certificates, such as in the food and beverage industry where, ‘in order for you to be a food server, you must have a basic food hygiene cert.’ However, in other cases, ‘it may not necessarily be required for all jobs. Certain entry-level jobs may not require you to have the cert yet, so if the students have it, it is really great’. This interviewee mentioned a safety training certificate, which she explained as being viewed as desirable by many employers.

### **Discussion**

This study used qualitative methods to identify and explore coveted employability skills for individuals with IDD in Singapore. Interviews were conducted with Singaporean job developers who act as a liaison between special education schools and businesses to support students engaged in work experiences. A portion of the interview protocol was designed to gain a better understanding of the skills youth with disabilities should be learning in school to increase their employability. Being aware of these skills should help guide instruction for youth with IDD enrolled in training programs to prepare for success in the workplace.

The identification of soft skills was quite common in the interviews, with all but one individual describing at least one soft skill in their response. This emphasis on those skills that are not specific to jobs or academics is similar to results from previous studies in this area (e.g., Casner-Lotto, & Barrington, 2006; Ju et al., 2012; Ju et al., 2014; Lindsay et al., 2014). While some of these may be considered *traits* rather than *skills*, this study includes these as soft skills because many students with disabilities need to learn these through classroom or community-based instruction (Test et al., 2009).

Soft skills can be defined as behaviors such as eye contact, smiling, or taking turns that improve social interactions or, at a minimum, decrease the likelihood of a negative interaction (Jacobson, Mulick, & Rojahn, 2007; Lecavalier & Butter, 2010). Ju et al. (2012) write that



employers ‘valued personal attributes and nonspecific job skills over technical skills... prevocational and vocational training curricula should emphasize positive work attitudes, habits, and social skills’ (p. 36). There is substantial evidence, communicated over time, that social skills and social competence are considered the primary barriers to gaining and maintaining employment for individuals with disabilities (Author, Under Review). However, despite the evidence, employment training often focuses more on hard skills over soft skills. A speech by Gan Kim Yong, Singaporean Minister for Education and Manpower, in 2006 included the following statement:

*The ESS [Employability Skills System] is a rigorous and developed platform to help our workers upgrade their skills to stay employable or get better paying jobs. . . . The ESS comprises ten employability skills, ranging from numeracy, literacy and infocomm technologies, to teamwork and personal effectiveness. These are generic skills applicable across all industries. Our workers would have developed some of these skills during their formal schooling, but we need to make a conscious effort to teach, reinforce and enhance these skills amongst adult workers too. (Singapore Workforce Development Agency, 2006).*

When examining the curriculum of the ESS, it becomes evident that only eight of the forty courses offered in ESS (20%) focus on soft skills. This focus on academic skills is also the standard in many schools. While the soft skills-based *Character and Citizenship Education* is the foundation of the SPED curriculum in Singapore (Singapore Ministry of Education, 2015), there is no set curriculum offered in special schools in Singapore and, as such, it is difficult to report the percentage of time dedicated to soft

skills. Based on the results from the study conducted by Sung et al. (2013) and the results of this study, it is evident that these skills are valued highly in the Singaporean workplace.

Curricula that include soft skills instruction may have additional benefits, particularly for students with ASD. For example, vocational training programs that feature instruction in soft skills may reduce depression and anxiety for students with ASD (Hillier, Fish, Siegel, & Beversdorf, 2011). The development of soft skills, in particular communication skills, may help students develop better relationships with others, including friends and neighbors. While these relationship may increase opportunities for social engagement, they may also in turn increase the potential for positive employment outcomes (Holwerda, van der Klink, de Boer, Groothoff, & Brouwer, 2013).

The two most common soft skills described by interviewees related to *attitude* and *dependability*. Other soft-skill related skills and traits identified by interviewees included: stamina, flexibility, honesty, maturity, and communication. The value of teaching these skills to individuals with disabilities is supported by Rowe et al. (2015), who include the instruction and measurement of soft skills as key components of *Vocational Education*. Practitioners must continue to link program components that support work training with additional programs to develop other work-related skills (Cobb, Lipscomb, Wolgemuth, & Schulte, 2013). As many entry-level positions require employees to complete a variety of tasks, practitioners must teach students to be flexible with their work habits. Also, providing multiple work experiences, and as such, a variety of opportunities for skill development, may contribute to positive post-school employment outcomes (Lindstrom, Doren, & Miesch, 2011).

One-third of interviewees did include responses that involve hard skills or technical skills. As many entry-level job skills can be taught outside of the community-based setting, practitioners should be teaching these basic pre-vocational skills at a young age to prepare youth for the workplace. Interviewees noted that while specific job skills or certificates may increase the likelihood of employment, they are not required by many employers. However, as Robles (2008) noted, it is important for practitioners to remember that ‘hard skills alone may be meaningless without soft skills’ (p. 460).

In addition to the formal education and programming for hard and soft skills, it may also be important to engage in family education in Singapore. Due to the protective inclinations that many people feel towards family members with disabilities, these individuals are often not given a chance to reach their potential and contribute to society. Government support of programs that raise awareness about the successes of those with disabilities may be helpful for future students in schools and for advocates trying to provide more systematic solutions to underemployment.

### ***Implications***

Job developers in Singapore and beyond may use information gleaned in this study to guide programs designed to train individuals with IDD to be successful in the workplace. For example, when developing the scope and sequence of their curriculum, practitioners may consider embedding opportunities for students to earn government-issued (or other) certificates. These certificates will augment a student’s resume and provide an employer assurance that the potential employee has competence with set of specific skills

While job placements may involve the development of job-specific skills, curricula and community-based work experiences should also feature opportunities for youth to develop soft skills. Specifically, curricula should include opportunities for students to develop skills and

personal attributes involving: attitude, dependability, stamina, communication, and flexibility. Brown and Kessler (2014) describe an eight-step process to develop inclusive worksites to promote job opportunities for individuals with IDD. This process includes a recommendation that job developers ‘provide authentic assessment and instruction’ (Brown & Kessler, p. 94) to identify areas of need for potential employees with IDDs. The skill areas identified in this study can provide job developers with guidance when considering the types of assessments and instruction will be used to promote positive employment outcomes for students with IDDs.

When it is established that a student has needs in these areas, practitioners may consider using strategies such as simulated interviews (Walker, Wienke, & Vasquez, 2016)... video modeling (Shukla-Mehta, Miller, & Callahan, 2010) and other technologies (Otero, Schatz, Merrill, & Bellini, (2015) Understanding instructional practices and innovative technologies that can help learners is essential for practitioners. It is also important, when possible, for practitioners to teach students how to use the tools themselves as job developers may not have the time or resources to learn evidence-based practices for increasing employability skills (Graham et al., 2013). As such, government and other supporting agencies should consider providing training (e.g., workshops, online modules) in evidence-based practices to support job developers to help individuals with IDDs develop these soft and hard skills (Graham et al, 2013).

### ***Limitations***

Readers are cautioned to consider limitations to this study. Due to the inherent nature of qualitative interview-based research, these results represent the perspectives of these individuals. The results of this study could be strengthened by including the perspectives of the employers, who ultimately decide if an individual had the skills to maintain employment. The views of the school-based job developers are valuable as they are the direct link to employers and can best

represent what is valued in the workplace. It is also important to note that educators and employers may hold similar views regarding employability skills needed by individuals with disabilities to maintain employment (Ju, et al., 2014).

Another limitation involves data collection. Being that the interviews were conducted by a non-Singaporean, participants may have altered their responses knowing that a foreigner was recording them. As a result, analysis may not have reflected nuances in responses that could only be understood by a local Singaporean. Credibility for the study could have increased by reviewing responses and themes with the interviewees to ensure that their views were accurately captured through the research process. Ideally follow-up interviews to member check would have been conducted (Brantlinger et al., 2005).

### ***Future Research***

Those looking to expand on this research should consider collect data directly from the employers themselves. As these individuals ultimately determine if an individual with an IDD has adequate employability skills, their perceptions are of significant value.

It may also be appropriate to exploring differences between the perceptions of the job developers and the employers themselves. Also, including the perspectives of the youth as well would add an additional perspective to the research.

In order to better prepare students to find and maintain employment, information about coveted employability skills could be used to develop transition assessments and curricula for youth with disabilities. Future researchers may consider working with schools to evaluate student proficiency in these areas of employability in order to determine the extent to which the presence of these are a predictor for positive post-school employment outcomes.

Finally, further research should be dedicated to finding out how much time is spent teaching soft skills in schools versus more traditional academic skills like numeracy and literacy. Evidence is clear that employers value soft skills. For countries developing programs for individuals with IDDS, it is imperative that soft skills are emphasized in the curriculum as much as if not more than hard skills.

### **Conclusion**

Employment rates for individuals with IDDs are dreadfully low, meaning that many in this population are unable to reap the multitude of benefits that are associated with employment. Job training programs in Singapore have been developed to better prepare youth with IDDs to be successful in the workplace. In order to guide work-based curriculum and instruction for school-ages youth with disabilities, it is essential for job developers to be aware desired employability skills. The results of this study suggest that training should include a strong emphasis on the development of soft skills, including: *attitude, dependability, stamina, flexibility, and communication*. While the acquisition of hard or technical skills may increase the employability of a student, an individual's ability to maintain employment may be more dependent on skills and abilities that are not specific to a single job.

### References

- Agran, M., Hughes, C., Thoma, C.A., & Scott, L.A. (2016). Employment social skills what skills are really valued? *Career Development and Transition for Exceptional Individuals*, 39, 111-120.
- Author (Under Review). Understanding and teaching social skills critical to the workplace for individuals with disabilities. *Remedial and Special Education*.
- Brantlinger, E., Jimenez, R., Klingner, J., Pugach, M., & Richardson, V. (2005). Qualitative studies in special education. *Exceptional Children*, 71, 195–207.
- Brown, L., & Kessler, K. (2014). Generating integrated work sites for individuals with significant intellectual disabilities. *Journal of Vocational Rehabilitation*, 40(2), 85–97.
- Brown, S.D., & Lent, R.W. (2013). *Career development and counseling: Putting theory and research to work*. Hoboken, NJ: John Wiley & Sons.
- Casner-Lotto, J., & Barrington, L. (2006). Are they really ready to work? Employers' perspectives on the basic knowledge and applied skills of new entrants to the 21st century U.S. work- force. New York, NY: Conference Board. Retrieved from <http://files.eric.ed.gov/fulltext/ED519465.pdf>
- Cavanagh, S. (2009). Singapore crafts vocational education with industries in mind. *Education Week*, 28(36), 10-12.
- Chen, R. K., Brodwin, M. G., Cardoso, E., & Chan, F. (2002). Attitudes toward people with disabilities in the social context of dating and marriage: A comparison of American, Taiwanese, and Singaporean students. *Journal Of Rehabilitation*, 68(4), 5-11.
- Cobb, R.B., Lipscomb, S., Wolgemuth, J., & Schulte, T. (2013). Improving post-high school outcomes for transition-age students with disabilities: An evidence review. NCEE 2013-

4011. *National Center for Education Evaluation and Regional Assistance*. Retrieved from <http://eric.ed.gov/?id=ED544172>
- Creswell, J.W. (2014). *Research design: Qualitative, quantitative, and mixed methods approaches*. Thousand Oaks, CA: Sage Publications.
- Ellenkamp, J. J., Brouwers, E. P., Embregts, P. J., Joosen, M. C., & van Weeghel, J. (2016). Work environment-related factors in obtaining and maintaining work in a competitive employment setting for employees with intellectual disabilities: A systematic review. *Journal of Occupational Rehabilitation, 26*(1), 56-69.
- Gopinathan, S. (2012). Fourth way in action? The evolution of Singapore's education system. *Educational Research for Policy and Practice, 11*(1), 65-70.
- Graham, C., Inge, K., Wehman, P., Murphy, K., Revell, W. G., & West, M. (2013). Moving employment research into practice: Knowledge and application of evidence-based practices by state vocational rehabilitation agency staff. *Journal of Vocational Rehabilitation, 39*(1), 75–81.
- Hillier, A. J., Fish, T., Siegel, J. H., & Beversdorf, D. Q. (2011). Social and vocational skills training reduces self-reported anxiety and depression among young adults on the Autism Spectrum. *Journal of Developmental and Physical Disabilities, 23*(3), 267–276.
- Holwerda, A., van der Klink, J. J. L., de Boer, M. R., Groothoff, J. W., & Brouwer, S. (2013). Predictors of sustainable work participation of young adults with developmental disorders. *Research in Developmental Disabilities, 34*(9), 2753–2763.
- Jacobson, J. W., Mulick, J. A., & Rojahn, J. (Eds.) (2007). *Handbook of intellectual and developmental disabilities*. New York, NY: Springer.



- Ju, S., Pacha, J., Moore, K., & Zhang, D. (2014). Employability skills for entry-level employees with and without disabilities: A comparison between the perspectives of educators and employers. *Journal of Vocational Rehabilitation, 40*, 203–212.
- Ju, S., Roberts, E., & Zhang, D. (2013). Employer attitudes toward workers with disabilities: A review of research in the past decade. *Journal of Vocational Rehabilitation, 38*(2), 113–123.
- Ju, S., Zhang, D., & Pacha, J. (2012). Employability skills valued by employers as important for entry-level employees with and without disabilities. *Career Development and Transition for Exceptional Individuals, 35*, 29–38.
- Learning Curve. (2014). *Index of cognitive skills and educational attainment*. Retrieved from <http://thelearningcurve.pearson.com/index/index-ranking>
- Lecavalier, L., & Butter, E. M. (2010). Assessment of social skills and intellectual disability. In *Practitioner's guide to empirically based measures of social skills* (pp. 179-192). New York: Springer.
- Lee, H. L. (2004, August, 13). *Let's shape our future together*. Speech presented at the Swearing in of Prime Minister Lee Hsien Loong, Singapore. Retrieved from [http://www.mfa.gov.sg/content/mfa/overseasmission/tokyo/press\\_statements\\_speeches/2004/200408/press\\_200408\\_5.html](http://www.mfa.gov.sg/content/mfa/overseasmission/tokyo/press_statements_speeches/2004/200408/press_200408_5.html)
- Lim, L., & Nam, S. (2000). Special education in Singapore. *Journal of Special Education, 34*(2), 104-109.
- Lim, L., Thaver, T., & Slee, R. (2008). *Exploring disability in Singapore: A personal learning journey*. Singapore: McGraw-Hill Education (Asia).

Lindsay, S., Adams, T., Sanford, R., McDougall, C., Kingsnorth, S., & Menna-Dack, D. (2014).

Employers' and employment counselors' perceptions of desirable skills for entry-level positions for adolescents: How does it differ for youth with disabilities? *Disability & Society*, 29, 953–967.

Lindstrom, L., Doren, B., & Miesch, J. (2011). Waging a living: Career development and long-term employment outcomes for young adults with disabilities. *Exceptional Children*, 77, 423–434.

Lodico, M.G., Spaulding, D.T., & Voegtler, K.H. (2010). *Methods in educational research: From theory to practice*. San Francisco, CA: Jossey-Bass.

Luecking, R. G. (2011). Connecting employers with people who have intellectual disability. *Intellectual and Developmental Disabilities*, 49(4), 261–273.

Mak, W. S., & Ho, G. M. (2007). Caregiving perceptions of Chinese mothers of children with intellectual disability in Hong Kong. *Journal Of Applied Research In Intellectual Disabilities*, 20(2), 145-156. doi:10.1111/j.1468-3148.2006.00309.x

Manup, M.F.A. (2012). *Employment for people with disabilities: Questions*. Retrieved from Singapore Ministry of Social and Family Development website:  
<http://app.msf.gov.sg/Press-Room/Employment-for-people-with-disabilities>

Moss, P., & Tilly, C. (1996). Soft skills and race: An investigation of black men's employment problems. *Work and Occupations*, 23, 252–276.

Morgan, R. L., & Alexander, M. (2005). The employer's perception: Employment of individuals with developmental disabilities. *Journal of Vocational Rehabilitation*, 23(1), 39–49.

National Association of Colleges and Employers. (2014). *Job outlook 2015*. Retrieved from <https://www.naceweb.org/surveys/job-outlook.aspx>

- Organization for Economic Cooperation and Development. (2010). *Sickness, disability, and work: Breaking the barriers*. Retrieved from [http://www.oecd-ilibrary.org/social-issues-migration-health/sickness-disability-and-work-breaking-the-barriers\\_9789264088856-en](http://www.oecd-ilibrary.org/social-issues-migration-health/sickness-disability-and-work-breaking-the-barriers_9789264088856-en)
- Ow R. & Katz D. (1999) Family secrets and the disclosure of distressful information in Chinese families. *Families in Society*, 80, 620–628.
- Otero, T. L., Schatz, R. B., Merrill, A. C., & Bellini, S. (2015). Social skills training for youth with autism spectrum disorders: a follow-up. *Child and adolescent psychiatric clinics of North America*, 24(1), 99-115.
- Poon, K., Musti-Ra, S., & Wettasinghe, M. (2013). Special education in Singapore: History, trends, and future directions. *Intervention in School and Clinic*, 49(1), 59–64.
- Robles, M.M. (2012). Executive perceptions of the top 10 soft skills needed in today's workplace. *Business Communication Quarterly*, 75, 453–465.
- Rowe, D.A., Alverson, C.Y., Unruh, D.K., Fowler, C.H., Kellems, R., & Test, D.W. (2014). A Delphi study to operationalize evidence-based predictors in secondary transition. *Career Development and Transition for Exceptional Individuals*, 2165143414526429.
- Saldaña, J. (2013). *The coding manual for qualitative researchers*. Thousand Oaks, CA: Sage Publications.
- Singapore Ministry of Education. (2015). *The SPED curriculum framework- Living, learning, and working in the 21<sup>st</sup> century*. Retrieved from <https://www.moe.gov.sg/education/special-education/sped-curriculum-framework>
- Singapore Ministry of Social and Family Development. (2012). *Enabling masterplan 2012-2016*. Retrieved from <http://app.msf.gov.sg/Portals/0/Topic/Issues/EDGD/Enabling%20Masterplan%202012-2016%20Report%20%288%20Mar%29.pdf>

- Shukla-Mehta, S., Miller, T., & Callahan, K. J. (2010). Evaluating the effectiveness of video instruction on social and communication skills training for children with autism spectrum disorders: A review of the literature. *Focus on Autism and Other Developmental Disabilities*, 25(1), 23-36.
- Sung, J., Ng, M. C.M., Loke, F., & Ramos, C. (2013). The nature of employability skills: empirical evidence from Singapore. *International Journal of Training and Development*, 17(3), 176-193
- Test, D.W., Mazzotti, V.L., Mustian, A.L., Fowler, C.H., Kortering, L., & Kohler, P. (2009). Evidence-based secondary transition predictors for improving postschool outcomes for students with disabilities. *Career Development and Transition for Exceptional Individuals*, 32, 160–181.
- Unger, D. (2002). Employers' attitudes towards people with disabilities in the workforce: Myths or realities? *Focus on Autism and Other Developmental Disabilities*, 17, 2-10.
- Walker, Z. (2016). Special education teacher preparation in Singapore's dual education system (B). *Teacher Education and Special Education*. doi: 10.1177/0888406415622251
- Walker, Z., Vasquez, E., & Wienke, W. (2016). The Impact of Simulated Interviews for Individuals with Intellectual Disability. *Journal of Educational Technology & Society*, 19(1), 76-88.
- Singapore Workforce Development Agency. (2006). Speech on the Employability Skills System, made at the opening of Singapore Learning Festival Roadshow on Friday, 3 November 2006, 4pm: At Toa Payoh HDB Hub. Retrieved from [http://www.wda.gov.sg/content/wdawebbsite/L209-001About-Us/L218-SpeechListing/03\\_Nov\\_2006.html](http://www.wda.gov.sg/content/wdawebbsite/L209-001About-Us/L218-SpeechListing/03_Nov_2006.html)

- Xu J., Wang M., Xiang Y. & Hu X. (2005) Quality of life for people with intellectual disabilities in China: A crossculture perspectives study. *Journal of Intellectual Disability Research*, 49, 745–749.
- Zamudio, M.M., & Lichter, M.I. (2008). Bad attitudes and good soldiers: Soft skills as a code for tractability in the hiring of immigrant latina/os over native blacks in the hotel industry. *Social Problems*, 55, 573–589.
- Zappella, E. (2015). Employers' attitudes on hiring workers with intellectual disabilities in small and medium enterprises: An Italian research. *Journal of Intellectual Disabilities*, 19(4), 381-392.

Table 1

*Demographic Information About Interviewees and the Codes Assigned to Their Responses*

Interviewee's Employer	Gender	Time in Position	Codes from responses (in order of occurrence)
School 1	Female	6 years	JOB-SPECIFIC SKILLS SKILLS CERTIFICATE SAFETY ATTITUDE
	Female	5 years	HONESTY DEPENDABILITY MATURITY ATTITUDE
	Male	2 years	PHYSICAL SKILLS JOB-SPECIFIC SKILLS
School 2	Male	4 years	JOB-SPECIFIC SKILLS COMMUNICATION FLEXIBILITY STAMINA
School 3	Male	4 years	ATTITUDE
	Female	4 years	DEPENDABILITY ATTITUDE COMMUNICATION MATURITY
School 4	Male	5 years	JOB-SPECIFIC SKILLS ATTITUDE DEPENDABILITY FLEXIBILITY COMMUNICATION
	Female	4 years	DEPENDABILITY ATTITUDE STAMINA
	Female	2 years	DEPENDABILITY ATTITUDE
	Female	1 year	ATTITUDE
Government Agency	Male	9 months	DEPENDABILITY ATTITUDE
	Female	3 months	STAMINA JOB-SPECIFIC SKILLS ATTITUDE

*Figure 1:* A visual representation of themes and sub-themes revealed through the analysis of interview transcripts.