Understanding and Amplifying the Experiences of Students with Disabilities: A Study of Self-determination and the Quality of Student Life in Post-secondary Settings

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Abstract

In the past two decades, practice and research have progressively shifted in focus from models of dysfunction, deficits, and segregation toward views and attitudes that instead reflect inclusion, visibility, and advocacy (Wehmeyer, 2004). In reference to these changes, quality of life (QOL) and self-determination (SD) have emerged as important constructs to capture this changing vision and offer more holistic and comprehensive frameworks with which to study the heterogeneous and unique experiences of students with disabilities (Wehmeyer & Schalock, 2001). Although enrollment of students with disabilities in post-secondary environments has continued to increase, post-secondary settings have remained a largely unexplored area compared to elementary and secondary settings (Ju at el. 2017). This mixed methods study aims to explore the experiences of students with disability in sample of post-secondary students with visible and invisible disabilities. Results revealed differences in reported levels of SD for students living with visible and invisible disabilities. Furthermore, SD predicted overall levels of student quality of life (SQL). Thematic analyses uncovered components of SD that participants identified as more salient in their definitions of SD such as self-autonomy, advocacy, goal-setting, and perceived control. Participants also identified internal and external barriers as well as facilitators related to the expressions of SD in post-secondary settings. Internal barriers highlighted by participants related to emotional difficulties and negative self-perceptions, while external barriers related to financial stressors, institutional barriers, inaccessible or unsupportive leaning environments, COVID-19, as well as stigma. Facilitators included having an understanding of specific SD processes (i.e, when to deploy SD skills, level of SD, development of SD) and social support. This study will help inform the development of educational advances and responsive supports geared toward building inclusive post-secondary environments.

Keywords: disabilities, empowerment, inclusive education, self-determination, student quality of life, quality of life

Résumé

Au cours des deux dernières décennies, la pratique et la recherche se sont progressivement déplacées des modèles de dysfonctionnement, de déficits et de ségrégation vers des points de vue et des attitudes qui reflètent plutôt l'inclusion, la visibilité et le plaidoyer (Wehmeyer, 2004). Suite à ces changements, la qualité de vie (QV) et l'autodétermination (DS) sont apparues comme des concepts importants pour saisir cette vision changeante et offrir des cadres plus holistiques et complets permettant d'étudier les expériences hétérogènes et uniques des étudiants handicapés (Wehmeyer et Schalock, 2001). Bien que les inscriptions d'étudiants avec handicapes dans les milieux postsecondaires aient continué d'augmenter, les établissements postsecondaires sont restés un domaine largement inexploré par rapport aux établissements élémentaires et secondaires (Ju at el.2017). Cette étude à méthodes mixtes vise à explorer les expériences des étudiants en situation de handicap dans un échantillon d'étudiants de niveau postsecondaire ayant des handicaps visibles et invisibles. Les résultats ont révélé des différences dans les niveaux de DS rapportés pour les élèves vivant avec des handicaps visibles et invisibles. De plus, le DS a prédit les niveaux globaux de qualité de vie des étudiants (QVE). Des analyses thématiques ont révélé des composantes du DS que les participants ont identifiées comme plus saillantes dans leurs définitions de DS, telles que l'autonomie, le plaidoyer, l'établissement d'objectifs et le contrôle perçu. Les participants ont également identifié des obstacles internes et externes ainsi que des facilitateurs liés à l'expression du DS. Les barrières internes mises en évidence par les participants étaient liées aux difficultés émotionnelles et aux perceptions de soi négatives, tandis que les barrières externes liées aux facteurs de stress financiers, aux barrières institutionnelles, aux environnements d'apprentissage inaccessibles ou peu favorables, au COVID-19, ainsi qu'à la stigmatisation. Les facilitateurs comprenaient des processus spécifiques de DS (c'est-à-dire quand déployer les compétences de DS, le niveau de DS, le développement du DS) et le soutien social. Les informations présentées dans cette étude aideront à éclairer le développement des progrès de l'éducation axés sur la création d'environnements postsecondaires inclusifs.

Mots clés: autodétermination, autonomie, éducation inclusive, handicapes, qualité de vie, qualité de vie des élèves

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Chapter 1: Introduction

Higher education is increasingly becoming an important predictor of social, economic, and professional outcomes (DaDeppo, 2009; Getzel & Thoma, 2008; Lindsay et al., 2018). Specifically, previous research suggests that post-secondary institutions provide opportunities to develop a range of skills and competencies (e.g., knowledge, communication, responsibility, abstract thinking skills) conducive to positive social adjustment outcomes such as productivity, career satisfaction, and gainful employment (Haigh & Clifford, 2011; Sachs & Schreuer, 2011). From a social-emotional standpoint, higher education settings can promote the development of self-determination, lasting support networks, academic and professional self-esteem, as well as workforce readiness (Henderson-King & Smith, 2006). As such, many of the aforementioned outcomes, whether observed independently or in combination, are not only tied to financial gains but also to overall quality of life (Dimitrova-Radojichikj, 2018). As societal expectations continue to shift towards degree attainment, post-secondary education is seen as incredibly advantageous, and in some professional domains considered necessary (Lawlis et al., 2014). For these reasons, accessibility to higher education has become a significant area of interest in educational research (Field et al., 2003; Lindsay et al., 2018; McCloy et al., 2013). For people living with disabilities, this becomes an important consideration as barriers to education are considerable at the post-secondary stage (Lawlis et al., 2014).

Given that the aim of this dissertation is to gain a better understanding of self-determination (SD) and the quality of student life (SQL) for students with disabilities in post-secondary settings, this chapter will provide an overview of post-secondary education and disability in Canada, explore issues related to the visibility and invisibility of disabilities, and introduce the concepts of SD and SQL in the context of higher education. The aims of the study, organization of the dissertation, and significance of this study will also be outlined.

Post-secondary Education and Disability in Canada

In Canada, post-secondary institutions are divided into two categories comprised of universities and colleges. Traditionally, universities offer degree oriented programs such as Bachelor's, Master's, and Doctorate Degrees, while colleges offer vocational, diploma, and certificate oriented programs ("Post-Secondary Education", 2017). Post-secondary institutions in Canada abide by the Canadian Charter of Rights and Freedoms (1982) which ensures all Canadians' right to be treated equally. Furthermore, provincial human rights agencies (e.g., Commission des droits de la personne et des droits de la jeunesse du Québec, British Columbia Human Rights Tribunal, Ontario Human Rights Commission) enforce protection from discrimination, at the provincial and territorial level, in different areas of the community such as schools and workplaces ("Provincial & Territorial Human Rights Agencies", 2020). As such, Canadian institutions must uphold federal and provincial statutes, which ensure the protections of people with disabilities within academic settings, to guarantee accessibility by providing barrier-free and supportive learning environments (Ontario Human Rights Commission, n.d.).

Despite disability legislation in place to ensure equitable access to education, persons with disabilities continue to encounter several barriers at the post-secondary level (Vickerman & Blundell, 2010). Such barriers include, inadequate transition supports in high school, a lack of staff and resources, unclear procedures for service delivery, attitudes of faculty, staff, and other members of the academic community towards students with disabilities, physical barriers within the post-secondary environment, transportation issues, barriers to accessing course information and/or the lecturing environment, the process of disclosure itself, and how knowledge is assessed within higher education institutions (Fichten et al., 2003; Lindsay et al., 2018; McCloy et al., 2013). All of these barriers contribute to the exclusion and disempowerment of students with disabilities within post-secondary academic settings, which has important implications at different levels of the academic process including enrollment, attainment, and retention (Lindsay et al., 2017).

According to the Statistics Canada 2017 Canadian Survey on Disability (CSD), an estimated one in five Canadians aged 15 years and over had one or more disabilities that limited their participation in academic, employment, or economic situations (Cloutier et al., 2018). Specifically, data suggested that an estimated one-third of youth (aged 15-25) with disabilities were neither in school nor employed and one-third of youth with disabilities were living in poverty (Canada Employment and Social Development, 2018). The previous CSD, conducted in 2012, found that nearly 3.8 million Canadians were living with a disability at the time of the survey, of this sample 53.3% stated that their choice of courses and career was influenced by disability, 37.7% stated that their education was interrupted in some way (e.g., deferrals, course load modifications) due to disability, and 30.3% of the sample discontinued education due to disability (Government of Canada, 2015). More recent statistics highlight employment disadvantages for Canadians with disabilities. Specifically, the level of employment of Canadians aged 25 to 64 with disabilities was 49%, compared with 79% for Canadians without a disability (*Canadian Graduate and Professional Student Survey - National Report*, 2019). However, the difference in employment rates between persons with disabilities and those without a disability was lower among university graduates (*Canadian Graduate and Professional Student Survey - National Report*, 2019). These findings indicate that increased efforts are needed to support participation of students with disabilities in post-secondary institutions, in order to enhance overall social and employment outcomes (Lindsay et al., 2018). To achieve this, understanding the experiences, needs, and challenges of students with disabilities, as well as ensuring that supports and accommodations are accessible within higher education settings becomes an important undertaking.

For students who need and want to access services, providing adequate supports for students with disabilities in post-secondary settings is critical for improving retention and graduation rates (Getzel & Thoma, 2008; Lindsay et al., 2018). Accommodations in post-secondary settings are divided into the following categories: (1) accommodations to improve the physical accessibility of post-secondary facilities including classrooms, resource centres and student housing, access to adaptive technologies and receiving training on how to use them, (2) accommodations to support the learning process (e.g., advice on learning strategies, assignment completion, and test taking), (3) in-class support (e.g., notetaking), (4) modifications to evaluation methodologies (e.g., extended time to take tests and submit assignments; Ontario Human Rights Commission, n.d.).

Having access to appropriate accommodations is related to academic adjustment and achievement, and has a number of positive effects on physical and psychological indicators of health (e.g., improved symptom management, reduced fatigue and pain, improved self-efficacy and overall adjustment, social support, and reduced stress; Dong et al., 2013; Lindsay et al., 2018). However, the process of accessing accommodation can be a complex one for post-secondary students with disabilities as, in order to access supports, they are required to self-identify as having a disability, request accommodations on their own, and self-advocate (Fichten et al., 2003; Mullins & Preyde, 2013). These processes are made even more challenging given that students may not have had opportunities to develop these skills prior to entering post-secondary settings (Ju et al., 2017). Furthermore, issues around stigma and discrimination can be major barriers in accessing these services and significantly impact advocacy processes (Grimes et al., 2017). Of particular consideration is the fact that student experiences around these issues can vary greatly depending on type of disability (Raue & Lewis, 2011).

Visibility and Invisibility

According to the World Health Organization (WHO), disability is an umbrella term which relates to impairments, activity limitations, and participation restrictions (World Health Organization, 2020). A disability can occur at any point in a person's life, it can be permanent, temporary or episodic, vary in severity, can steadily worsen, remain the same, or improve over the course of an individual's lifetime (Canada Employment and Social Development, 2013). For these reasons, disability is seen as "a complex phenomenon, reflecting an interaction between features of a person's body and mind and features of the society in which (they) live in" (World Health Organization, 2020). The ways in which disability manifests contributes to this complexity, as causes and impairments can be observable or visible or not readily observable or invisible (Shpigelman & HaGani, 2019).

"Invisible" or "hidden disabilities" refer to impairments that interfere with day-to-day functioning but do not have a physical manifestation and can remain "hidden" unless disclosed; "visible disabilities" are defined as both mental and physical conditions that are immediately noticeable by an observer and often involve perceptible impairments or the use of a mobility aid (i.e., the use of a cane, wheelchair; Matthews & Harrington, 2000). Invisible disabilities may include mental health conditions, learning disabilities, attention-deficit hyperactivity disorders and chronic pain, while visible disabilities may include Tourette's, spinal cord injuries, muscular dystrophy, and cerebral palsy (Stone, 2005; Tam et al., 2003). Regardless of whether it is noticeable or not, living with a disability is usually associated with difficulties related to quality of life as both physical and mental impairments can impact health and well-being and societal attitudes can increase the likelihood of experiencing negative attributions, stigma, and discrimination (Corrigan & Al-Khouja, 2018).

At the post-secondary level, students with disabilities may have different experiences and face unique challenges depending on the type of disability and its level of visibility (Lindsay et al., 2018; Lipka et al., 2020; Mullins & Preyde, 2013; Shpigelman & HaGani, 2019). For students with invisible disabilities, the lack of a visible sign of disability may lead to constantly negotiating between disclosure and trying to avoid the stigma attached to a disability label, thus often leading to feelings of shame frustration and impacting access to services and self-advocacy processes (Olney & Brockelman, 2005.; Shpigelman & HaGani, 2019; Tam et al., 2003). It has been suggested that individuals with invisible disabilities may experience more mental health difficulties compared to individuals with visible disabilities due to a lack of “adequate fit” into either a disability or non-disability category (Mullins & Preyde, 2013; Shpigelman & HaGani, 2019). This process leaves students with invisible disabilities the hard task of having to navigate the costs and benefits of when, where, why and how to assume and/or disclose the disability or choose non-disclosure to give impression of “able-bodied-ness” (Nario-Redmond et al., 2013; Shpigelman & HaGani, 2019).

For students with visible disabilities, higher levels of stigmatization, stereotyping, discrimination, and exclusion are part of their experiences as signs of disability are easily observable to others (Ragins, 2008; Shih et al., 2013; Tam et al., 2003). Furthermore, attributions made about the perceived severity and permanence of the disability can affect interactions with others when the disability is visible (Lyons et al., 2018). For these reasons, individuals with a visible disability may be more vulnerable to social isolation and face increased barriers limiting participation in society (Obst & Stafurik, 2010; Timmerman & Mulvihill, 2015). Self-disclosure issues also arise for students with visible disabilities, particularly around how to manage disability, acknowledge the presence of disability, and/or communicate disability-related information to others to ensure access to appropriate accommodations and inclusion (Ragins, 2008). Such conversations can take shape through a process of claiming (i.e., "deliberately accentuating positive aspects of the disability and reframing negative stereotypes associated with the disability"; Lyons et al., 2018, p.1983) and downplaying (i.e., "both attempting to lessen the undesirable characteristics associated with disability and shifting attention away from the disability"; Lyons et al., 2018, p.1983). Although some differences exist when examining the challenges faced by students with visible and invisible disabilities, it would appear that both groups experience significant barriers at the post-secondary level; barriers impacting different aspects of their educational trajectories including enrollment, access to services, retention, adjustment, and academic success (Dong et al., 2013; Lipka et al., 2020; Vickerman & Blundell, 2010). For these reasons, research efforts have begun to emphasize the importance of delivering services and supports that will enable students with disabilities to access and remain in post-secondary settings, while at the same time making lasting systemic and contextual changes grounded on inclusion and accessibility (Dimitrova-Radojichikj, 2018; Getzel & Thoma, 2008; Lindsay et al., 2018; Sachs & Schreuer, 2011)

Academic Success

According to York et al. (2015), the term "academic success" is one of the most widely used constructs in educational research. However, despite its frequent use, there is little consensus in the literature about what the definition of academic success is, with some authors employing very narrow definitions of academic success (i.e., only considering GPA; Murray & Wren, 2003) and others broadening the scope of what this term represents and measures (Ju et al., 2017; Troiano et al., 2010). In this study, York's et al.'s definition will be employed as a measure of academic success. This definitional framework was chosen as it incorporates different aspects of the academic experience in ways that are consistent with outcome measures pertaining to self-determination and quality of life. According to York et al. (2015), academic success encompasses the following areas: *academic achievement, attainment of learning objectives, acquisition of desired skills and competencies, satisfaction, persistence, and post-college performance*.

The Emergence of Self-determination and Quality of Life (QOL)

The constructs of SD and QOL have their historical roots in the normalization, disability rights movements, and the self-advocacy movements of the 60s, 70s , and 80s (Wehmeyer, 1998; Wehmeyer & Schwartz, 1998; Wolfensberger, 1983). SD can be defined as the autonomous behaviours, beliefs, and attitudes that lead to personal choice and acts as the primary agent of change in one's life (Wehmeyer & Schwartz, 1998). QOL refers to the different indicators that can support an individual's well-being such as satisfaction with one's overall life experiences, a sense of belonging to the community, and feelings of competence, productivity, empowerment, and independence (Cella, 1994; Schalock, 1994; Schalock et al., 2002). With a strong focus on inclusion and equal opportunities, these frameworks sought to shift focus away from models concerned with dysfunction towards more holistic views of functioning that include an understanding that personal, family, community, and societal well-being are vital to an individual's health and welfare (Schalock et al., 2002; Wolfensberger, 1983).

To better understand the concept of disability, various models were put forth, namely the medical and social models (Wehmeyer & Schwartz, 1998). According to the more traditional medical approach, disability is viewed as a medical or health problem that inherently prevents a person from participating in society (Heller et al., 2011; Schalock, 2000; Wehmeyer, 1998). The focus within this approach has historically been to “treat” or “cure” individuals with disabilities (Wehmeyer, 1998). In contrast, the social approach posits that environmental factors serve as barriers or facilitators to participation and inclusion. Thus, attitudes, stigma, and prejudices present as barriers to people with disabilities, and may thwart their participation in mainstream society (Joseph, 2007; Oliver, 2013; Schalock et al., 2002). With shifts from deficit models to models taking into consideration social factors in conceptualizing disability, shifts have also been made in service delivery focusing on person-centered supports geared towards building individual skills and strengths rather than focusing on difficulties, fomenting oppression, and reducing opportunities for personal development (Barnes, 2012; Schalock, 1994).

In addition to changes in conceptualization and intervention, the normalization movement also provided a space in which attitudes, ideas, beliefs, and practices began to shift (Nirje, 1999; Wolfensberger et al., 1972). The principle of “normalization” refers to the idea that efforts should be undertaken to ensure that people with disabilities are able to maintain patterns of life which are as close as possible to customary societal practices (Wolfensberger et al., 1972). The normalization principle posited that contextual factors, such as large segregated institutions, played a role in maintaining systems of oppression which created hopelessness, helplessness, and powerlessness and significantly reduced quality of life across the lifespan for individual with disabilities (Wolfensberger, 1983) . Specifically, the normalization movement emphasized the importance of supporting individuals with disabilities to experience and live “normal” lives by ensuring opportunities that support the development of autonomy, independence, and SD (Wolfensberger, 1972). The normalization movement gave rise to various advocacy movements including human rights movements and independent living movements, and led to shifts in political and legal ideologies to support inclusion (Buntinx & Schalock, 2010; Nota et al., 2007; Wehmeyer, 1998; Wehmeyer et al., 2008).

As a result of the various advocacy movements, different fields began to adopt SD and QOL as important frameworks to ensure person-centered and strength-based approaches grounded justice, empowerment, and increased life satisfaction (Heller et al., 2011; Nota et al., 2007; Wehmeyer et al., 2003). For instance, within the fields of social work, psychology, and education researchers and practitioners have recognized important implications for intervention, accessibility, and transition planning (Field et al., 2003; Nota et al., 2007). As SD and QOL research progressed, definitions of these constructs have continued to expand (Schalock, 2000; Wehmeyer et al., 2003) . One important application of these frameworks, occurred in the field of education as SD was identified as an important educational outcome to ensure the best possible learning outcomes, academic satisfaction, and overall well-being for students with disabilities (Faragher & Ommen, 2017; Wehmeyer et al., 2003). In considering the relationship between SD and QOL and their implications, student quality of life (SQL) emerged as a derivative construct from QOL focusing specifically on exploring the perceived quality of life of students within the context of their individual educational settings (Keith & Schalock, 1994). Thus, contributing to the identification and evaluation of supports, services, and policies aimed towards supporting and empowering students with disabilities (Buntinx & Schalock, 2010; Keith & Schalock, 1994). For these reason SD and SQL will be employed as the organising frameworks on this study. A comprehensive overview of definitions, conceptualization, and application as it concerns SD, QOL, and SQL will follow in the next section of this manuscript.

Purpose of the Study

The purpose of this exploratory study with quantitative and qualitative components is to develop a meaningful understanding of the experiences of students with disabilities regarding SD skills and perceived SQL. The goal of this dissertation research is to explore the relationship between SD and SQL for post-secondary students with disabilities attending Canadian post-secondary institutions. Specifically, demographic variables that may explain levels of SD, SQL predictors, student perceptions and conceptualizations of SD, and factors influencing the development and expression of SD will be explored. Lastly, this research will investigate ways in which SD can support educational outcomes at the post-secondary level. This knowledge will further our understanding of the constructs of SD and SQL to better inform future efforts in creating supportive educational environments that align with the needs and values of post-secondary students with disabilities.

Organization of the Dissertation

Chapter 1 will present the introduction, purpose of the study, and significance of the study. Chapter 2 will contain a comprehensive review of the research literature related to QOL, SD, SQL, and disability in post-secondary settings. Chapter 3 will include information about methods and procedures employed to gather data for the study. Chapter 4 will present the results of quantitative and qualitative analyses. Chapter 5 will contain a summary of the study and study findings, a discussion on the relevance of findings and how they can be used for implementation purposes, recommendations for practice and future research in the field of education and disability, and a concluding section.

Chapter 2: Literature Review

Introduction

As the number of students with disabilities enrolled in post-secondary institutions has increased dramatically, research has begun to focus on understanding factors promoting positive academic outcomes for students with disabilities (Chen, 2012; Grimes et al., 2017; Timmerman & Mulvihill, 2015). An important factor in determining whether students remain and succeed in post-secondary settings pertains to post-secondary adjustment or a student's ability to adjust to their higher education institution (Lipka et al., 2020). Given that post-secondary contexts can be complex and often difficult to navigate, many authors argue that particular attention should be given to the adjustment process in order to minimize attrition (Adams & Proctor, 2010; Murray et al., 2012, 2014; Troiano et al., 2010). Further, student with disabilities face physical, emotional, and economic barriers which may impact engagement in activities of daily living (e.g., accessing course materials, shopping, cooking) and social activities (e.g., attending school events or social gatherings) which can be quite detrimental to college and university adaptation and significantly impact emotional well-being and overall quality of life (Marshak et al., 2010). However, research on inclusion, disclosure, accommodations, and motivational processes, has shed some light the types interventions and systemic changes that could positively impact higher education and life outcomes for students with disabilities (Ju et al., 2017; Lindsay et al., 2018; White et al., 2014).

The Construct of Quality of Life (QOL)

Historically, the framework of QOL was born out of a desire to steer the field towards a more humanistic understanding of the needs and difficulties of individuals with disabilities (Brown, 1996; Cummins, 1995; Schalock, 1994). With a strong focus on inclusion and equal opportunities, this framework sought to shift focus away from medical models concerned with dysfunction towards more holistic views of functioning that include an understanding that personal, family, community, and societal well-being are vital to an individual's health and welfare (Schalock, 2000; Wolfensberger, 1983).

According to Cummins, there were more than a hundred definitions of QOL in the literature in 1995. As research in this field progressed, definitions of QOL have continued to expand (Buntinx & Schalock, 2010; Schalock & Alonso, 2002). However, although there exist a variety of definitions, most conceptions of QOL share some common features. Specifically, most definitions of QOL recognize that individuals strive for a common human goal of satisfaction with one's overall life experiences, such as a sense of belonging to the community, and feelings of competence, productivity, empowerment, and independence (Cella, 1994; Felce & Perry, 1995; Schalock & Alonso, 2002). Moreover, the majority of definitions of QOL emphasize the importance of examining the personal views and experiences of individuals (Schalock, 2000b). Hence, the QOL approach represents an effort to mobilise and enhance resources that can support individuals with disabilities in more holistic ways, leading to life skills improvements and tailored to meet individual needs (Brown et al., 2009). For these reasons, QOL has become an important indicator of well-being, as well as a parameter by which to assess the effectiveness, quality, and outcomes related to programs and interventions aimed at supporting students with disabilities (Chao, 2018; Pazey et al., 2016; Schalock, 1994). In the following sections, the implications of QOL in terms of conceptualization, measurement, and application will be explored.

Conceptualization

According to Schalock et al. (2002), the meaning of the term “quality” in QOL frameworks refers to the worth associated with human values (e.g., happiness, success, wealth, health, and satisfaction), whereas ‘‘of life’’ emphasizes that the concept addresses the most essential and representative aspects of human existence. This understanding of QOL as an overarching concept that concerns a range of experiences that make up the human existence can aid in deploying resources directed towards enhancing an individual’s well-being (Schalock, 2000). Its all-encompassing nature translates into a select number of core domains (e.g., emotional well-being, interpersonal relationships, material well-being, personal development, physical well-being, self-determination, social inclusion, and rights) and a number of indicators (e.g., relationships, family life, friendships, work, neighbourhood, place of residence, education, health, access to resources; Cella, 1994; Schalock, 1994). Moreover, QOL is thought to represent a unifying framework and a common theme allowing for the use of a shared language that researchers and practitioners can utilize across disciplines to gain insight into individual markers of life satisfaction (Schalock et al., 2005).

Recently, researchers, practitioners, and policy makers have employed the concept of QOL to guide interventions, program development, and disability policy (Chao, 2018; Pazey et al., 2016). Specifically, given the multidimensional nature of QOL, it has allowed for the development of effective supports that take into account the specific needs of individuals with disabilities, regardless of disability status (Lindsay et al., 2017; Panahi et al., 2016). Furthermore, QOL offers insight into what is valued by individuals and what they perceive is lacking or impeding life satisfaction in their current living environments (Ribeiro et al., 2018; Turnbull et al., 2003). Thus, QOL represents a comprehensive and encompassing construct that allows for the understanding of different life experiences of an individual across different settings. As such, the concept of QOL can be a helpful tool in understanding the factors that students with disabilities perceive are lacking from their academic environments as well as the factors that contribute to the achievement of positive student quality of life. Consequently, examining academic experiences through the lens of students with disabilities can help in creating effective interventions and supports under a unified framework that will meet student needs and contribute to life satisfaction in academic settings, including post-secondary settings (Wilson et al., 2000). However, although there many proponents of employing QOL models to explore education and disability, only a small subset of research has focused on disability and post-secondary education and fewer studies have explored the QOL within this context (Kozey & Siegel, 2008; Lindsay et al., 2018; Ribeiro et al., 2018; Schalock et al., 2002; Turnbull et al., 2003).

QOL is a multidimensional concept not only because it is influenced by personal and environmental factors, but also in terms of methodology as it employs a range of subjective and objective measures (Brown et al., 2009). Objective measures are those that are quantifiable and external to the individual, such as income levels, access to medical resources, and access to services (Huebner, 2004). In contrast, subjective measures focus on internal evaluations of life experiences (e.g., satisfaction judgments, emotions; Huebner, 2004). This combination between assessing internal and external variables provides a suitable interface for effectively learning about and meeting the needs of a person (Panahi et al., 2016; Ribeiro et al., 2018; Schalock & Alonso, 2002). However, over the years, there has been some discussion in the field regarding the use subjective versus objective measures, this coupled with its use of multiple domains and indicators has raised some important considerations regarding the measurement and applications of this construct (Schalock & Alonso, 2002).

Measurement

Since the early 90s, measurement of QOL has been guided by the premises that it functions as a sensitizing model, a social construct, and a unifying theme (Verdugo et al., 2005). Thus, moving away from models focusing on strict and quantifiable categorization towards a more fluid understanding of well-being that includes subjectivity, perceptions, and environmental conditions (Schalock & Alonso, 2002; Verdugo et al., 2005). As a result, due to its multidimensionality and all-encompassing nature, a universal framework to guide the measurement of QOL has not yet been established. Typically, measures of QOL include indicators that can be observed and are universally held (e.g., access to resources, social relations, and life opportunities; Brown et al., 2009; Wilson et al., 2000). Moreover, most measures of QOL also involve assessing perceptions of personal satisfaction as it is experienced and valued from the individual's perspective (Schalock, 2000; Schalock et al., 2005).

Despite lacking a unifying framework, there is good agreement in the research literature about the fact that both core domains (e.g., emotional well-being, interpersonal relationships, material well-being, personal development, self-determination, social inclusion, and rights) and indicators (e.g., life opportunities, access to resources, and social relations) should guide the measurement of QOL (Keith & Schalock, 1994; Lachapelle et al., 2005). However, a big portion of the research literature suggests that the recognition that QOL is a multidimensional construct, and thus necessitates multi-element tools when measured, is more important than the number of domains it includes (Schalock, 2000b; Verdugo et al., 2005). Moreover, various authors assert that when assessing QOL it is equally important to recognise that people possess awareness and insight about what is important to them, and that it is the cumulative value of any set of domains is that ultimately culminates in a complete QOL construct (Renwick et al., 2000). Similarly, although there are a number of QOL indicators, various authors suggest that when selecting and measuring indicators what is important is that they show variation and potential for improvement, reflect changes that are meaningful and interpretable, and that they are amenable to changes made by those involved in delivering interventions (Verdugo et al., 2005).

When looking at disability and education, important indicators include equal access to education, availability of social support, and availability of services specific to the disability a student is living with (Turnbull et al., 2003). Focusing on such indicators will allow academic officials to assess whether student needs are being met and to target important areas of functioning in ways that are meaningful and effective. Aside from the availability of services and resources, measures of QOL also focus on more subjective components such as individual perceptions of satisfaction with any given environment (Renwick et al., 2000).

Subjective components refer to personal appraisal made by individuals, while objective markers reflect more practical life experiences and circumstances (Schalock & Alonso, 2002; Verdugo et al., 2005). In general, subjective approaches involve asking the person about his or her satisfaction of the various aspects of their life (Renwick et al., 2000). This is typically achieved by employing Likert scales that can access the level of self-perceived satisfaction (e.g., *How satisfied are you with your current school?;* (Keith & Schalock, 1994). On the other hand, objective approaches employ rating scales, participant observation, and questionnaires (e.g., *How many school clubs or organizations do you belong to?*; Felce & Perry, 1995). Although some authors argue for the use of either approach, the consensus in the literature, as mentioned above, is that both approaches should be used in order to achieve effective measurement of QOL (Lachapelle et al., 2005; Schalock & Alonso, 2002; Verdugo et al., 2005). It should be noted, however, that the subjective approach is more compatible with outcome-based evaluation and meeting individual needs for persons with disabilities (Carnaby, 2018; Paul et al., 2002). Thus, although both subjective and objective QOL measures are needed, their relative weighting will depend on their anticipated use (e.g., evaluation of needs versus program evaluation), as these decisions will subsequently guide the outcomes of an evaluation as well as the application of results (Verdugo et al., 2005).

Application

As demonstrated by previous sections, the conceptualization and measurement of QOL can have a significant impact on the use of this construct in understanding the experiences of persons with disabilities and in devising interventions that promote life satisfaction. With these aims in mind, Schalock et al. (2002) suggested three principles that should guide the application of QOL research: (1) the primary purpose of QOL should be to enhance an individual's well-being, while respecting the individual's cultural environment, and promoting autonomy, (2) program development should seek the collaboration of individuals, communities, and governmental institutions, (3) evidence gathering should be placed at the forefront of this process in order to ensure the identification of QOL predictors and maximize positive changes. These principles provide some direction in the quest to better support QOL for individuals with disabilities.

First, information about conceptualization, measurement, and application should be used together to enhance program and policy implementation. For instance, once the core domains of QOL are understood and their correlates assessed, it is possible to enhance service delivery, and to implement a number of program-based person-centered interventions (Keith, 2001). Second, communities should be involved in the enhancement of the life quality of persons with disabilities. Enhanced QOL is the result of a good match between the fulfillment of a person's needs, the goal of QOL is to reduce discrepancies between an individual's needs and the resources their environment can offer (Schalock, 1994). Specifically, Schalock states that the key to minimizing this discrepancy is to mobilize communities towards involvement in program development and evaluation and to make resources available to those who need and want to access services. Lastly, as QOL continues to move beyond a theoretical construct it should guide changes in public policy and disability reform (Schalock, 2002). Consequently, policy makers should be sensitive and proactive in terms of incorporating key QOL concepts and principles into public policy to effectively meet the needs of individuals with disabilities (Brown et al., 2009; Buntinx & Schalock, 2010). However, few studies have examined how implementing QOL in the field of disabilities can guide service delivery and disability policy (Chambers et al., 2007).

It should be noted that although people with disabilities have already started to apply the concept of QOL in the form of self-advocacy, and raising awareness about issues such as inclusion, independence, opportunities, due to its multidimensionality, research on application has fallen behind when compared to conceptualisation and measurement (Brown et al., 2009). Presently, there is a shortage of information addressing the ways in which QOL can inform program development and policy making (Faragher & Ommen, 2017). This lack of information concerning the practice of applying QOL, has also translated to a lack of application of QOL concepts in different domains, such as post-secondary education (Joseph, 2007; Keith, 2001; Lindsay et al., 2017; Marshak et al., 2010).

Student Quality of Life (SQL)

A relevant example of issues around the application of QOL involves implementation of QOL research in academic settings. Specifically, the ways in which students with disabilities perceive their quality of life is enhanced or thwarted in their educational environment. When considered under such circumstances, QOL can be tailored to fit a particular framework; in this case QOL within school environments can be studied as student quality of life (Keith & Schalock, 1994). As evidenced in the aforementioned sections, QOL measures encompass different aspects of an individual's life (Schalock & Alonso, 2002). Similarly, measures of QOL targeting educational contexts also include aspects of family, home, and community life, with the important caveat of placing special focus on academic life (Keith & Schalock, 1994). As such, SQL reflects the "perceived" quality of life of students in the context of their educational settings (Keith & Schalock, 1994).

As tools to measure an individual's satisfaction within different domains of life, QOL and SQL share the abovementioned core dimensions. Consequently, they also share the limitations regarding conceptualization, measurement, and application (Keith & Schalock, 1994; Watson & Vehmas, 2019). Throughout the years, different scholars have advanced a number of SQL definitions (Epstein & Mcpartland, 1976; Frankie et al., 1996; Keith & Schalock, 1994; Sirgy et al., 2010; Witmer & Sweeney, 1992). Although terminological and structural variations can be observed, it is clear that a big majority of definitions convey the view of SQL as a construct that allows the measurement of student perceptions regarding positive or negative academic experiences, as well as their expectations and needs related to specific educational environments. In this paper, SQL will be explored according to Keith and Schalock's (1994) definition as it provides a view of student life experiences in a way that is sensitive to various student needs, provides a comprehensive overview of satisfaction in different life domains that can impact college and university life, and can contribute to the identification and evaluation of supports, services and policies for students with disabilities.

In defining SQL, Keith and Schalock (1994) emphasise three main reasons for employing this concept in education particularly as it pertains to students with disabilities: (1) looking into the relationship between student satisfaction and perceptions of the academic environment could provide insight into the quality of student life, (2) enhancement of SQL can be an important criterion in the measurement of outcome-based and person-centered education, (3) SQL provides a framework that can be used to evaluate educational outcomes in areas other than academic performance. In defining SQL, Keith and Schalock describe four fundamental elements that have been found to provide a good basis for the measurement of student quality of life : (1) satisfaction (e.g., personal opinions reflecting satisfaction with current circumstances, emphasizing school and school-related activities), (2) well-being (general view of the person's feelings regarding their life circumstances), (3) social belonging (participation in activities, social contacts, and relations), and (4) empowerment/ control (opportunity to exert control over one's life and to make choices). However, despite the fact that SQL has the potential to become an ideal instrument to explore these important issues, limited research has been done to advance the construct of SQL in post-secondary settings (El-Hassan, 2014; Lachapelle et al., 2005; Turnbull et al., 2003). Turnbull et al. (2003) argue that SQL can become an important measure in education that would allow new criteria to be included in issues regarding participatory decision making, inclusion, the provision of self-determined choices and services, and the development of intervention that cater to the uniqueness and specific disability of each individual student by focusing on individual needs.

In keeping with models looking to promote inclusion and accessibility, SQL for students with disabilities evaluates components including opportunities and freedom to make choices, satisfactory social relationships, and feelings of belonging to their school community (Watson & Vehmas, 2019). Moreover, one of the core ideas behind QOL measures is that they allow researchers to unearth and better understand individual perceptions (Sirgy et al., 2010).

Accordingly, SQL provides the opportunity to identify and understand student perspectives regarding a number of aspects of their academic context, and address them in ways that are in line with their specific needs (El-Hassan, 2014).

Several attributes make SQL a measure that is particularly sensitive to the needs of students with disabilities in post-secondary settings. First, SQL is a multidimensional construct that is influenced by personal and environmental factors, and their interaction, which can help to fully understand the heterogeneous and unique experiences, strengths, barriers, and needs of students with disabilities while recognizing the diversity in both type of disability and academic environment (Keith & Schalock, 1994). Second, SQL is an integrative concept comprised of the interplay between emotions, cognition, and behaviours. Consequently, rather than focusing on one aspect of college or university life, SQL combines multiple aspects that contribute to student life satisfaction (Keith & Schalock, 1994). Specifically, SQL goes beyond assessing outcomes and needs solely in terms of academic performance, to instead include indicators that reflect satisfaction, belonging, and empowerment. Lastly, SQL is composed of both objective and subjective markers (Keith & Schalock, 1994). The inclusion of objective as well as subjective components provides opportunities for researchers and practitioners to make decisions regarding needs, barriers, and outcome and service evaluation (Ribeiro et al., 2018). Thus, the SQL is an important measure that allows for the exploration of the different life experiences of an individual. As such, SQL can become an important construct when trying to understand the experiences, needs, and barriers of students with disabilities in post-secondary settings to inform services and programs available to this population.

In line with this idea, it is important that professionals involved in promoting the education, development, and well-being of student with disabilities possess awareness about the use of SQL measure to ensure that appropriate supports are in place to meet the needs of students with disabilities (El-Hassan, 2014). In post-secondary settings, this means that programs aiming to increase student well-being will focus less on academic performance and place more emphasis on areas such as satisfaction, belonging, and empowerment (Keith & Schalock, 1994). Significant improvements can also be made at an institutional level by advocating for systemic changes that focus on providing equal opportunities for learning, fostering social integration, developing student's self-confidence, and teaching student how to engage in self-determined behaviours.

Self-Determination (SD)

Over the past 15 years, SD has become an essential component of services for youth with disabilities (Chambers et al., 2007; Chao, 2018). Moreover, not only is SD a central focus of the disability research, it has also become a central part of program development and implementation (Herbert et al., 2014; King et al., 2006). SD can be broadly defined as the autonomous set of behaviours, beliefs, and attitudes that lead to personal choice and lead one to act as the primary agent of change in one's life (Wehmeyer, 1999). Specifically, as noted by Deci (1996), personal autonomy pertains to the idea that individual actions and choices are guided by internal drives (e.g., personal satisfaction) rather than external influences (e.g., other people, external rewards). In other words, personal autonomy fulfills the need of knowing that one's behaviours and choices were chosen by oneself. According to Wehmeyer (1999), SD contributes to life satisfaction and well-being as people who are self-determined can act autonomously, engage in self-regulated behaviours, and are psychologically empowered (Wehmeyer, 2005).

Given its relevance and applicability, the link between QOL and SD has become an area of interest in the field of disability research (Chambers et al., 2007; Chao, 2018; Getzel &

Thoma, 2008; Nota et al., 2007; Wehmeyer, 1998). Specifically, in examining self-determination across the lifespan, Wehmeyer defined SD as “acting as the primary causal agent in one's life and making choices and decisions regarding one's quality of life free from undue external influence or interference” (Wehmeyer, 1996, p. 24). In fact, a number of researchers have emphasized the importance of incorporating both QOL and SD as important outcome indicators for persons with disabilities across different life stages and in various life domains, including academic settings (Buntinx & Schalock, 2010; Lachapelle et al., 2005; Schalock, 2000; Schalock et al., 2002; Verdugo et al., 2005). While previous sections of this manuscript provided a thorough overview of the research surrounding QOL, the following sections will provide a detailed exploration of issues around conceptualization, measurement and application that drive the construct of SD. Moreover, the link between QOL and SD will be further explored.

Conceptualization

As previously mentioned, similar to QOL, SD has its historical roots in the normalization, disability rights, and self-advocacy movements of the 60s, 70s , and 80s (Wehmeyer, 1998; Wolfensberger et al., 1972). Since its development, SD has played an important role when considering issues around advocacy, supports, and services within the field of inclusive education (Chambers et al., 2007; Getzel & Thoma, 2008). Given that SD is largely understood as a developmental concept, its application extends to the full lifespan and insights into the opportunities for, implementation of, and progression of SD provide helpful information into how to support its development at specific life stages (Chao, 2018; Heller et al., 2011). Similarly, SD impacts processes within different areas of human functioning including, emotional, social, communication, and behavioural areas (Deci & Flaste, 1996; Nota et al., 2007; Wehmeyer, 2005). Like QOL, SD is a construct that is rich in the depth and breadth of information it can provide. Thus, studying SD at specific timepoints in development and in specific contexts can provide more detailed knowledge to aid the development tailored interventions and supports. Given that SD is a complex and multifaceted construct, there are multiple theories and frameworks within the SD literature (Wehmeyer & Mithaug, 2006). This section will explore relevant SD models that will serve as the theoretical frameworks for this study to better understand the relevance of SD for students with disabilities in post-secondary settings. An overview of SD within the field of disabilities and as well as relevant research related to this study's research questions will be presented in this section.

One of the first researchers to use SD within the disability literature was Nirje (1972) in Wolfensberger's (1972) seminal work on the principle of normalization. In this important text, Nirje acknowledges that for individual with disabilities as well as for those without, it is important that their choices, wishes, and desires, be taken into consideration as much as possible in actions that affect them, and that it is this regard for individuals' right to control their life choices that is at the center of SD. Following this principle, SD has been equated not only with personal choice and self-actualization, but also with respect and dignity for all individuals (Chambers et al., 2007; Henderson-King & Smith, 2006). Thus, it is within this framework that SD has become an important guiding agent for services, advocacy, and educational improvements for persons with disability.

Some of the most widely used SD theories, reflect Nirje's work in that they emphasize the importance of personal choice across multiple areas of living, with the goal of promoting inclusion, well-being, and meaningful policy advances for populations with histories of exclusion and oppression (Chambers et al., 2007; E. Deci & Ryan, 1985; Wehmeyer et al., 2003). Two such theories will be explored in detail, mainly the functional theory of SD developed by Wehmeyer et al. (Wehmeyer, 1996, 1999, 2001; Wehmeyer et al., 2003) and Mithaug et al.'s self-determined learning theory (Mithaug et al., 2003; Wehmeyer et al., 2003; Wolman et al., 1994). These frameworks were chosen due to their applicability within the field of disabilities, as well as the fact that they have been validated and employed in numerous studies exploring success outcomes in education (Getzel & Thoma, 2008; Ju et al., 2017; Mithaug, 2003; Wehmeyer et al., 1997, 2003; Yu & Levesque-Bristol, 2020).

In his functional theory of SD, Wehmeyer et al. outlined four essential components that comprise SD, mainly behavioural autonomy, self-regulation, psychological empowerment, and self-realization. Through these components, which are dispositional in nature, SD is defined as the "volitional actions that enable one to act as the primary causal agent in one's life and to maintain or improve one's quality of life" (Wehmeyer, 2005, p. 117). That is, individuals who are self-determined are the primary "causal agents" in their lives as they engage in "volitional action" to determine important life choices and decisions (Wehmeyer et al., 2003)

A key component of the functional theory is that self-determination is seen as emerging across the life span as children, adolescents, and even adults learn skills and develop attitudes and beliefs that enable them to be causal agents and engage in volitional decision-making in their lives (Heller et al., 2011; Wehmeyer & Schalock, 2001). Within this framework, key elements of self-determined behaviors are divided in two categories mainly skills such as of goal-setting, self-monitoring, self-advocacy, problem-solving, and decision-making skills, and attitudinal components such as perceptions of self-efficacy and locust of control, beliefs around outcome expectancy, self-awareness, and self-knowledge (Wehmeyer et al., 1997). According to Wehemeyer (2005), these skills and attitudes are acquired through specific learning experiences and are developed over time. Due to its developmental component, the functional model of SD has been widely employed as a guiding framework within the field of inclusive education (Chao, 2018; Chambers et al., 2007; Lindsay et al., 2018; Wehmeyer & Schalock, 2001).

On the other hand, Mithaug et al.'s (2003) self-determined learning theory, focuses on the process by which students become self-determined learners. Specifically, according to Mithaug et al., this theory emphasizes how individuals interact with available opportunities in their environment that may support engagement in volitional actions to obtain desired life outcomes. Within this framework, the construct of SD rests on the notion that an individual's interaction between capacity and opportunities plays an important role in striving to achieve life gains. "Capacity" refers to the knowledge, possessed abilities, and perceptions that enable individuals to become self-determined, whereas "opportunity" refers to the chances provided to individuals to apply their knowledge and abilities related to SD (Wolman et al., 1994). Thus, when individuals pursue opportunities within their environment, they learn to engage in self-monitoring behaviors and regulate their thoughts, feelings, and actions (Shogren et al., 2008). Self-determined behaviour then emerges as individuals "express their own needs, interests, and abilities. They set appropriate goals and expectations for themselves. They make choices and plans in pursuit of these goals. They follow through with actions, and if necessary, they change course or adjust to achieve their desired goals effectively. Self-determined people also act more independently and more freely in pursuit of their goals than others do. They are less influenced by other people and by their environments in choosing what goals to pursue and how to pursue them" (Wolman et al. 1994, p. 5).

While some similarities exist between both frameworks, important differences in their conceptualization of SD make them both important frames through which SD can inform educational practices, particularly when striving to support students with disabilities (Ju et al., 2017; Núñez & León, 2015; White & Vo, 2006; White et al., 2014). Specifically, while the functional theory of SD focuses on the personal characteristics that lead individuals to act in a self-determined manner, the self-determined learning theory focuses on the process through which individuals become self-determined while also incorporating some dispositional aspects of SD (Shogren et al., 2008). As such, these theories both complement one another and uniquely contribute to the conceptualization and measurement of SD for individuals with disabilities, particularly within educational settings (Shogren et al., 2008).

Measurement

Given the wealth of information that exists on SD, it comes as no surprise that a number of SD measures have been created; each of them made to align with a specific theory that drives the measurement of the construct (Elliot & Thrash, 2002; Mithaug, 2003; Sheldon et al., 1996; Wehmeyer, 1995). In academic settings, measurements of SD typically focus on evaluating the degree to which students with disabilities perceive they are meaningful participants in the educational process (Lachapelle et al., 2005; Wehmeyer et al., 1997; Wehmeyer & Schalock, 2001), or on evaluating elements of the academic environment that support or impede the development of SD (Wehmeyer & Schalock, 2001). Measures that assess individual perceptions of SD include the *Arc's Self-Determination Scale* (Wehmeyer & Kelchner, 1995), while measures that assess the environmental factors that are supportive or not of SD development include the *American Institutes for Research (AIR) Self-Determination Scale* (Wolman et al., 1994). While sharing some commonalities, these measures were developed based on different theoretical perspectives, and have been empirically validated to measure different aspects of SD (Shogren et al., 2008).

The *Arc* is a student self-report measure of SD which assesses four essential characteristics (e.g., behavioural autonomy, self-regulation, psychological empowerment, and self-realization; (Wehmeyer, 1995). The *Arc* was constructed based on a definitional framework of self-determination as an educational outcome (Wehmeyer & Kelchner, 1995). As discussed in previous sections, environmental factors also play an important role in the development and practice of SD (Mithaug, 2003; Wehmeyer et al., 2003). Accordingly, the *Air* was created to assess contextual variables that affect the development of SD in academic settings (Shogren et al., 2008). Specifically, the *Air* was developed to assess student capacity to adjust to opportunities for self-determined gain (Mithaug, 2003). In that respect, the *Air* employs both individual and contextual variables as it assesses student capabilities and expectations regarding SD, while at the same time, examining the extent to which the academic environment allows for the expression of SD (e.g., by providing opportunities to experience control and choice; Mithaug, 2003). Together, the aforementioned scales compliment tone another in that they employ both individual and contextual measures to assess the degree to which SD is present in the lives of students, with the aim of examining capacity and/or opportunity to set goals, and make self-determined decisions and choices (Shogren et al., 2008). In this regard, measures of SD and QOL represent holistic approaches that can be used to gain insight into what is valued by individuals, as they exist within their unique environments. This insight can in turn be employed to assess needs, create interventions, and evaluate the effectiveness of interventions to promote SD (Chao, 2018; Jameson, 2007; Ju et al., 2017).

Application

As evidenced by previous sections, there is a considerable amount of research on the conceptualization and measurement of SD (Burke et al., 2020; Núñez & León, 2015; Van den

Broeck et al., 2016). However, research concerning the application of this construct is less substantial when compared to research on conceptualization and measurement (Chao, 2018; Shogren et al., 2008). Similar to issues with the QOL construct, due to the vast amount of research on SD, there is presently a lack of consistency in the conceptualization and measurement of SD; this, in turn, has affected the ways in which researchers make use of this construct in practice (Van den Broeck et al., 2016). These issues notwithstanding, the SD construct has proved useful in explaining the motivational variables that drive individual choice (Henderson-King & Smith, 2006; Ju et al., 2017). Specifically, the SD construct has, more recently, been applied in the field of disabilities to address issues regarding inequity, advocacy, program planning and development, outcome evaluation, and instruction for students with disabilities (Chao, 2018; Lindsay et al., 2018; Marshak et al., 2010).

The general finding in the literature is that individuals with disabilities tend to be less engaged in self-determined behaviours (Chambers et al., 2007; Field et al., 2003; Ju et al., 2017). In fact, a number of studies confirm that people with disabilities have limited opportunities to make choices and behave in autonomous ways throughout their daily lives (Lindsay et al., 2017; McCloy et al., 2013; Shogren et al., 2008). However, research has also demonstrated that higher levels of SD positively impact a number academic success outcomes such as program retention, persistence, higher academic performance, and improved ability to obtain accommodations as well as social and informational support (Getzel & Thoma, 2008; Ju et al., 2017; Yu & Levesque-Bristol, 2020). Consequently, several studies have sought to the role of self-determination in the academic success for students with disabilities (Gelbar et al., 2020; Ju et al., 2017; Wang et al., 2020; Yu & Levesque-Bristol, 2020).

To date studies examining SD in post-secondary settings for students with disabilities have focused on the acquisition, development, and implementation of SD skills and behaviours and their impact on academic success (Burke et al., 2020; Ju et al., 2017; Lindsay et al., 2018; White et al., 2014). For instance, Jameson (2007), conducted a mixed methods study to investigate the relationship between success outcomes (i.e., retention, cumulative GPA, and employment and salary status) of two-year college students with visible and non-visible disabilities and self-determination. The author employed the ARC Self-Determination Scale (Wehmeyer & Kelchner, 1995) and semi-structured interviews as primary methods of data collection. Results suggested that students with higher levels of post-secondary success demonstrated higher SD levels, while students with lower SD were less autonomous, less self-regulating, and less psychologically empowered and presented with lower levels of success as defined by the authors.

Other studies have placed more emphasis on exploring the specific SD skills that promote success in post-secondary settings. For instance, Getzel and Thoma (2008) conducted a study to identify essential self-determination skills that post-secondary education students with disabilities in 2- and 4-year college settings that supported students in remaining and persisting in college. Students in this study largely endorsed having ADHD and/or learning disabilities. The authors employed a qualitative methodology through which 34 students participated in focus group interviews. Following thematic analysis, the researchers found that SD was identified by students as important to student success (i.e., persistence and retention) in post-secondary education. The researchers identified SD skills, including problem solving, self-awareness, goal setting, and self-management, as important tools in seeking supports within post-secondary settings (i.e., seeking services, forming relationships with instructors, and developing support systems). Another important area of focus within the SD and disability research, has been to identify effective training programs and interventions that support the development of SD for students with disabilities in post-secondary education (Parker & Boutelle, 2009; Richman et al., 2014; White et al., 2014).

Within the field of inclusive education, SD has also become an important guiding agent in the development of educational advances such as, IEPs, providing instruction on learning strategies, creating high-school to college/employment transition plans, and creating policies reflecting inclusion and autonomy (Gelbar et al., 2020; Ju et al., 2017; Lachapelle et al., 2005). Most conceptualizations of SD pertaining to students with disabilities, emphasize the importance of promoting key SD aspects including, awareness of personal needs, autonomy, and goal attainment, as well as providing opportunities to experience control and choice in school environments (Shogren et al., 2008; Wehmeyer & Schalock, 2001; Yu & Levesque-Bristol, 2020). One key factor highlighted in the research literature is the idea that enhancement of QOL and excellence of education, not only for students with disabilities, but for all students can be achieved by making the promotion of SD an important part of the culture and priorities of any given academic institution in question (Chao, 2018; Nota et al., 2007; Wehmeyer & Schalock, 2001).

Bridging the Gap: The Relationship Between QOL and SD

Although SD and QOL are often viewed as complementary constructs within disability research, these constructs are often described and investigated separately (Chao, 2018; Mithaug, 2003; Wehmeyer et al., 2003; White et al., 2014). Across the literature, only a small number of studies have investigated the relationship between these two variables for individuals with disabilities (Chao, 2018; Evans et al., 2006; Lachapelle et al., 2005; White et al., 2014).

However, results from these studies found that increases in SD were strongly and positively correlated to QOL. For instance, White et al. (2018) found that QOL was positively correlated to SD in a group of thirty young adults with ASD without ID living in Canada. Specifically, results demonstrated that that individuals with higher SD scores reported higher perceptions of life satisfaction. Similarly, Chao (2018) found a significant correlation between the SD and QOL in a group of 145 senior college students with visible and invisible disabilities recruited from northern Taiwan colleges. Further, the author found that SD predicted QOL for students with disabilities one year after graduation from college; thus, highlighting the immediate and long-term of effects of SD on QOL. These findings clearly demonstrate that investigating these two constructs together, rather than separately, can help determine the interplay between SD and QOL in promoting well-being in individuals with disabilities, and in turn this information can play an important role in informing interventions and policy (Wehmeyer & Schalock, 2001).

As previously discussed, SD particularly in educational settings, is grounded on individual as well as environmental mechanisms (Shogren et al., 2008). As such SD processes involve not only the development of individual SD skills (e.g., autonomy, self-monitoring, self-regulation, advocacy strategies) but also necessitate that opportunities for students to acquire and practice these skills are made available within different areas of living (i.e., home, school, community; Pierson et al., 2008). In line with these ideas, some authors have advocated for the use of QOL as an outcome or measure of academic success, and SD as an important process leading towards higher levels of quality of life (McCloy et al., 2013; Turnbull et al., 2003; Wehmeyer & Schalock, 2001)

With this goal in mind, Wehmeyer and Schalock (2001) proposed a framework to help shape the educational curriculum in a way that is in line with the promotion of SD to enhance the

QOL of all students, including those with disabilities. In this model, Wehmeyer and Schalock suggest that the promotion of SD and SQL calls for the development of purposeful instructional programs leading to the enhancement of individual skills and environmental resources alike. At the individual level, efforts to enhance SD should include instruction to promote specific skills (e.g., problem-solving, self-management, leadership, and self-awareness skills), and opportunities to experience control and choice. The authors consider of equal importance, the implementation of quality enhancement techniques that are environmentally based, and the development of services and accommodations that are accessible, supportive, and empowering.

Lastly, Wehmeyer and Schalock raise an important point in stating that although accountability measures have been put in place to aid those students in need of more support, those systems mainly rely on normative outcomes (i.e., academic testing and performance standards) or process indicators (e.g., compliance governmental policies and legislation). Instead, these authors argue for a move towards the promotion of self-determination in educational settings to foster personal autonomy and encourage students to make their own choices free from external influences (e.g., social constraints, external rewards). They also advocate for the employment of the construct of QOL as an organizing theme to examine and help students achieve their personal goals. For instance, aside from looking into a student’s current level of academic performance, assessment measures could also examine how the disability of a particular student affects their participation in important educational processes. As such, issues around engagement, transition, retention, disclosure, and access to services can be explored with the lens of each individual student and what their specific stated needs may be, ensuring student involvement at every step of the way. Specifically, Wehmeyer and Schalock emphasize that students should feel like they have a choice regarding the services they receive, how they receive them, and whether they are effective in promoting positive school experiences. Moreover, service provision in academic settings would benefit from moving away from providing solely academic supports towards fostering inclusive environments by ensuring that students with disabilities have equal opportunities to participate in academic life activities and programs (e.g., student groups and associations) with other students to increase their satisfaction, belonging, well-being, and empowerment (e.g., their overall SQL) in academic settings.

Disability in Post-secondary Settings

As mentioned in previous sections, students with disabilities face many barriers impacting access to education at the post-secondary level (Adams & Proctor, 2010; Gelbar et al., 2020; Getzel & Thoma, 2008; Lindsay et al., 2018). These barriers range from insufficient transition supports from high school to issues around discrimination impacting disclosure processes and limiting access to services (Lindsay et al., 2017; Lipka et al., 2020). From an equity standpoint, these challenges not only impact representation of student with disabilities in post-secondary settings, but also reduce opportunities for gainful employment in the long-term (Marshak et al., 2010; McCloy et al., 2013). This in turn, can significantly impact important QOL indicators such as financial health, social well-being, and life satisfaction (Lindsay et al., 2018). For these reasons, there is a growing need to explore factors around access, transition, retention and persistence among students with disabilities and higher education settings (Getzel & Thoma, 2008; Murray et al., 2014; Pierson et al., 2008; Sachs & Schreuer, 2011).

Recently, the field of disabilities has moved towards exploring the experiences of student with disabilities in post-secondary settings, particularly around issues related to disclosure and access to accommodations (Herbert et al., 2014; Lindsay et al., 2018; Ragins, 2008; Troiano et al., 2010). For instance, Lindsay et al. (2018) conducted a systematic review of the literature on disability disclosure and accommodations for youth with disabilities in post-secondary education. The authors identified 36 studies meeting inclusion criteria through which they explored disclosure strategies and accommodation processes. Per their results, barriers to disability disclosure and requests for accommodations in higher education included previous experiences and/or fears around experiencing stigma and discrimination, a lack of knowledge of supports and how to access them, lack of instructor support and instructor knowledge of disability, individual coping styles, and nature of the disability (i.e., disability identity, issues around visibility and invisibility, and severity of disability). Facilitators included accessibility of supports and resources, having had opportunities to develop positive coping skills and self-advocacy skills, mentorship present from the transition to the adjustment phases, and realising the benefits of disclosure. Although this study synthesized important barriers and facilitators for students with disabilities, the authors also argued for increased efforts to investigate specific skills that support post-secondary outcomes, as well as the role that educators, support professionals, and institutional policies play in promoting success outcomes for student with disabilities in post-secondary settings.

Research has been less expansive around issues pertaining to transition pathways as well specific processes that support adjustment, retention, and overall coping within post-secondary settings (Lindsay et al., 2017; Lipka et al., 2020; Murray et al., 2012). In an effort to address this gap, Lindsay et al. (2017) employed an ecological framework to explore the experiences of youth with physical disabilities as well clinicians (e.g., occupational therapists, social workers, and psychologists) who support them in their transition to post-secondary education. The researchers conducted 20 interviews with youth with disabilities and 10 with clinicians to better understand youth experiences as well as transition pathways. The authors found important factors influencing youth’s transition experiences at the micro-, meso-, exo- macro-, and chronosystems. These factors included the development of specific skills (e.g., self-advocacy, determination, problem solving, communication skills), family and community support, level of perceived independence, issues around disclosure and accommodations, access to transportation, attitudes of others/discrimination/stigma, level of support from educators and clinicians, and resources and supports connecting youth from high school to post-secondary. From a clinical standpoint, the authors emphasized the importance of clinician and educator involvement in promoting the development of relevant life skills (e.g., self-advocacy, disclosure, and navigating public transportation) as well as in educating and supporting youth regarding the process for disclosure and requesting accommodations, and the need for improved inter-professional collaboration. Through interview data, the authors addressed an important gap in the literature by identifying factors at the level of individual, social, environmental, and institutional structures that may pose as barriers to successful transition to post-secondary environments as well as hinder adjustment for youth with disabilities in these settings.

In order to explore issues around adjustment to higher education, Lipka et al. (2020) surveyed a group of 469 students, 234 were undergraduate and graduate students with disabilities (i.e., mental disabilities, sensory, ADHD/LD, and physical disabilities) and 235 students (matched controls) in Israeli post-secondary institutions. The authors examined adjustment from a multifaceted perspective (i.e., exploring academic, social, emotional, institutional factors) immediately following students’ first year of study. Results from this study indicated that, in general, students with disabilities reported lower adjustment than student who did not identify as having a disability. Furthermore, unique adjustment challenges for each of the disability groups were noted. Specifically, students with invisible disabilities reported lower levels of personal, social, and institutional adjustment compared to students with visible disabilities. When the authors explored specific disability groups, they found that students with mental health disabilities demonstrated the lowest levels of adjustment across domains compared to other disability groups as well as to controls. The authors posited that for all groups, lower levels of personal adjustment might be a "reflection of daily stress and concerns inherent in the academic environment, such as stress resulting from academic requirements or from daily conflicts between academic and work demands on students with invisible disabilities" (p. 9). Overall, the findings demonstrate the importance of examining the experience of different disability groups across various domains to better understand their unique needs and provide more tailored supports.

As a whole, the studies reviewed emphasize the idea that adjustment, disclosure, and accessibility processes for student with disabilities in post-secondary settings cannot be explored from a univariate lens. Instead, due to their complexity and variability, it is important to employ constructs that reflect this complexity. Construct such as SD and SQL then become important tools as they offer multiphasic and comprehensive ways to understand these issues. Further, the inclusion of studies employing qualitative methodologies allows researchers to obtain rich information about the unique and intersecting experiences of students with disabilities; thus, allowing for more focused identification of interventions and policies to better support this population.

Original Contribution

The above sections highlight the importance of incorporating constructs such as SD and QOL in research involving persons with disabilities, as well the continued need for more research in this field (Lindsay et al., 2018; McCloy et al., 2013; Pierson et al., 2008). This study will provide important information on the levels of SD and SQL for students with disabilities in post-secondary settings. As previously mentioned, research on disability in higher education settings lags behind research with younger populations in educational settings (Adams & Proctor, 2010; Faragher & Ommen, 2017; Lipka et al., 2020) However, College and university settings are inherently stressful contexts that require self-reliance and adjustment periods due to the emotional, cognitive, and social demands placed on students. For students with disabilities, adjusting to post-secondary settings can be an even more difficult task as issues around mobility, accessibility, individual coping, disclosure, and prejudice make the transition and adjustment process more challenging and demanding (Lindsay et al., 2017). Hence, the importance of ensuring that this population has access to the most effective supports and resources to decrease attrition and support successful higher education experiences for students with disabilities. As such, focusing on the promotion of SD and QOL can be important steps towards affording post-secondary students with disabilities a means by which they can express individual needs which can then guide the deployment of tailored interventions and supports.

Results from this study will provide information about access to supports, current levels of SD and SQL, as well explore student meanings and needs as they pertain to SD and SD promotion and development. Further, as the sample included students identifying with visible and invisible disabilities, results from this study will also provide important information to about differences in needs for these populations. It is this researchers' hope that this study will provide information clinicians and education professionals can employ to identify areas of need and create effective interventions grounded in strength- and needs-based approaches. Furthermore, this dissertation will provide information about students with disabilities in post-secondary settings within a Canadian context. As such, results form study can have important implications for policy development across Canadian post-secondary institutions. One last contribution of this dissertation concerns its alignment with growing movements centered around advocating for the incorporation of participant voices in research, as well as gathering richer data using both quantitative and qualitive frameworks. In this study, the incorporation of qualitative data collected via open ended questions adds to the depth and breadth of our understanding of the experiences of students with disabilities in post-secondary settings. As such, this manuscript presents research on SD and QOL for students with disabilities which can support efforts in skills promotion, opportunities within post-secondary settings for SD development, and help our understanding around the role that these skills play in supporting successful life outcomes based on individual needs.

Research Questions

Given that this is an exploratory study, research questions were broader to support the examination of different possibilities around data analysis, interpretations, and conclusions. As such, directional hypotheses were not employed. The following research questions guided this exploratory study:

1. Do levels of SD, as measured by the Arc's SDS total score (Wehmeyer & Kelchner, 1995) vary by depending on demographic factors (i.e., age, gender, disability category, and academic level) for post-secondary students with disabilities?
2. Does SD predict SQL, as measured by the QSL.Q total score (Keith & Schalock, 1995), above and beyond demographic (i.e., age, gender, education, visibility of disability) and environmental (i.e., opportunity) factors as measured by the *AIR* Opportunity subscale (Wolman et al., 1994)?

3. Are there SDS subdomains that more strongly predict SQL, after controlling for demographic and environmental (i.e., opportunity) factors?
4. How do post-secondary students conceptualize SD (i.e., what are the themes identified from open ended items: What does SD mean to you?) and do these definitions align with existing SD frameworks and SD measures?
5. Has SD helped participants succeed in post-secondary settings? (i.e., what are the themes identified from open ended items: Do you think that being self-determined has helped you succeed in your in your post-secondary setting? [i.e., academic achievement, acquisition of knowledge and skills, persistence and retention, success in navigating your post-secondary environment, and developing and maintaining relationships?] Please explain.)?

Chapter 3: Methods

The purpose of this exploratory study is to develop a meaningful understanding of the experiences of students with disabilities regarding SD skills and perceived SQL. Specifically, this dissertation explored the experiences of post-secondary students with disabilities attending Canadian academic institutions. The relationship between SD and QSL for students with disabilities attending post-secondary institutions was explored and possible individual and environmental predictors (i.e., age, gender, education, visibility of disability and SD skills, opportunity to practice SD) of SQL were also examined. Open ended questions were employed to gain a more meaningful understanding of student experiences around SD skills and SD development. In addition, relevant themes taken from open ended questions supported this researcher in exploring participant definitions of SD and identifying reasons why SD is valuable to students in attaining success in post-secondary settings. A mixed methods design was employed. This chapter will provide information on the rationale for this study, a description of the participant population, recruitment, measures employed, methodological procedures, and data analysis plan.

Study Design

The current is a non-experimental descriptive study with exploratory components involving examining levels of SD and predictors of SQL through regression models. A mixed methods research design (i.e., integrating quantitative and qualitative methods) was used to explore the above outlined research questions (Creswell & Plano Clark, 2018). According to Hanson et al. (2005), mixed methods allow for a more nuanced understanding of the phenomenon of interest by allowing researchers to both, generalize results from a sample to a population and expand on quantitative findings by examining more detailed information obtained through qualitative methods. Thus, a mixed methods design is consistent with the aims and research questions guiding this study.

Although mixed methods designs can pose some philosophical and technical challenges, this integrative approach can also enrich result studies to allow for a more comprehensive understanding of the research topic at hand (Hanson et al., 2005). Philosophical challenges stem from underlying philosophical assumptions which guide a general approach to research methods (i.e., a specific technique for collecting or analysing data; Teddlie & Tashakkori, 2009). Specifically, the incompatibility between post-positivist epistemologies (more often associated with quantitative methodologies) grounded in realist beliefs, and constructionist or interpretive epistemologies (more often associated with qualitative methodologies) typically grounded on relativistic beliefs (Willig, 2013). Pragmatism offers an approach to target these philosophical challenges such that these forms of inquiry are not seen as incompatible as they are employed to evaluate reality, not based on accuracy, but on the impact of research on the world (e.g., usefulness, effectiveness, impact on service provision; Willig, 2013). Technical challenges relate to the specific techniques for collecting or analysing data (i.e., how, and when to combine specific qualitative and quantitative methods; Willig, 2013). To address these challenges, some authors suggest considering formal mixed methods research design types which vary at the levels of data collections, analysis, and interpretation.

For the purposes of this study, a concurrent nested design was used to guide research methodology for the following reasons: (a) both quantitative and qualitative data collection procedures were conducted concurrently, (b) integration occurred at the interpretation stage, (c) higher priority was given to the quantitative phases of the study compared to qualitative phases (Hanson et al., 2005).

Participants

The participants in the study were 104 students with disabilities attending post-secondary education institutions across Canada. Participants were between the ages of 19 and 41, and self-identified as having visible disabilities, invisible disabilities, or both. In order to participate in the study, participants had to meet the following requirements: (a) a chronological age between 18 and older; (b) self-identify as having one of the following disabilities (Attention Deficit Hyperactivity Disorder [ADHD], Autism spectrum disorder [ASD], Deaf and Hard of Hearing, Learning disabilities, Medical Disabilities or chronic medical conditions, Mental health disorders or psychiatric disabilities, Mobility Disabilities, Neurological disabilities, Traumatic Brain Injury [TBI]) (c) be currently enrolled in a Canadian post-secondary institution. A total of 205 students with disabilities across Canada accessed the online survey. After screening for incomplete responses, 105 participants remained. Out of this group one participant completed the survey in under 15 minutes and was thus discarded. Remaining responses were screened to ensure inclusion criteria was met. The final sample size consisted of 104 students with disabilities. Additional demographic participant information is provided in the results section.

Power

A priori power analysis to determine sample size we calculated by using the power analysis computer software GPower-3 (Faul et al., 2007). GPower provides sample sizes based on the desired effect size, level of significance, and desired power level, to increase the validity of the statistical tests performed. A power of .95, alpha of .05, and a medium effect size ($d = .3$; Cohen, 1988) were used in each power analysis. The minimum sample size calculated for the hierarchical regression analyses was 77 participants, such that this sample size should yield an adequate power for detecting a moderate sized effect when employing the traditional 0.05 criterion of statistical significance.

Recruitment Procedures

This study received approval from the Research Ethics Board 2 at McGill University, participants were recruited across Canada through a number of methods which included social media posts, newsletters, and emails to organizations that provide services and information for students with disabilities, as well Cégep, college, and university groups catering to student with disabilities. Group administrators were asked to inform potential participants meeting recruitment criteria about the online survey and forward the URL link. Once students accessed posts/newsletters/email they were directed to letters of invitations (see Appendix A), which included a short introduction to the study, a request to participate, and the hyperlink to access the online survey. An online survey was the preferred method of data collection as, as it provides a balance between efficiency and access to a wide variety of participants. When participants clicked on the link, they were directed to the informed consent form (See Appendix B). Informed consent was obtained from each participant, and participants were ensured of the opportunity for withdrawal at any stage of the study. Once the participant had clicked "I agree to participate", the survey appeared on the screen. The survey took approximately 30 to 45 minutes to complete. After completing the survey, participants who wanted to be compensated for their time were offered the opportunity to enter a raffle to win one of 10 gift certificates from a store of their choice (i.e., ITunes, Amazon, Chapters) of a 50$ value each. Data was collected by using LimeSurvey.

Measures

A survey was created through LimeSurvey. Participants were made aware of the user and accessibility features (e.g., read out loud questions, options to print questions and answers) offered when using the survey.

The measures employed in this study consisted of a demographics questionnaire, the AIR SD Scale - Student (AIR; Wolman, Campeau, Dubois, Mithaugh & Stolarski, 1994), the Arc's SDS Scale (SDS; Wehmeyer & Kelchner, 1995), and the Quality of Student Life Questionnaire (QSL.Q; Keith & Schalock, 1995). These measures were chosen because they include a number of individual and contextual indicators (capacity and opportunity for SD, satisfaction with academic settings, belonging, and empowerment) that have been associated with academic success and well-being for students with disabilities (Chambers et al., 2007; Chao, 2018; Ju et al., 2017; Turnbull et al., 2003).

Demographic Questionnaire

The demographic questionnaire (see Appendix C) used in this study was developed by this researcher. It contains 26 questions assessing different demographic levels (e.g., age, education, racial and ethnic background, education, living status). Participants were also asked open-ended questions to explore meanings of SD and well as attributed importance of SD in post-secondary settings (i.e., *What does self-determination mean to you? Do you think that being self-determined has helped you succeed in your post-secondary setting? [i.e., academic achievement, acquisition of knowledge and skills, persistence and retention, success in navigating your post-secondary environment, and developing and maintaining relationships?]*). Ending questions included in the questionnaire also looked to assess changes in perceptions of SD and SQL (i.e., *Do you feel that this survey has helped you gain new knowledge regarding self- determination or student quality of life? Please explain, following completion of this survey, has your definition of self-determination changed? How?*) and the impact of COVID-19 on participants lives (*Have Corona virus (COVID-19) related events impacted your experiences of self-determination and/or quality of student life within your current academic context [e.g., courses, relationships to post-secondary institution staff, relationships to peers, etc]? If yes, how so?*).

ARC's Self-Determination Scale

The Arc's Self-Determination Scale (SDS; Wehmeyer & Kelchner, 1995; see Appendix D) is a 72-item self-report measure. The SDS consists of four subscales representing the four essential characteristics of self-determined behavior: Autonomy, Self-Regulation, Psychological Empowerment, and Self-Realization and total SD score (Wehmeyer, 1996; Wehmeyer, Kelchner, & Richards, 1996). The Autonomy subscale measures a person's level of independence and capacity to act based on their personal beliefs, values, and interests. Participants rate the 32 items in this section on a scale from 0 (I do not even if I have the chance) to 3 (I do every time I have the chance). The second section is the Self-Regulation subscale which comprises two subsections: problem solving and goal- setting/task performance. For the problem-solving section, scores are reflected on a scale of 0 to 2 points depending on the effectiveness of the participants' given solution to resolve a social problem. For the goal setting/task performance section, scores are based on participant's ability to identify a goal and the outlined steps to attain the goal (0 = no plan; 1 = goal without steps; 2 = goal with 1-2 steps; 3 = goal with 3-4 steps). The Psychological Empowerment subscale consists of 16 questions assessing a person's perceptions of control, efficacy, and outcome expectations. Answer options are 0 (absence of a psychologically empowered belief) or 1 (presence of a psychologically empowered belief) point. The Self-Realization subscale consists of 15 items and assess a person's self-awareness and self-knowledge. Scores of either 0 or 1 are given based on whether the answer reflects positive self-awareness and self-knowledge. A total SD score can be calculated by adding scores from the four subscales. This measure was normed with a a sample of 500 adolescents and young adults with and without disabilities (e.g., intellectual, learning, emotional, physical) between the ages 14 and 22 years Wehmeyer (1996). Reported alphas in this sample were as follows: .90 for Autonomy, .73 for Psychological Empowerment, .62 for the Self- Realization subscale, and .90 for the three scales (Wehmeyer, 1995). The SDS is based on the functional theory of SD (Wehmeyer, 1996, 1999, 2001; Wehmeyer et al., 2003). The ARC has been used in previous studies examining SD in college and university populations (Chao, 2018; White et al., 2018). In the current study, Cronbach's alphas for this study were as follows: .96 for Autonomy, .79 for Self-Regulation, .73 Psychological Empowerment, and .86 for Self-Realization, and .96 for the SDS total scale. All alpha coefficients fell in the acceptable to excellent range (i.e., alphas > = .70; Kline, 2005).

AIR Self-Determination Scale

The *AIR Self-Determination Scale* (*AIR*; Wolman et al., 1994; see Appendix D) is a 24-question measure assessing participants' capacity and opportunity for SD. The *AIR* is available in three versions, mainly student, educator, and parent. The student version (*AIR-S*) version was used in this study. Responses are rated on a scale from 1 (*never*) to 5 (*always*) and yields two subscales and total score (i.e., Capacity and Opportunity subscale and a total SD score). The AIR-S consists of 24 questions, which were rated on a scale from 1 (never) to 5 (always) and provide information on participants' capacity and opportunity for SD. The AIR-S Capacity subscale consists of two domains: *Things I Do* and *How I Feel*, both related to performing SD behaviors. The AIR-S Opportunity subscale includes questions about the opportunities students have to engage in SD behaviors in the home and academic environments. The *AIR-S* was normed with 450 students with and without disabilities in the United States (Wolman et al., 1994). Reliability and validity were appropriate for the measurement of SD for students with and without disabilities at the elementary, high school, college, and university levels (reported alphas: .91 for Capacity, .87 for Opportunity, and .93 for the total scale). The *AIR* is a measure of SD based on self-determined learning theory (Mithaug et al., 2003; Wehmeyer et al., 2003; Wolman et al., 1994). This measure has been used in previous studies examining SD in college- and university-aged populations (Pierson et al., 2008; Wu & Molina, 2019). In this study, Cronbach's alphas for Opportunity (.92), Capacity (.95), and for the total scale (.90) fell in the acceptable to excellent range (i.e., alphas > = .70; Kline, 2005).

The Quality of Student Life Questionnaire

The Quality of Student Life Questionnaire (QSL.Q; Schalock & Keith, 1994) is a 40-item standardized rating scale designed to assess students' perceptions of life experiences. In addition to school-related issues, this instrument measures student's perceptions of aspects of family, friendships, and general satisfaction (Keith & Schalock, 1994). The QSL.Q provides a total score and four subscales of 10 items each: (a) satisfaction (personal opinions reflecting satisfaction with current circumstances, emphasizing school and school-related activities), (b) well-being (general view of the person's feelings regarding his/her life circumstances, including personal problems and some questions about family), (c) social belonging (participation in activities, social contacts, and relations), and (d) empowerment/control (opportunity to exert control over one's life and to make choices) (Keith & Schalock, 1994). The first of these subscales can be categorized as subjective in nature while the other three refer to more objective criteria (Keith & Schalock, 1994). The QSL.Q is considered to be a reliable measure of student quality of life; reported alpha coefficients for the four scales were: 0.89 for satisfaction; 0.76 for well-being; 0.91 for social belonging; and 0.84 for empowerment/control (Keith & Schalock, 1994). The questionnaire was originally normed on a small of sample (25) of high school-aged and transition aged students but has been advanced as a reliable measure to assess SQL in older populations (Keith & Schalock, 1995). This questionnaire is a brief measure, containing accessible language, and aims to assess student's perceptions within the specific culture of their academic institution; it was therefore considered particularly useful for this study (Schalock & Keith, 1994). Cronbach's alphas for this study all feel in the acceptable range or above (i.e., alphas > = .70; Kline, 2005), Satisfaction (.90), Well-being (.86), Belonging (.86), Empowerment/Control (.77), and for the total scale (.94).

Data Collection Procedures

Collection

Data was collected by using an online survey software, LimeSurvey. The survey excluded direct identifiers, with the exception of email address (for participants expressing interest in entering the draw). All collected data were kept confidential. There was no direct interaction between participants and researchers unless requested by the participant (e.g., for questions or concerns regarding the survey). Once collected, this researcher uploaded the participant data into an excel file for review and data clean-up. Subsequently, data was transferred into the Statistical Package for the Social Sciences (SPSS) which is the software used for analyses.

Missing Data

Missing data is a common challenge in research, for instance a missing rate of 15% to 20% can be common in educational and psychological studies (Enders, 2001). In this study, the percentage of missing data across all variables in the data set was 0.15% (29 values). Mean imputation was employed to estimate missing values (Tabachnick & Fidell, 2013). Although there are more robust methods to calculate missing values, mean amputation is considered a conservative and adequate alternate method to manage missing data (Tabachnick & Fidell, 2013). Further, mean amputation is considered a more effective method than listwise or pairwise deletion to deal with missing data (Dong & Peng, 2013). Although one drawback of mean amputation is that it can lead to reductions in variable variance, the extent of loss of variance is limited when the amount of missing data is low as is the case in this study (Tabachnick & Fidell, 2013).

Data Analysis Procedures

Quantitative Analysis

All scores were initially examined for outliers and unusual distribution properties (e.g., skewness and kurtosis). Corrective steps were not needed as all variables appeared to be normally distributed and no extreme values were observed (based on review of data points and distribution of z-scores). Quantitative analyses included: descriptive statistics, analysis of variance (ANOVA) tests, and hierarchical multiple regressions.

Qualitative Analysis

The qualitative method employed in this study follows the phenomenological tradition (Langdridge, 2007). Specifically, while the quantitative portions in this study follow a positivistic stance, the qualitative components are grounded on critical realism and contextualism (Smith et al., 2009). By incorporating qualitative components, I acknowledge that meaning making is individual and impacted by the social context, and that I, as a researcher, bring certain biases and values into the different stages of the research process. I do recognize that while this study does not fall neatly under a phenomenology, it does provide more in-depth information in relation to the quantitative methods employed. In so doing, I aim to explore and describe student experiences and the phenomenon of SD in post-secondary settings in a way that is not possible by employing quantitative methods only. By adopting a pragmatic stance, I aim to "mix methods" to present a more nuanced and richer description of SD in post-secondary settings with the goal of informing my own practice, practice in general, policy and future research.

Thematic analysis was employed to explore research questions 3 and 4. Specifically, the reflexive thematic analysis (TA) approach outlined by Braun and Clarke (2006) was employed to analyse open ended questions included in the survey. Braun and Clarke's approach to TA was chosen as the method of data analysis as it can be employed to analyse different types of data (e.g., interview transcripts, survey questions) all the while proving theoretical flexibility. TA in this study has been employed from a critical realist perspective. Further, reflexive TA allows the researcher to both, focus on patterned meaning finding across the data and provide detailed descriptions of collected data (Braun & Clark, 2011; Larkin et al., 2006).

Analysis of participant responses was done using both inductive (i.e., making interpretations of the data without ascribing to pre-established coding frames or assumptions) and deductive (i.e., data analysis guided by existing theoretical principles or frameworks) approaches to allow for a richer and more detailed interpretation of the data. To aid the analysis process, survey responses were transferred onto Excel spreadsheets where codes and themes were created by using color coded tables.

Braun and Clarke's (2006) six phase outline of thematic analysis was followed (see Table 1): (1) this researcher became familiar with the data by actively reading survey responses, and beginning to identify meaning and patterns, (2) initial semantic codes (i.e., responses were analyzed based on explicit meanings) were generated, which were later refined and clustered according to identified patterns; each extract was coded for one or more code(s), (3) overarching themes were created by collating relevant codes, (4) resulting themes were reviewed and refined by relating them back coded extract included in the theme at hand as well as whole response items, (5) this researcher labelled and defined each theme; a thematic map of the analysis was created, (6) direct quotes from the data which provided clear illustrations of each theme were selected to produce a final report of the analysis.

Frequencies around the number of times a theme or subtheme appeared across the data were also calculated and are discussed in the results section. In this study, frequency is not employed as a measure of significance, rather it was utilized to offers a sense of the extent to which a particular theme of subtheme was common across responses. Although Braun and Clarke (2006) do not advocate for additional data reviewers given that this doesn't necessarily result in 'more accurate' or 'more reliable' coding, a fellow researcher was consulted in order to reflect on how the data was coded and review themes to ensure they reflected codes and raw data tends.

Reflexive Statement. Reflexive TA advocates for the meaningful interpretation of data, depth of engagement, thoughtfulness, and creativity (Braun & Clarke, 2006). Within this approach, coding is seen as flexible and organic, and evolving throughout the analysis process. Reflexivity underscores that the researcher will actively and meaningfully engage with the data such that resulting analyses will inevitably “bear the mark of the researcher(s)”. As such, a reflexive statement is included in this manuscript to provide the reader with a context within which to understand the information presented, as well as understand how this researcher’s background might have impacted the research process.

I am a Latina, able-bodied, heterosexual, cis-gender female holding a bi-cultural Canadian-Salvadorian identity. I am also a researcher, school psychologist, and practicing clinician. Through my work in the field of psychology, I have had the privilege of listening to and at times being a part of the stories shared with me by student with disabilities. In so doing, I have borne witness to the challenges faced by students at different levels of their educational trajectory. Challenges which appear to intensify at the post-secondary level. Hearing stories pertaining to internal struggles surrounding disclosure, feelings of shame, embarrassment, and stigma, I came to realize how educational environments may come to exacerbate or mitigate these challenges. From there emerged a desire to conduct research from a strength-based and inclusive perspective.

To me, this meant ensuring that this study incorporated student voices. Limited by my inexperience with qualitative research but fueled by a desire to contribute to meaningful research that could potentially have a significant impact in the creation of inclusive post-secondary environments, I sought to undertake a mixed methods project. It is my hope that this study can contribute to ongoing efforts to part from valuing able-bodiedness and neurotypicality to instead come to appreciate and celebrate differences and uniqueness. However, as a helping professional, I recognize that this should not come at the cost of understanding and recognizing that living with a disability can be often difficult and painful. Instead, I aim to focus on the idea that inclusive social environments, particularly educational environments, need to be built and function to enable and empower rather than disable. I should note that, despite my background and past experiences, I have to the best of my ability focused on participant accounts to guide the findings of this study.

Demographic Information

Study participants were 104 students who self-identified as having disabilities attending Canadian post-secondary institutions. Participants ranged in age from 19 to 41 years (*M* = 25.82, *SD* = 4.40). Women constituted 46.2% of the sample, men constituted 25% of the sample, and 28.8% identified as transgender and gender fluid. In terms of race and ethnicity, participants identified as White or Caucasian (49%), biracial or multiracial (20.2%), Asian or Pacific Islander (11.5%), Hispanic or Latin X (10.6%), Black or African American (3.8%), First Nations, Aboriginal, or Indigenous (2.9%), Jewish (1%), and Middle Eastern (1%). and although participants from other racial or ethnic groups were also represented in the sample.

Of the 104 participants who competed the survey in its entirety 52.9% identified as living with an invisible disability, 40.4% identified as living with a visible disability, and 6.7% identified as having both visible and invisible disabilities. The types of visible disabilities reported included blindness, degenerative diseases causing mobility difficulties (i.e., multiple sclerosis, muscular dystrophy), hip dysplasia, osteoarthritis, Osteogenesis Imperfecta, quadriplegia, Spastic Cerebral Palsy, Spina Bifida, spinal cord injury, and Tourette's. Reported, invisible disabilities included anxiety disorders (i.e., generalized anxiety disorder, social anxiety disorder, obsessive compulsive disorder), attention-deficit/hyperactivity disorder (ADHD), autism spectrum disorders, bipolar disorder, Crohn's Disease, chronic pain disorders, Cystic Fibrosis, deaf and/or hard of hearing, depression, fibromyalgia, and learning disabilities.

Participants varied in terms of educational levels with 42.3% attending Undergraduate studies, 32.7% being at the Master's level, 23.1% at the Doctoral level, and 1.9% reporting being at the College level. Of the 104 participants, 47 (45.2%) participants indicated that they are currently accessing services through the disability office at their academic institution. Of those participants, 41 (40.4%) reported being satisfied of very satisfied with the services received. Of the 47 participants receiving services, 28 (59.6%) were students with visible disabilities, 17 (36.2%) were students with invisible disabilities, and 2 (4.3%) were participants having both visible and invisible disabilities. The categories of services accessed by participants were mental health services, peer support/mentorship, academic accommodations (additional time, extended deadlines, access to class notes or support with note taking), and access to assistive technology. Overall, participant's reported receiving similar levels of informational and emotional support ($M = 2.02$, $SD = .76$ and $M = 2.03$, $SD = .61$, respectively) and ranked both types of supports at similar levels of importance ($M = 3.25$, $SD = .73$ and $M = 3.36$, $SD = .84$, respectively for informational and emotional support). Overall mean levels of empowerment for the sample were moderately high ($M = 7.25$, $SD = 1\ .4$, range = 3-10). See Table 2 for additional information on demographic variables.

Chapter 4: Results

This section presents results divided by research question. Specifically, for quantitative analyses ANOVA and hierarchical regressions assumptions will be outline as well as test results. For qualitative analyses, themes, subthemes, and participant quotes illustrating themes and subthemes will be presented.

Descriptive Statistics for Variables of Interest

Descriptive statistics for all variables of interest are presented in Table 3. To ensure integrity of the data and prior to conducting any analyses, all variables were examined for accuracy of data entry, distributional properties, and assumptions of selected tests.

Table 1

Descriptive Statistics for all Variables of Interest (n = 104)

Variable	*M*	SD	Minimum	Maximum
Age	25.82	4.39	19	41
SDS Total Score	109.04	23.68	54	143
Autonomy	73.37	18.25	29	96
Self-Regulation	11.13	4.40	0	20
Psychological Empowerment	13.56	2.45	7	16
Self-Realization	10.98	3.51	2	15
QSLQ Total Score	98.42	13.27	67	119
Satisfaction	25.33	4.40	13	30
Well-Being	23.60	3.98	11	30
Social-Belonging	22.01	4.60	13	30
Empowerment/Control	27.47	2.90	18	30
AIR-S Total Score	90.19	14.33	48	119
Capacity	45.89	7.68	24	60
Opportunity	44.29	8.01	23	60

Note. SDS = Arc's Self-Determination Scale. QSLQ = Quality of Student Life Questionnaire. AIR-S = AIR Self-Determination Scale – Student form.

Outliers and Normality Analysis

The distribution for each variable was normal as assessed by Q-Q plots and skewness and kurtosis z-scores (i.e., z-scores for skewness and kurtosis were no greater than an absolute value of 2.58 [$p < .01$, two tails]; Wilcox, 2010). Standard z-scores did not exceed ±3.29 ($p < .001$, two tails), which suggested the unlikelihood for univariate outliers (Tabachnick & Fidell, 2013). Thus, outliers were not excluded from the analyses.

Research Question 1: Do Levels of SD, as Measured by The Arc's SDS Total Score (SDS; Wehmeyer & Kelchner, 1995) Vary Depending on Demographic Factors (I.E., Age, Gender, Visibility of Disability, And Academic Level) For Post-secondary Students with Disabilities?

A one-way ANOVA was conducted to determine whether there was a significant difference between participants' age in relation to their reported SD (i.e., using the Total SDS score). Three categories were created to explore age groups representing, younger young adults, older young adults, and adults (i.e., 19-24, 25-30, and 31-41, respectively). There were no outliers, and the data were normally distributed for each group as assessed by boxplot and engagement scores (i.e., z-scores for skewness and kurtosis were no greater than an absolute value of 2.58 [$p < .01$, two tails]; Wilcox, 2010). Engagement scores were normally distributed for younger young adults with a skewness of -0.392 ($SE = 0.350$) and kurtosis of -.0346 ($SE = .688$), older young adults with a skewness of -0.526 ($SE = 0.357$) and kurtosis of -1.000 ($SE = 0.702$), and for adults with a skewness of 0.015 ($SE = 0.597$) and kurtosis of -1.720 ($SE = 1.154$). The assumption of homogeneity of variances was satisfied, as assessed by Levene's Test of equality of variances, $F(2, 101) = 2.04$, $p > .05$. A Welch ANOVA was employed to assess means difference due to unequal samples sizes. Using the Robust Tests of Quality of Means, levels of SD were not found to be significantly different for the different age groups, Welch's $F(2, 34.398) = 2.74$, $p > .05$. Thus, an examination of the Games-Howell post hoc analysis was not required (Field, 2009).

Table 2

One-Way Analysis of Variance of SD Total Score by Age

Source	*df*	*SS*	*MS*	Welch's *F*(2, 34.40)	*p*
Between groups	2	2817.52	1408.76	2.74	.08
Within groups	101	54930.50	543.87		
Total	103	57748.02			

A one-way ANOVA was conducted to determine whether there was a significant difference between participants' gender in relation to reported levels of SD. There were no outliers, and the data were normally distributed for each group as assessed by boxplot and engagement scores (i.e., z-scores for skewness and kurtosis were no greater than an absolute value of 2.58 [*p* < .01, two tails]; Wilcox, 2010). Engagement scores were normally distributed for females with a skewness of -0.133 (*SE* = 0.343) and kurtosis of -.968 (*SE* = 0.674), males with a skewness of -0.190 (*SE* = 0.456) and kurtosis of -1.427 (*SE* = 0.887), and transgender and gender fluid with a skewness of -0.229 (*SE* = 0.427) and kurtosis of -1.165 (*SE* = 0.833). The assumption of homogeneity of variances was not satisfied, as assessed by Levene's Test of equality of variances, *F* (2, 101) = 5.59, *p* < .05. Thus, a Welch ANOVA was employed as samples sizes were unequal and homogeneity of variances was not met. Using the Robust Tests of Quality of Means, the level of SD was not statistically significantly different for different genders, Welch's *F* (2, 54.215) = 0.86, p > .05. Thus, a Games-Howell post hoc analysis was not examined (Field, 2009).

Table 3

One-Way Analysis of Variance of SD Total Score by Gender

Source	*df*	*SS*	*MS*	Welch's *F*(2, 54.22)	*p*
Between groups	2	1234.23	617.11	0.86	.43
Within groups	101	56513.79	559.54		
Total	103	57748.07			

A one-way ANOVA was conducted to determine whether there was a significant difference between participants' disability category (i.e., visible, invisible, and both visible and invisible) in relation to reported levels of SD. There were no outliers, and the data were normally distributed for each group as assessed by boxplot and engagement scores (i.e., z-scores for skewness and kurtosis were no greater than an absolute value of 2.58 [*p* < .01, two tails]; Wilcox, 2010). Engagement scores were normally distributed for the visible group with a skewness of -0.721 (*SE* = 0.3465) and kurtosis of -0.719 (*SE* = 0.717), the invisible group with a skewness of -0.292 (*SE* = 0.322) and kurtosis of -0.265 (*SE* = 0.634), and the visible and invisible group with a skewness of -0.469 (SE = 0.794) and kurtosis of -0.892 (*SE* = 1.587). The assumption of homogeneity of variances was satisfied, as assessed by Levene's Test of equality of variances, *F*(2, 101) = 2.368, *p* < .05. A Welch ANOVA was employed as samples sizes were unequal. Using the Robust Tests of Quality of Means, it was found that the level of SD was significantly different for different disability groups, Welch's *F* (2, 20.786) = 5.10, *p* < .05. Specifically, SDS total score increased from living with both invisible and visible disabilities (*M* = 100.29, *SD* = 13.29) to invisible disabilities (*M* = 103.68, *SD* = 22.03), and visible disabilities (*M* = 117.51, *SD* = 24.86). Games-Howell post hoc analysis revealed that mean increases from visible disabilities to having both visible and invisible disabilities (17.23, 95% CI [.73, 33.72]), and visible to invisible disabilities (13.83, 95% CI [2.24, 25.41]) were statistically significant (*p* = .04, .02, respectively; Field, 2009).

Table 4

One-Way Analysis of Variance of SD Total Score by Visibility of Disability

Source	*df*	*SS*	*MS*	Welch's *F*(2, 20.79)	*p*
Between groups	2	5129.91	2564.96	5.10	.02
Within groups	101	52618.10	520.97		
Total	103	57748.02			

Lastly, a one-way ANOVA was conducted to determine whether there was a significant difference between participants' level of education (i.e., College/Undergraduate level, Master's level, and Doctoral level) in relation to their reported SD levels. There were no outliers, and the data were normally distributed for each group as assessed by boxplot and engagement scores (i.e., z-scores for skewness and kurtosis were no greater than an absolute value of 2.58 [p < .01, two tails]; Wilcox, 2010). Engagement scores were normally distributed for College/Undergraduate level students with a skewness of -0.242 (*SE* = 0.350) and kurtosis of -0.580 (*SE* = 0.688), Master's level students with a skewness of -0.527 (*SE* = 0.403) and kurtosis of -0.598 (*SE* = 0.788), and Doctoral level students with a skewness of -0.560 (*SE* = 0.472) and kurtosis of -1.425 (*SE* = 0.918). Levene's Test of equality of variances indicated similar variances across education level regarding SD, *F* (2, 101) = 2.49, *p* > .05. A Welch ANOVA was employed as samples sizes were unequal. The Robust Tests of Quality of Means indicated that levels of SD were statistically significantly different for different levels of education, Welch's *F* (2, 55.2) = 7.27, *p* < .05. Specifically, SDS total score increased from College/University level (*M* = 99.75, *SD* = 22.11), to doctoral level (*M* = 116.30, *SD* = 25.89), and to Master's level (*M* = 116.48, *SD* = 20.01). Games-Howell post hoc analysis revealed that mean increases from Master's level to College/University level (16.73, 95% CI [5.40, 28.05]), and from Doctoral level to College/University level (16.56, 95% CI [1.46, 31.66]) were statistically significant (*p* = .00, .03, respectively; Field, 2009).

Table 5

One-Way Analysis of Variance of SD Total Score by Level of Education

Source	*df*	*SS*	*MS*	Welch's *F*(2, 55.22)	*p*
Between groups	2	7118.29	3559.15	7.27	.00
Within groups	101	50629.72	501.28		
Total	103	57748.02			

Hierarchical Multiple Regressions Analyses

Examination of the Hierarchical Multiple Regression Assumptions

Two hierarchical multiple regressions were conducted: (1) one was used to determine whether SD predict SQL, above and beyond demographic (i.e., age, gender, education) and environmental (i.e., opportunity) factors, (2) the second regression was conducted to determine whether specific SDS scales more significantly predicted Total SQL (see Table 8 for descriptive information on relevant IVs and DVs used in both regressions).

Multivariate regression assumptions were explored (i.e., normality, linearity, and homoscedasticity) for both multiple regressions by running the dependent variable (DV) against the independent variables (IVs). There was linearity as assessed by partial regression plots and a plot of studentized residuals against the predicted values (see Figure 1& 3 for research questions 2 & 3, respectively; Tabachnick & Fidell, 2013). The assumption of normality was met, as assessed by visual inspection of Q-Q Plots (see Figures 2 & 4 for research questions 2 [i.e., first regression] & 3 [i.e., second regression], respectively). Further, there was independence of residuals, as assessed by a Durbin-Watson statistics of 1.537 and 1,973 for the first and second regressions, respectively (Fox, 2015; Tabachnick & Fidell, 2013).

Assumptions around multicollinearity were also explored. Specifically, correlations between IVs were no greater than 0.7 as assessed by the Pearson-product moment (see Tables 9 & 11 for research questions 2 & 3, respectively; Field, 2009). Further, here was no evidence of multicollinearity, as assessed by tolerance values greater than 0.1 (the lowest is 0.203).

Data was also examined for unusual points. Specifically, outliers, leverage, and influence were explored. The casewise diagnostic output in SPSS indicated two outliers in the first regressions with standardized residuals of -3.048 and 3.148 (i.e., slightly above the ±3 cut-off).

However, when the regression model was run without these outliers, it did not lead to changes in assumptions or results. Thus, the outliers were included in the result summary below. Mahalanobis distance was also employed to search for multivariate outliers by using the $\chi2$ distribution. Tabachnick and Fidell (2013) suggests that a conservative probability estimate for identifying outliers is p < .001 for the $\chi2$ value ($\chi2$ [6, N = 104] = 22.46). By using this method, no outliers were found. Outliers were not indicated for the second regression. There were no leverage values above of 0.2 or values for Cook's distance above 1, which suggest the absence of influential cases for both regressions (Fox, 2015).

Research Question 2: Does SD Predict SQL, as Measured by the QSL.Q Total Score Above and Beyond Demographic (i.e., Age, Gender, Visibility of Disability And, Education) and Environmental (I.E., Opportunity) Factors as Measured by the AIR Opportunity Subscale?

To explore this question one, a three-block multiple hierarchical regression was conducted. Specifically, the first block included age, gender (dummy coded for female, transgender and gender fluid, and male), visibility of disability (dummy coded for invisible, visible, and visible and invisible) and level of education. Opportunity was entered in the second block. The total SDS score was entered in the third block to examine the influence it has on SQL over and above that which was explained by the demographic and environmental predictors (see Table 2).

The full model (Model 3) significantly predicted 76.1% of the total QSLQ variance, $R^2 = .76$, $F\ (8,95) = 37.76$, $p < .001$; $R^2_{adjusted} = .74$. Model 1 was statistically significant, $R^2 = .22$, $F\ (6, 97) = 5.73$, $p < .001$. The addition of opportunity to the prediction of total QSLQ (Model 2) led to a significant increase in R, $R^2 = .22$, $F\ (7, 96) = 22.66$, $p < .001$. The addition of total SDS to the prediction of total QSLQ led to statistically significant increase in R^2 of .14, $p < .001$. Specifically, the hierarchical multiple regression indicated that opportunity and total SDS, significantly predicted a high amount of variance of total QSLQ, $\beta = .43$, $t\ (95) = 2.66$, $p < .001$ and $\beta = .52$ $t\ (95) = 7.40$, $p < .001$, respectively, together explained 49.9% of the total variance.

Table 6

First Hierarchical Regression Analysis

	Variable	*R*	R^2	*B*	*SE*	*ß*
Step 1		.511	.262			
	Age			0.060	0.181	.020
	Gender (male)			1.203	1.701	.039
	Gender (transgender & gender fluid)			3.416	1.699	.117
	Visibility (visible)			7.674	2.951	.285*
	Visibility (invisible)			7.995	2.945	.302**
	Academic level			1.391	1.754	.052
Step 2		.789	.623			
	AIR Opportunity			0.714	0.114	.431**
Step 3		.872	.761			
	SDS Total Score			0.289	0.039	.516**

Note. B = unstandardized regression coefficient; *SE* = standard error of the coefficient; *ß* = standardized coefficient. $R^2 = .262$; $F\ (6, 97) = 5.72$, $p = .000$ for Step 1: $\Delta R^2 = .361$; $F\ (7, 96) = 22.66$, $p = .000$ for Step 2: $\Delta R^2 = .138$; $F\ (8, 95) = 37.76$, $p = .000$ for Step 3. ** p < .01 and * p <. 05

Research Question 3: Are There SDS Subdomains that more Strongly Predict SQL, After Controlling for Demographic and Environmental (i.e., Opportunity) Factors?

To explore this question, a six-block multiple hierarchical regression was conducted. Specifically, the first block included disability category (dummy coded for invisible, visible, and visible and invisible) as visibility of disability was found to be the only demographic factor that significantly predicted SQL in the prior regression. Opportunity was entered in the second block. The four subdomains of the SDS were employed for each of the last four blocks: Autonomy was entered into the third block, Self-Regulation was entered into the fourth block, Psychological

Empowerment was entered into the fifth block, and Self-Realization was entered into the sixth block (see Table 3).

The full model (Model 6) significantly predicted 78.4% of the total QSLQ variance, $R^2 = .78$, $F(7,96) = 48.87$, $p < .001$; $R^2_{adjusted} = .77$. All models were statistically significant and led to changes in R scores. Specifically, the hierarchical multiple regression indicated that opportunity, Autonomy, and Self-Realization significantly predicted a high amount of variance of total QSLQ, $\beta = .33$, $t(96) = 5.1$, $p <.001$, $\beta = .30$ t (96) = 5, $p <.001$, 001 and $\beta = .3$ t (96) = 4.2, $p <.001$, respectively, together explained 61.4% of the total variance.

Table 7

Second Hierarchical Regression Analysis

	Variable	*R*	R^2	*B*	*SE*	*ß*
Step 1		.337	.113			
	Visibility (visible)			3.800	3.016	.141
	Visibility (invisible)			3.970	3.018	.150
Step 2		.745	.555			
	AIR Opportunity			.554	.109	.334**
Step 3		.829	.688			
	SDS Autonomy			.220	.044	.303**
Step 4		.846	.716			
	SDS Self-Regulation			.287	.175	.095
Step 5		.863	.745			
	SDS Psychological Empowerment			.496	.433	.091
Step 6		.886	.784			
	SDS Self-Realization			1.149	.274	.304**

Note. B = unstandardized regression coefficient; *SE* = standard error of the coefficient; β = standardized coefficient. $R^2 = .113$; $F(2, 101) = 6.45$, $p = .002$ for Step 1: $\Delta R^2 = .442$; $F(3, 10) = 41.57$, $p = .000$ for Step 2: $\Delta R^2 = .133$; $F(4, 99) = 54.49$, $p = .000$ for Step 3. $R^2 = .028$; $F(5, 98) = 49.31$, $p = .000$ for Step 4: $\Delta R^2 = .029$; $F(6, 97) = 47.22$, $p = .000$ for Step 5: $\Delta R^2 = .039$; $F(7, 96) = 49.87$, $p = .000$ for Step 6. ** p < .01

Research Question 4: How do Post-secondary Students Conceptualize SD (I.E., Are Themes Identified from Open Ended Items: What Does SD Mean to You?) and Do These Definitions Align with Existing SD Frameworks?

Ninety-five participants (90.5%) provided answers to this question. As mentioned above, responses to this question were analyzed by thematic analysis. Both deductive and inductive approaches were employed to analyse responses to this question. It should be noted that while themes and subthemes (i.e., capacity, perceived control, goal-setting, autonomy, self-advocacy) that were identified, extracted, and described are based on qualitative analyses, these themes are consistent with SD components present in the SD theories (i.e., Whemeyer's functional theory is that self-determination and Mithaug et al.'s self-determined learning theory) as well SD measures used in this study (i.e., *AIR* and *ARC* scales).

Two major themes were identified across responses: (1) capacity and (2) perceived control (See Figure 5). Direct quotes have been included in this section to illustrate the themes identified in participant responses. While results from quantitative analyses suggest that visibility of disability impacts levels of SD, participant definitions of SD did not appear to vary depending on visibility of disability; that is, participants with visible and invisible disabilities included similar components of SD in their conceptualizations of SD. However, upon comparing responses between College/Undergraduate, Master's and Doctoral students, it appeared that Master's and Doctoral students most often reported elements of needs awareness and goal-setting in their responses.

Theme 1: Capacity

Capacity is an overarching theme referring to the knowledge, abilities, and perceptions that enable individuals to engage in self-determined behaviours. Capacity was present in most definitions of SD provided (80 participants). The most frequently reported SD components being autonomy, goal setting, and self-advocacy.

Autonomy. Within the functional theory of SD, autonomy is defined as acting independently based on preferences, beliefs, values, and abilities. Autonomy was present in several responses using the word “autonomy” as well as by descriptions in line with its definition. Participants referred to autonomy as learning “how to make choices and decisions on my own”, “having autonomy”, and making decision about one’s life in ways that are consistent with individual goals, wants, needs, and values. For instance, a Master’s student who self-identified with an invisible disability defined described a sense of autonomy tied to decision-making and actions around personal beliefs such that SD is the “Possession of the ability to make life decisions, choice, and engage in actions that you feel comfortable with/believe will improve your life.”

Some participant responses also highlighted the idea of *degree* of autonomy (i.e., having “some” or “full” autonomy) or the degree to which autonomy can be impacted by contextual variable such as the pandemic, others, and opportunities present:

> Self-determination to me means autonomy, which means giving the law to yourself i.e., not being determined externally. Whether we are able to really do this or to a significant extent is another question. I suppose that self-determination in a still more personal sense for me means finding space for creativity. Right now I feel like that is very hard to find even with the fairly open days and relative freedom of academia. (Doctoral student, visible disability).

While another participant wrote about deploying SD skills (i.e., goal setting, decision-making) *on their own terms* by “Carving a path in life that works best for you.

This includes setting your own goals, self-monitoring, making your own decisions" (Master's student, visible disability).

Goal setting. Goal setting refers to an individual's ability to identify and set goals that are clear and measurable, as well as track progress towards achievement (Minshew, Meyer, & Goldstein, 2002). Responses containing information aligning with goal-setting varied according to the depth of descriptions, with some students referring to goal-setting in a broader or simpler context (e.g., "setting goals", "having goals"), while others provided a more specific description of this process, including ideas around "self-monitoring"/"monitoring progress", the idea of goal-setting as a continuous process consisting of "working toward the things you want to achieve/"get in your life"*,* the clarity of goals and how realistic they may be (e.g., "setting appropriate goals", "effective goals"), and attainment "follow-through", "reaching the final outcome" or a sense of "making it" as highlighted by the following quote:

> To me it is setting realistic goals, tracking your progress, finding the motivation to progress through life, and knowing that you have what it takes to make it. Affirming to yourself and others that you are capable. … (It is) also about being given the opportunities to develop and practice those skills. (Undergraduate student, visible disability).

Some responses also highlighted how obstacles and facilitators may impact one's ability to identify, set, and achieve goals:

> Being determined to achieve in life and having an environment that facilitates this goal. I think also early development of these skills is very important to having people around you that can support you with goal-setting, self-monitoring, asking for help is also very important. (Master's student, visible disability).

Self-Advocacy. Advocacy as a general term, pertains to speaking on one's own behalf to improve their quality of life, effect personal change, or correct inequalities (Brown, 1999). More specifically, self-advocacy places the spotlight on the individual as it is seen as the ability to identify and express one's needs and make informed decisions about the supports necessary to meet those needs (Test et al, 2005).

"Advocacy", "self-advocacy", and "self-advocacy skills" were terms frequently used by participants in their definitions of SD. Some students also identified notions around the importance of needs awareness in being able to self-advocate. For instance, the following participants placed self-advocacy at the center of navigating needs according to the impact of specific disability type: "Being able to self advocate for one's own needs be it intellectual, (LD) or physical, (CF)." (Master's student, visible and invisible disabilities).

Another participant highlighted the importance of having a good understanding of individual needs as well being aware of the disclosure process and barriers one may encounter/has encountered in the process of advocating for oneself.

> Self-determination means having the capability and possibility of making life decisions that will benefit you the most. Also has to do with being sure of your own skills, and things to do (with) self-advocacy. Self-advocacy is one the is hard because I don't really want to share my struggles with anyone, even if it means I may get more support. Part of it is my pride, but also part is fear. I don't want to be labeled I don't want to be perceived as making excuses for myself. This has happened before when I was in high school. (Master's student, invisible disability).

Another important component of self-advocacy pertains to identifying, accessing, and evaluating supports. Across participants responses reflected issues around degree of support, types of supports (e.g., “Having enough support (logistical, emotional, financial, etc.)”, quantity and quality, and level of access (e.g., “knowing how to access them or getting yourself to ask”) were also noted.

For instance, the following Undergraduate student discussed accessibility and accommodations within the context of environmental expectations: “Having the accessibility and accommodations to achieve certain things in life I feel held back from, due to a neurotypical expectation. More support as an individual than a dependent.” Similarly, a Doctoral student described how expectations of others can impact the type of support that is made accessible, as individuals may want to deliver support based on disability expectations rather than individual needs:

> Self-determination means being able to make choices in your life that are of significance and meaning to you as a person. This also means advocating for myself in social situations and making sure others understand that the support that they provide sometimes (based on their expectations of me because I am an Aspie) is not what I need and this can be hard to do and for people to understand. I feel that this in and of itself can be quite disempowering. (Doctoral student, invisible disability).

Theme 2: Perceived Control

Perceived control relates to the extent to which the participants believed they could control different aspects of their lives. Twenty-six participants included elements of perceived control in their definitions of SD. Perceived control is an element that underlies both the functional theory of SD as well as self-determined learning theory as it relates to the degree to which you feel you can be an agent of change in your life.

Participant answers embodied this theme as words and phrases around “complete power”, “feeling in control” or “being in control”, “taking charge”, “empowerment”, and “disempowerment” were present in participant definitions of SD. Some participants wrote about internal and external factors impacting perceived control such as impact of disability and other individuals in their life:

> Be able to make your own choices in live. Feeling like your freedom isn't being taken away. Felling like you have power of decision. For a long time following my accident I didn't think I had that. Now getting back to normal. (Master’s student, invisible disability).
>
> Taking charge of my own life and doing what I think is right. The ability to self-motivate and develop an internal drive. Not letting circumstances make you feel helpless or let others make (me) feel bad about my decisions. (Master’s student, invisible disability).

Intersectionality factors were also present as participants identified perceived control in relation to issues around disability as well as other parts of their lives and/or identity, such as gender identity and immigration. Further, it is of interest to highlight that while quantitative results did not yield significant gender differences in this sample, it appeared that for some participants gender was closely linked to their experience of SD in their life.

> To take control of your life, to have a say in what you want need, and doing what you have to get it. Being supported and encouraged by people around you. That is something

> that I felt I have lacked in my life as my parents are not accepting of me. I have felt disempowered because people feel they have a say in my gender identity. I felt disempowered by the nasty thoughts in my head and that has been very hard because no one can see what goes on in my head, so they don't know to help or the misinterpret my behaviour or place blame. Depression is like living with an invisible monster that follows you around all the time but that no one can see. So self-determination has been finding people who accept me for who I am and get myself in therapy. (Undergraduate student, invisible disability).

> The definition of self-determination is the ability to make one's own choices and maintain a sense of control over one's own life. To me, this includes the ability to make medical and health decisions, as well as the ability to feel in control of my own life outcome, which has not been my experience here in Canada. (Undergraduate student, visible disabilities).

Research Question 5: Has SD Helped Participants Succeed in Post-secondary Settings? (I.E., are Themes Identified from Open Ended Items: Do You Think That Being Self-Determined Has Helped You Succeed in Your Post-Secondary Setting? [I.E., Academic Achievement, Acquisition of Knowledge and Skills, Persistence and Retention, Success in Navigating Your Post-Secondary Environment, and Developing and Maintaining Relationships?] Please Explain.)?

Ninety-six participants reported that they believe that SD has helped them succeed in their post-secondary setting and eighty-seven participants elaborated on the ways in which SD has contributed to their success in post-secondary settings. Inductive and deductive approaches were employed to analyse participant responses to this question. Two major themes identified across responses were: (1) overcoming barriers and (2) facilitators of SD (See Figure 6). Direct quotes have been included in this section to illustrate the themes identified in participant responses.

Theme 1: Overcoming Barriers

This theme captures participant descriptions of SD skills that helped them overcome obstacles or setbacks as well as the types of barriers faced in post-secondary institutions. SD skills highlighted by participants with regards to accessing services appear to match conceptualisations of SD described in the previous section. Autonomy and self-advocacy were SD components linked to “facing”, “getting over”, “moving forward”, “push on”, “bounce back” and “not giving up” in the face of barriers. Thirty-three participants described elements of overcoming barriers in their responses. Barriers were divided in 2 categories: internal and externals barriers.

Internal Barriers. Internal barriers pertained to participant’s internal challenges that impacted post-secondary success. Internal barriers identified by participants included attributions about oneself (e.g., “not good enough”, feeling “like I can’t do it”), emotional barriers (“emotional lows”, “feeling down”, having “lost the fun of going to school” or loss of motivation. For instance, this participant described grappling with the experience of not feeling “good enough” but self-determining their behaviour despite these barriers and “Forging ahead. …, starting a post-secondary program at all despite not feeling qualified or “good enough” …” (Master’s student, invisible and visible disability).

External Barriers. External barriers refer to environmental obstacles which negatively impacted success, in this sample, these included financial aspects (“affording” education, "financial stress", "difficult financial conditions"), unsupportive environments (e.g., accessibility and staff), the COVID-19 pandemic, as well as stigma:

> (I) have been fortunate that I have had the support and resources to take school on my own terms . … By and large I have been able to take most of the pathways I felt I needed to succeed. I have still encountered some significant institutional barriers and support failures that have limited me in notable ways, but if I didn't at least have the degree of autonomy to self-determine that I do, I likely would not have been able to even consider university. (Undergraduate student, visible disability).

A particularly compelling example of illustrating how self-advocacy helped a student cope with an unsupportive professor is the following:

> Yes. It's helped me understand that no one can live your life for you and no one can fight your battles for you. So if you need something you better ask for it but that sometimes can be seen as being aggressive. But that's what's helped me keep going, that's what helped when teachers in the past have replied to extension requests by saying "can't you just take pain meds". (Undergraduate student, visible disability).

This quote also highlights the role that the perceptions of others, can have on the deployment of SD skills. In fact, stigma was identified as a significant barrier that was encountered by several participants. Words such "discrimination", "stigma", and "negative attitudes", "assumptions" were found across participant responses:

> When people tell you all the time you can't achieve in life, you have to develop a backbone (pun intended). Self-determination has helped because without it I would have fallen victim to all of the stigma and voices of people who tried to put me down. (Master's student, visible disability).

An interesting finding in some responses pertaining to overcoming barriers, is the idea that a bi-directional relationship may exist between stigma and SD skills and this relationship may be linked to visibility of disability. This is highlighted in the responses bellow where participants describe how stigma and discrimination have been barriers to developing SD:

> There is also something to be said about your environment, because sometime to have to manage other people's feelings or their stigma can be emotionally fatiguing and that I've come to realize can be a block to self-determination, self-esteem, adjustment, etc. (Undergraduate student, visible disability).

In fact, some descriptions of stigma appeared to be specifically tied to visibility of disability and issues pertaining to attributions about success made by others as well as having to prove disability status as illustrated in the following excerpts:

Table 8

Comparison of Stigma Descriptions by Visibility of Disability

Visibility	Invisibility
"Living with a (very visible) disability one can feel very excluded and invisible (ironically enough). All people see sometimes is the wheelchair. You didn't succeed- must be because of the disability; You did succeed- must be because of the disability and passes you were given. So learning to be self-determinate has allowed me to rise above the	"Self-determination has definitely played a pretty big role in my life and succeeding in higher education. It can be hard with an invisible disability because people will think that you are (and I have been accused of) making excuses for myself. When no one can see what you are struggling with, then they don't know to or don't want to support or even try understand. So to be able to be that

stigma and even challenge those views at times.” (Doctoral student, visible disability). “Living with a visible disability can change the development of these processes. Dealing with the stigma of everyone knowing you have life limitations, you need to learn how to cope from very early on” (Undergraduate student, visible disability).	support for myself has helped me reach my goals and not give up and advocate for myself.” (Master’s student, invisible disability). “It has helped. Specially to make sense of how others react to my disabilities. Invisibility sucks sometimes. Like sometimes you can pass as “normal” but the moment you don't and don't have physical symptom that other can see that’s when assumptions stat to get made.” (Master’s student, invisible disability).

Theme 2: Facilitators of SD

This theme captures participant descriptions about factors that facilitated the development or deployment of SD skills in ways that promoted success in post-secondary settings. Fifty-one participants described facilitators in their responses. Facilitators were divided in 2 groups: understanding SD processes and how others have supported the development of/engagement in self-determined behaviours.

Understanding SD processes. Understanding SD processes refers to participant’s ability to identify specific moments when engaging in self-determined behaviours would lead to beneficial results such as “when the services have not been working for me”, “when [services] are needed" or in the case of the following student upon the transition from high school to university:

> In university I came to realize I possess skills I didn't even know were there (which I guess would fall in then category of self-determination skills). I guess in high school I didn't give it much thought because I always felt so supported, when I got to university I had to advocate for myself, persevere in the face of adversity, and ask for help when I felt things were getting overwhelming. (Undergraduate student, visible disability).

Another part of understanding SD processes pertains to having awareness around factors which may impact self-determined behaviours (e.g., severity of disability, presence of a symptoms such as pain, and stigma):

> So in my life there have periods of higher self-determination when I feel like I can set goals and motivate myself to accomplish them. Those normally come about when I feel my anxiety is under control. It isn't now... the pandemic is not helping. (Undergraduate student, invisible disability).

An important SD process that was highlighted throughout responses related to the degree of SD that a participant may be experiencing (i.e., when SD skills may be lacking or would benefit from skill building, or that SD is "something I'm still developing" or that has "developed over the course of my studies", an "area of growth") as well as having an understanding about how and where to acquire them (e.g., "through trial and error", therapy, school, workshops, textbooks, or "like a program or course to make this learning happen in a more structured way"). The following quote exemplifies the benefit of having awareness of this process:

> I think self-determination (or at least the ability to deploy the skills) has ebbed and flowed throughout my life. Definitely when I have had awareness and implemented these skills, I know I have been more successful. (Undergraduate student, visible disability).

Role of Others. The second group of facilitators relates to the role of other individuals in participants' lives such as parents, extended family, peers, therapists, and teachers that encouraged, taught, "helped develop", "fostered", "facilitated" or supported self-determined behaviours and contributed to student success in post-secondary settings:

> I struggle so much with organization and planning and follow-through, and will power alone is just no enough. I've been to therapy so I've learned strategies that work for me and meds also help, but if I hadn't been good at encouraging and believing in myself and if I hadn't received that support from my family then I would never be able to get ahead. So yeah self-determination has helped, it has helped me to move forward and continue pushing on even when it's been uphill battle. (Master's student, invisible disability).

Ending Questions

One-hundred and three participants (99%) answered the questions included at the end of the survey (i.e., *Do you feel that this survey has helped you gain new knowledge regarding self-determination or student quality of life?* [*Please explain what new information you have gained, Do you believe this information will be helpful in navigating post-secondary settings?*], *Following completion of this survey, has your definition of self-determination changed? How has it changed?*). Specifically, 40 participants stated that the survey had helped them gain knowledge about SD and SQL that would be helpful in post-secondary settings. Participants indicated that in completed this survey helped them "reflect" on their current levels of SD and SQL, identify what some important SD skills may be, as well as recognize the importance of social support. For instance, a participant described "realizing I have a lot of confidence and feel that I have a lot of agency and self-determination. I have gained more insight and self-knowledge through this questionnaire".

Twelve participants indicated that their definition of SD had changed to include skills such as planning and goal setting.

COVID-19 Pandemic

Ninety-five participants indicated that COVID-19 related events impacted their academic experiences. Specifically, student challenges related to social isolation ("Can't see people or work in my lab", "More lonely, not able to visit people"), increases in anxiety, decreased motivation, financial stressors ("loss of work"), and access to educational resources and materials ("School administration is slower to answer", "Less communication with supervisor").

However, 3 students noted that being able to complete academic work from home was beneficial as it allowed for more flexibility or because in working from home, they were able to manage disability symptoms (i.e., pain) better.

Chapter 5: Discussion, Limitations, Implications, and Conclusion

This chapter will provide a summary and in-depth discussion of quantitative and qualitative presented above, as well as the limitations related to methods and results. Implications for research and practice will be discussed, with particular emphasis on service provision within the field of education and school psychology. This chapter will lastly contain a conclusion detailing a summary of the study within the context of SD and QOL research in education.

Discussion

This study sought to contribute to the existing literature on SD and QOL in the field of education. Specifically, results from this study provide insight into the experiences of students identifying with visible and invisible disabilities as they relate to their SD skills and perceived SQL as well as the interactions of these constructs in post-secondary education settings. Further, qualitative findings provide information which will allow to deepen our understanding about what students with disabilities believe to be self-determination components needed to succeed in higher education settings. This study is of particular relevance as it helps bridge the gap that currently exists in the literature concerning post-secondary experiences of students with disabilities, particularly as they relate to SD, QOL, and visibility of disability (Chao, 2018; Getzel & Thoma, 2008; Jameson, 2007).

Summary of Findings by Research Question

Overall, findings indicate that reported levels of SD varied depending on level of education as well as visibility of disability. Meanwhile, levels of SD for the sample of study were not different based on gender and age. Two hierarchical multiple regressions were employed to explore levels of quality of life in relation to different predicting factors. The first hierarchical multiple regression analysis indicated that visibility and invisibility, SD, and opportunity for SD predicted higher levels of total SQL. Furthermore, including individual SDS scales in regression analyses helped determine which SD components were most predictive of total SQL. With regards to open ended questions, thematic analyses highlighted salient SD components that students employ to define SD as well as how SD has contributed to academic success for students with disabilities in post-secondary settings. The following sections present a more detailed discussion of the major study findings. Discussion of relevant findings was divided by research question.

Quantitative Finding 1: Do Levels of SD Vary Based on Demographic Factors (i.e., Age, Gender, Visibility of Disability, And Academic Level) for Post-secondary Students with Disabilities?

Results from the current study did not indicate significant differences in mean levels of SD varying by age. This result is consistent with other studies exploring SD and age. For instance, Robinson and Lieberman (2004) found no differences in SD between different age groups for a following surveying 54 students with visual impairments (aged 8–23 years) who participated in a one-week summer sports camp (Robinson & Lieberman, 2004). Similar findings have been highlighted in other studies on SD which included adults with disabilities and transition aged youth (Nota et al., 2007; Shogren et al., 2007; Wehmeyer et al., 2011a). However, findings on age and SD remain mixed with some studies demonstrating SD differences based on age in adolescent populations (Nota et al., 2011; Wehmeyer et al., 2011).

Interestingly, in this study, mean SD levels varied by level of education with participants enrolled in graduate studies (Master's and Doctoral level programs) exhibiting higher levels of SD compared to College and Undergraduate students. Although research is limited around academic level and capacity for SD, trends described in the literature suggest that academic level does play a role in student adjustment to higher education settings which can be explained by the deployment of skills related to SD (e.g., self-advocacy, autonomy, problem-solving, goal-setting; (Herbert et al., 2014; Jameson, 2007; Wilson et al., 2000). Explanations for this trend in the current study may be that students in the current sample started with higher levels of SD which allowed them to persist in post-secondary settings or that these students have had more opportunities to acquire and deploy SD skills as they have been navigating higher education for longer. However, more research is needed to understand the mechanisms by which students with disabilities persist in higher education settings (Hong, 2015).

Gender was not found to be associated with higher levels of SD in this study. It should be noted that research pertaining to differences in SD related to gender is limited, particularly within the context of post-secondary education. Research on gender and SD appears to have yielded mixed results with some authors finding gender-based differences in levels of SD and other authors finding none. For instance, Nota et al. (2007) found gender differences in relation to SD in sample of adults with intellectual disabilities, where women had higher SD scores than men. However, in a similar study with a different sample, men were found to show higher levels of SD than women (Soresi et al., 2004). Contrary to these findings, Robinson and Lieberman (2004) found no gender differences in SD in a sample of 54 students with visual impairments (aged 8–23 years). An important factor to highlight however is that most studies on SD and gender adopt binary methods (i.e., male or female) to obtain gender information (Ginevra et al., 2015; Jameson, 2007; Nota et al., 2007). Thus, highlighting the importance of incorporating more fluid conceptualizations of gender identity to ensure the inclusion of all genders. This would allow for a clearer understanding of how gender may or may not interact with the development of SD and more sensitivity to the unique the challenges this population my face. For instance, (Espinoza-Kulick et al., 2016) examined college experiences of LGBTQ youth and found that students reported higher incidences of discrimination and exclusion from college life. Thus, the importance of investigating how gender and sexuality may impact post-secondary experiences, as well as factors contributing to or hindering the development of SD, and issues around intersectionality (e.g., the interactions of gender identity, race, and disability status).

Visibility status was found to be significantly associated with SD levels. Specifically, students self-identifying as having visible disabilities indicated having the highest levels of SD, followed by students with invisible disabilities, and (although not statistically significant when compared to student with invisible disabilities) students with both visible and invisible disabilities indicated the lowest levels of SD. This result is consistent with other studies highlighting that disability variables (e.g., visibility, type, severity, number) play a significant role in post-secondary outcomes (Adams & Proctor, 2010; Herbert et al., 2014; Lindsay et al., 2018; Lipka et al., 2020; Marshak et al., 2010; Panahi et al., 2016). For instance, in a study including 230 undergraduate and graduate students (115 with disabilities and 115 without disabilities), Adams and Proctor (2010) found self-advocacy skills and visibility of disability to be significant predictors of college adaptation. With regards to visibility, results revealed that student adaptation to college increased with perceived visibility of disability. The authors posited that their findings could be explained by factors such as discrimination and stigma, fear of discovery, and/or the stress of repeatedly explaining why accommodations are needed for a disability. Based on these findings, it could be posited that belonging to a visible disability category may facilitate post-secondary adjustment. However, although this was the case in the current study for the visible disability only group, this was not the case for students identifying with both visible and invisible disabilities. An explanation for this finding may be that students belonging to this group face higher amounts of stigma and discrimination and may have to navigate the physical and psychological implications attached to “both” disability conditions (Hong, 2015). These findings highlight the need for additional research on the specific needs of students with disabilities in post-secondary settings, particularly around issues of visibility. As it relates to this study, an important research focus would be to understand the mechanisms by which student with disabilities develop important SD skills (e.g., self-advocacy, self-awareness) and whether there are differences in mechanisms of development for students living with invisible and visible disabilities, as well as students who are part of both categories. Further, exploring whether visibility impacts the student experience at the college and university level would provide important information about what students feel is lacking from their environment that may contribute to their quality of life.

Quantitative Finding 2: Does SD Predict SQL Above and Beyond Demographic (I.E., Age, Gender, Visibility of Disability, Education) and Environmental (i.e., Opportunity) Factors? And Are There SDS Subdomains That More Strongly Predict SQL, After Controlling for Demographic and Environmental Factors?

Findings from the first multiple hierarchical regression revealed that visibility status, opportunity for self-determination, as well as total levels of self-determination were significant predictors of SQL (comprised of four domains: satisfaction, well-being, social belonging, and empowerment/control). Although there is limited research on the interaction of SD and QOL in educational contexts, existing studies have found important associations between these two constructs (Chao, 2018; Lachapelle et al., 2005; Nota et al., 2007). For instance, McDougall and Baldwin (2010) studied the longitudinal relationship between QOL and SD for 34 youth (aged 17 to 29) with chronic conditions and disabilities (e.g., spina bifida, cerebral palsy, neurological conditions) enrolled in a post-secondary transition program. The authors found that individuals with higher SD at baseline reported higher ratings of perceived QOL one year later. These findings highlight the fact that SD can have lasting effects on various aspects of student’s perceived quality of life. Further, the authors advocate for additional research to clarify the nature and interplay between the QOL and SD in students with disabilities and assist in the development of interventions to promote SD.

In line with this recommendation, this researcher sought to explore which components of SD were more highly predictive of SQL. Specifically, when controlling for demographic variables as well as opportunity for SD, only two SDS subdomains (i.e., Autonomy and Self-Realization) most strongly predicted total SQL. These finding are somewhat in contradiction with a study conducted by Chao and Colleagues (2018) with which found that Self-Realization, Psychological Empowerment and Autonomy, but not Self-Regulation (as measured by the SDS) were found to have predictive power on QOL (as measured by the WHOQOL-BREF) in a sample of 145 senior college students with disabilities. However, differences in results may be explained by the fact that the current study focused on SQL (which contains measures of satisfaction with different life domains including the academic environment), while Chao and colleagues focused on a broader measure of QOL. Within this context, autonomy and self-realization become salient and important skill that can aid with self-direction, task completion and building on attained successes, all important processes consistent with academic persistence and success (Wehmeyer & Schalock, 2001; York et al., 2015). Overall, finding suggests that Autonomy, and Self-Realization contribute to higher levels of SQL. Thus, highlighting the need for additional research and interventions aiming to promote SD skills by considering the context in which these skills are needed in and/or will be deployed.

Opportunity to develop and promote SD skills was also an important factor considered in this study, adding to the body of work in educational research examining both individual and environment components of SD (e.g., capacity and opportunity) aspects of SD (Field et al., 2003; Wehmeyer et al., 2003; Wehmeyer & Schalock, 2001; Yu & Levesque-Bristol, 2020). For instance, Ju and Colleagued (2017) conducted a literature review to examine the impact of SD and academic success of students with disabilities in post-secondary education. While the authors found only 20 empirical or scientific studies published from 1972 to 2016 that explored this area, results highlighted the fact that, while there appear to be several approaches to training, more systematic interventions to facilitate the development of SD in higher education are needed. In this study, opportunity along with overall SD skills were significant predictors (i.e., together they explained 49.9% of the total variance of total QSL.Q scores) of SQL. Thus, further highlighting the benefit and need for services that target these skills through capacity building, as well as the importance of creating inclusive environments aiming to universally promote opportunities for SD. Similarly, understanding the skills which students themselves identify as being particularly helpful in supporting successful post-secondary outcomes also becomes an important part of the equation. The next section will examine qualitative findings from this study.

Qualitative Findings 1: How Do Post-Secondary Students Conceptualize SD and Do These Definitions Align with Existing SD Frameworks?

The major themes identified across responses were capacity and perceived control.

Capacity. Capacity captured information around the knowledge, abilities, and perceptions that were tied to conceptualizations SD for the students surveyed. The most frequently reported SD components were autonomy, goal setting, and self-advocacy. These skills are in line with findings from other studies, as well as with quantitative findings from this study, which have identified autonomy, goal setting, and self-advocacy, in addition to self-awareness and self-regulation, as important skills conducive to succeeding in post-secondary settings (Getzel, 2014; Getzel & Thoma, 2008; Wilson et al., 2000). In particular, self-advocacy emerged in existing research as the most researched SD skill as it allows students with disabilities to face academic challenges and seek supports and accommodations when needed (White & Vo, 2006; White et al., 2014). Further, self-advocacy appears to be the focus of a number of SD promoting interventions (Ju et al., 2017; Parker & Boutelle, 2009; Richman et al., 2014). Moreover, there appears to be a general consensus in the literature that students who have not yet developed adequate SD skills are often less likely to succeed in post-secondary settings (Adams & Proctor, 2010; Herbert et al., 2014; Jameson, 2007).

An important trend identified across the data pertaining to this theme (i.e., capacity) was the inclusion of multiple SD components in individual participant responses. This may be explained by the fact that for most students, SD is conceptualized as more than one component (e.g., goal setting, autonomy, self-advocacy) and encapsulates different skills and behaviours, as well as both individual and environmental factors (i.e., the capacity for SD and well as opportunities provided by their environment). This trend solidifies the inclusion of opportunity as well as individual SDS scales in regression analysis, as mentions of multiple SD skills and environmental factors appeared to be a notable trend in the qualitative responses provided by participants in this study.

This emphasises that fact that for participants, these components are not only seen as important parts of SD but are also deeply interconnected. Hence, the importance of fostering the development of these skills in concert and raising awareness about how they interact to promote desired life outcomes. For instance, navigating self-advocacy while retaining a sense of autonomy. This is represented by the following response which contains perceived juxtapositions between independence and autonomy and asking for help or seeking support:

> It means having autonomy and to be able to set goals without guidance from others. Sometimes asking for help can feel disempowering and that's been hard to navigate coming from a country where services are not accessible to a country where so much is available, sometimes knowing how to access them or getting yourself to ask for them can be barrier... but at least they are available. … having a learning disability and people not knowing that it can be really impactful asking for help can feel denigrating because you are judging yourself and feel others are judging you, because there is this perception in society that you should be able to do it by yourself. So that's been a learning curve for me. (Undergraduate student, invisible disability).

This quote also highlights the importance of understanding how individuals give meaning to different SD skills and how this may impact their application in academic contexts as well as other important life areas. This participant also described some of the barriers (i.e., perceptions of others, self-perception, possessing the knowledge to access services) that students with disabilities may face while navigating their post-secondary settings, barriers which may impact different aspects of the academic experience. This will be further discussed in later sections.

Perceived Control. The second theme identified in participant responses relates to perceived control or the extent to which the participants believed they could control different aspects of their lives. Perceived control relates to psychological empowerment and internal locus of control (an understanding of the relationship between actions and outcomes, as opposed to an external locus of control such as fate, luck, chance), and it is also particularly sensitive to environmental factors (Herbert et al., 2014; Wehmeyer, 2001; Wilson et al., 2000). For instance, availability of choice, accessibility factors as related to the physical learning environment, services, and/or supports, and financial health to name a few. This is of particular importance as perceived control and factors that promote or hinder empowerment can impact the development and use of important SD skills such as autonomy and self-advocacy (i.e., if one believes they have no control over their environment and life outcomes, this will make it especially difficult to communicate their needs and engage in self-directed behaviour; Lombardi et al., 2012). Hence the importance of understating specific barriers, be it internal or external, which may impact the different aspects of academic success as well as SQL.

A relevant finding from participant responses pertaining to this, is the fact that some students identified other factors (i.e., gender identity, recent immigration, being a first-generation student) which may further impact their perceived ability to control their environment and engage in self-determined behaviors. From a research standpoint, this highlights the importance of incorporating qualitative approaches when investigating college outcomes for students with disabilities, as it allows for richer and more detailed ways of understanding student experiences and needs. This is particularly important in post-secondary settings where multiple stressors may already be at play. From an intervention perspective, this highlights the need for professionals working with students with disabilities to incorporate wholistic views of well-being and consider the role of context and individual needs when conducting assessments, delivering interventions, and in creating inclusive academic environments.

Qualitative Finding 2: Has SD Helped Participants Succeed in Post-secondary Settings?

Two major themes were identified across responses: overcoming barriers and facilitators.

Overcoming Barriers. This theme captured participant descriptions of SD skills that helped them overcome obstacles or setbacks in their in post-secondary institutions. Barriers identified across responses fell into two categories, internal and externals barriers. Importantly, stigma emerged as a significant barrier faced by students living with both visible and invisible disabilities.

Internal barriers refer to processes inside of individuals (e.g., thinking, attitude, and perceptions) which may impact goal attainment, success, or well-being (Creed et al., 2004). In this study, internal barriers indicated by participants were emotional difficulties as well negative perceptions about the self. External barriers refer to processes outside of individuals that maybe related to the environment or other people (Creed et al., 2004). As per participant responses, specific external barriers faced by students were financial stressors, institutional barriers, inaccessible or unsupportive leaning environments, as well as stigma.

These results are consistent with findings from other studies exploring barriers encountered by students with disabilities in higher education settings (Hong, 2015; Mullins & Preyde, 2013; Squires & Countermine, 2018). Specifically, Hong in 2015, found that important internal barriers reported by students with disabilities in post-secondary settings related to mental/emotional struggles (e.g., negative cognitions about themselves, guilt, self-stigma, lack of motivation, attributions about other perceptions of them), and lack of awareness about the skills/accommodations that were more effective for them. Squires and Countermine (2018) found that external barriers reported by students with disabilities related to the state of available services (e.g., ineffective or non-existing accommodations, procedural difficulties in accessing services) and the attitudes, actions, and knowledge of faculty and staff (e.g., having to manage expectations of instructors, unresponsiveness and unavailability, lack of knowledge about which services may be more beneficial, and personnel lack basic understanding about how to provide appropriate guidance students).

Stigma was also a significant barrier for post-secondary student with disabilities highlighted in the literature (Barnard-Brak et al., 2010; Corrigan & Al-Khouja, 2018; Corrigan & Watson, 2002; Denhart, 2008). This is a particularly important barrier to explore at it can occur at different levels within academic spheres (i.e., individual, environmental, and systemic). Specifically, “self-stigma” is a concept that has been explored by different authors as it relates to the individual perceptions and attitudes students with disabilities may hold about themselves. Squires and Countermine (2018) explored barriers for students with disabilities in post-secondary and found that students who saw themselves in this negative light held ideas about being “inadequate,” feeling “guilty” for using accommodations, and worried that they were “cheating” the system. Self-stigma also impacted personal attributions students made about success or “whether or not one deserves to be in college or have the intellectual capacity and skills to succeed in college” (Squires & Countermine, 2018, p.26). Further, it has been argued that fear of facing stigma, feeling like one is “making excuses”, or having to defend the validity of the disability may prevent students from accessing services that would support success outcomes in higher education (Barnard-Brak et al., 2010; Mullins & Preyde, 2013; Squires & Countermine, 2018). This is particularly the case, if students have faced stigma in the past in their academic environments (e.g., stigmatizing remarks about their disability or other part of their lives, facing discrimination by members of the academic community; Corrigan & Watson, 2002; Denhart, 2008). Lastly, participants may have faced systemic discrimination (e.g., the way the educational system evaluates performance, tools and systems used determine disability status and impact of disability) in their current or past academic settings which may have detrimental impacts on students' self-concept, prevent disclosure and self-advocacy (Mullins & Preyde, 2013).

In this study, participant responses pointed towards the fact that stigma is experienced differently for students with invisible and visible disabilities. For students with visible disabilities, specific issues were identified around having to navigate other's attributions about individual success, as well experiencing stigma as impacting the acquisitions of SD skills. For students with invisible disabilities, having to prove or defend disability status and impact of disability were specific instances of stigma that were shared by participants. These findings are consistent with results from other studies which suggest that the cost, experience, and impact of stigma can differ depending on visibility (Olney & Brockelman, 2005). This finding may also help to explain differences in SD levels based on visibility of disability identified in the quantitative portion of this study. Specifically, it could be argued that to keep the disability "invisible", students with invisible disabilities engage in less disclosure which ultimately leads to decreased access to services resulting in fewer opportunities to develop SD. Furthermore, it is possible that students living with both visible and invisible disabilities face "double" the stigma and discrimination; this may have resulted in the lowest reported levels of SD for this group in this study. It should be noted that regardless of visibility status, stigma is a highly detrimental barrier impacting accessibility, inclusion, and well-being (Corrigan & Watson, 2002; Lawlis et al., 2014; Nario-Redmond et al., 2013). In this study, participant responses highlight the fact that, despite provincial and federal efforts to create inclusive environments, stigma and discrimination are unfortunately part of the post-secondary experience for students with disabilities in Canadian institutions. Thus, emphasizing the need for increased efforts in creating inclusive post-secondary settings.

These finding also highlight the importance of exploring the distinction between external and internal barriers, as this may guide the types of interventions that would be most beneficial for any given student. For instance, if a student is facing internal barriers individual or group therapy settings may provide a space to process these barriers, understand how they may be impacting academic outcomes, as well as develop strategies or engage in skills building to support different aspects of the academic experience. If the student is facing external barriers, interventions or changes in policy at an institutional level may be required (staff trainings, additional communications to raise awareness about available supports and impact of disability on success outcomes, modifications to available services and resources, and increased efforts to create self-determined environments for all students).

Facilitators of SD. This theme captured participant descriptions relating to factors that facilitated the development or deployment of SD skills in ways that promoted success in post-secondary settings. Facilitators were divided in two groups: understanding SD processes and social support (i.e., how others have supported the development of/engagement in self-determined behaviours). Understanding SD processes refers to having awareness about situations, environments, and personal indicators which promote or hinder SD. Per participant accounts, examples of understanding SD processes were: participant’s ability to identify specific moments when engaging in self-determined behaviours would be of benefit, having awareness around factors which may impact self-determined behaviours, and the degree of SD that a participant may be experiencing (i.e., when SD skills may be lacking or would benefit from skill building). These factors were seen as important to delineate as one may possess SD skills, but not have the necessary knowledge to implement them in ways that will be most beneficial

(Parker et al., 2020). Thus, understanding the processes by which SD may be enhanced or be thwarted becomes an important area of investigation.

Although this has not been a major area of focus in the literature, some articles have explored the processes by which students engage in self-determined behaviours in relation to specific SD skills (Blockmans, 2015; Field et al., 2003; Parker & Boutelle, 2009; Parker et al., 2020). For instance, in a study about SD barriers and facilitators, Parker et al. (2020) identified linking SD skills to future plans (career, financial, and personal aspirations) as a facilitator of SD expression in a sample of 24 African American high school students. Another SD facilitators to emerge from their study revolved around student's personal values. For instance, students who valued independence were more like to engage in self-advocacy. In a different study conducted by Blockman (2015), it was found that timing of disability disclosure impacted future self-determined behaviour, such that students who disclosed their disability early on were able to self-advocate and act autonomously as the semester progressed (Blockmans, 2015). Other SD facilitators found in the literature pertained to having an understanding about the usefulness of SD skills (e.g., how can goal setting help with academic performance, how can self-advocacy play into accessing effective services) as well as social support (Field et al., 2003; Ju et al., 2017).

The role that social support plays in the development of SD, has been well documented in the research literature (Murray et al., 2012; Obst & Stafurik, 2010; Pierson et al., 2008; Wehmeyer, 1999; Wehmeyer et al., 1997). In this study, many participant responses highlighted the role that trusted individuals in their lives played in the development and/or deployment of SD skills. This is a particularly important finding as it highlights the need to raise awareness about the ways in which individuals in students' lives can facilitate self-determined behaviours. In the same light, ensuring that academic environments offer opportunities for students to be able to harness the social capital which may be accessible within post-secondary settings also becomes an important factor to consider.

Different studies have indicated the specific ways in which social support facilitates SD (Denhart, 2008; Getzel, 2014; Getzel & Thoma, 2008; Sachs & Schreuer, 2011). For instance, in the study by Parker et al. (2020), the researchers identified that through explicit teaching, availability, encouragement, giving advice, and providing language by which to communicate needs, teachers, parents, and school counsellors supported the development and expression of SD skills for high school students. In another study by Patrick and Wessel (2013), it was noted that having a faculty mentor support the transition from high school to college contributed to college adjustment by increasing awareness of available resources, supports, and accommodations (Patrick & Wessel, 2013). Other studies have highlighted the importance of having trusting and supportive relationships with faculty members, peers, and professors, as it aided students in engaging in self-advocacy and self-regulation skills (Getzel & Thoma, 2008; Morris & Turnbull, 2007). In sum, these findings emphasize the importance of creating support systems on campus and in other areas of students' lives to promote the development and opportunity for self-determination for students with disabilities in higher education (Herbert et al., 2014; Lindsay et al., 2018; Núñez & León, 2015).

Integrated Findings

Overall qualitative findings presented this study expand and enrich quantitative findings by offering important information centered around student perspectives and experiences. Specifically, qualitative findings provide insight into the differences in SD levels varying by visibility of disability. Qualitative data expands on this finding by highlighting differences around how students with visible and invisible disabilities experience of stigma in post-secondary environments. A critical consideration related to this finding, is the need for additional research exploring the diversity within disability populations to better understand needs and the ways in which students with disabilities can be best supported in academic environments.

Further, qualitative findings offer insights into SD components (i.e., autonomy, goal setting, self-advocacy, perceived control) that students in this sample identified as most salient in their definitions of SD. These results further support the inclusion of individual SDS scales in regression analysis, as these analyses allow for the exploration of SD skills that may contribute to higher levels of QOL. This is a particularly important link as it emphasizes the need for additional research into the specific SD skills that are most predictive of success, adjustment, well-being, and other quality of life indicators that may help to improve the post-secondary experience for student with disabilities. Further, taken together, these findings highlight the significance of creating inclusive and accessible environments that encourage autonomy, advocacy, and are built and tailored based on student input.

Limitations

While this study provided important evidence regarding the advantages of examining the relationship between the QOL and SD for students with disabilities in post-secondary settings, its limitations will be discussed as they can impact the interpretation and generalizability of the findings presented.

One aspect of the study which may be a limitation is the fact that participants were not required to provide proof of diagnosis or to be enrolled in their institution's disability office to meet inclusion criteria. Instead, participants self-identified as having a disability. However, given the information in the above sections, requiring a formal proof of diagnosis may have excluded students living with a disability who have not been "formally" diagnosed as well as exclude students who not wish to access services through their disability office. Moreover, requiring formal documentation may add to the stigma of some students who already feel they have to "prove" their disability status. Thus, allowing students to self-identify was seen as a more inclusive method to recruit participants. Further, recruiting efforts focused on disability associations where it was assumed students with disabilities would access information and resources. Similar methods of recruitment and participant inclusion have also been employed in other studies examining disability in higher education settings (e.g., Grimes et al., 2017; Hong, 2015).

Another limitation relates to the use of self-report measures, which are based on subjective perceptions and may be susceptible to personal bias and impression bias (Rosenman et al., 2011). Further, the use of an online survey as the method of data collection may also limit generalizability of the findings due to non-response bias and sampling bias. For instance, participants who completed the survey in its entirety may have possessed higher levels of SD to begin with and only students with internet and access to a computer or smart devices would have been able to access the survey. Further, technical difficulties may have also reduced response rates, contributing to the high number of students who had started the survey but did not fully completed it. It should be noted that limitations around generalizability do not apply to qualitative methods. Qualitative methods were employed in order to gain a more in-depth and detailed understanding of SD and overall student experiences in post-secondary settings. Thus, qualitative findings uniquely illustrate individual experiences and are not meant to be generalized to other students.

A further limitation pertains to the categorization of disability status (invisible and visible and students falling in both categories). Specifically, these are broad categorizations and individuals within each category may vary with regards to SD, perceived SQL, as well as in terms of their overall experiences in post-secondary settings. For instance, students with visible disabilities included several different conditions including amputation, spinal injury, and chronic illness. Thus, variations may exist based on type of disability, disability symptoms, and impact of disability and how these impact SD and QOL processes.

Another limitation relates to the fact that there were demographic characteristics of participants which were not investigated in detail in this study. However, these characteristics may have an impact on reported levels of SD, SQL, as well as open-ended response items. For instance, based on qualitative descriptions of SD, it appeared that recent immigration and gender identity may play role in the development and practice of SD. This finding suggests that it would be important to address these variables in future studies investigating academic experiences of students with disabilities, particularly in relation to SD and SQL. Additional variables of interest may be age of onset, severity of disability, race, and cultural factors.

It should also be noted that data collection for this study occurred during the COVID-19 pandemic. Thus, levels of isolation, adjustment to a worldwide pandemic, transitioning to online learning, and fear and anxiety elicited by COVID-19 may have impacted both the response rate as well as participant responses. For instance, students completing the online survey may have been students who were most able to adjust to the pandemic and felt less overwhelmed. Furthermore, reported levels of SD and SQL may have varied due to lockdowns, decreases in social interactions, and the uncontrollable nature of the pandemic.

Implications

This study's findings have number of implications for research and practice. The next two sections will discuss implications for future research in the field of disabilities, particularly as it relates to SD and QOL in post-secondary settings

Implications for Research

Implications related to current conceptualizations and measurement of SD, consideration of SQL as an outcome measure of student success, and the impact of developmental influences on SD and QOL will be discussed in this section.

As described in the Chapter 2, SD is a multifaceted construct comprising a number skills and components resulting in striking differences in definition and measurement across studies (Mithaug, 2003; Wehmeyer et al., 1997, 2003). These differences result in variations of theoretical models used, inconsistency in results, and discrepancies in resulting intervention research (Burke et al., 2020; Ju et al., 2017). Based on results from this study, it is suggested that an appropriate method to target these limitations is to incorporate qualitative methods into research od SD and QOL in post-secondary settings. Specifically, results from qualitative sections in this study pointed towards the trend that some SD components appear to be more relevant for students than others (e.g., self-advocacy, goal-settings, self-regulation) and this finding is consistent with results from other studies (Getzel, 2014; Wilson et al., 2000). Thus, having a better understanding about skills that students indicate have been the most beneficial in navigating post-secondary settings can help drive theory and the creation of global measures that are more sensitive to what students with disabilities indicate are their primary needs and skills required to engage in self-determined behaviours. Further, qualitative methods could also allow for deeper explorations into other variables that impact the development and expression of SD (e.g., onset of disability, stigma, living with both visible and invisible disabilities, available supports, opportunity for SD) to create effective student-driven, strength-based interventions.

This study adds to the increasing body of literature advocating for measures of academic success to move beyond considering or heavily weighting academic performance as the main indicator of student success (DaDeppo, 2009; Richman et al., 2014; Troiano et al., 2010). Instead, moving towards measures of success that incorporate various aspects of students' lives could provide helpful, relevant, and applicable approaches to guide interventions to improve individual outcomes. For instance, QOL of life frameworks which can be applied to educational settings, such as SQL, can help determine the specific needs of student with disabilities and assess various indicators of health (e.g., satisfaction, empowerment, social belonging, well-being) which should considered when making assessments about success outcomes (Field et al., 2003; York et al., 2015).

One important area for future research relates to the lack of information regarding developmental influences in the literatures of SD and QOL. To date, due to a scarcity of studies investigating this area, many of the SD measures and definitions used in research for students with disabilities in higher education settings are derived from literature in high school settings (Gelbar et al., 2020; Ju et al., 2017). However, the development and acquisition of SD is a lifelong process that begins in childhood and continues throughout adulthood (Wehmeyer & Schalock, 2001). Thus, the development and promotion of SD to enhance the QOL of students requires the coordination of learning efforts across the span of students' educational experiences. Currently, there is a need to identify what SD elements have greater applicability for elementary students versus secondary and post-secondary education, as well as the consequences that such elements can have on the QOL of students throughout various stages of development. These limitations notwithstanding, understanding the role that QOL and SD play in inclusive education has important implications for service delivery, curriculum adaptation, advocacy, and research involving students with LDs. Specifically, advancing research initiatives looking into the relationship between SD and QOL in post-secondary settings that can lead to meaningful service delivery, and improvements in individual outcomes with a focus on empowerment, inclusion, and respect for the individual.

Lastly, a number of participants noted that their academic experiences had been negatively impacted by the pandemic. Specifically, participants indicated having low motivation levels and experiencing difficulty accessing course resources, while very few students indicated benefiting from online learning. These results highlight the importance of continued research into how students with disabilities experience online learning. Research in the field has identified a range of benefits that technology and online tools can afford students with disability in post-secondary settings. However, user barriers have also been identified, particularly relating to difficulties obtaining technologies, unanticipated time demands required learning how to use assistive technologies, and assistive technologies being recommended based on disability labels rather than need (Reed et al. 2006; Hanafin et al. 2007). For instance, Seale et al. (2021) conducted a study to investigate the design of technology products and online platforms for students with disabilities in higher education. Findings revealed that students with disabilities were able to identify examples where the functionality of the technologies had supported their learning and enabled them to achieve their academic potential. However, several barriers were also identified, mainly difficulties were reported with regards to the design of the technologies, lack of technology know-how, and a lack of social capital. Thus, this study highlights the need for additional research looking into existing and potential user barriers regarding technology in higher education and in identifying technologies, online platforms, as well as online learning and teaching strategies that are most effective increasing academic success for students with disabilities. This is particularly relevant, as the post-pandemic academic world moves towards increased online-based education.

Implications for Practice

The findings of the current research suggest several practical considerations across home, academic, and community settings. Specifically, this section will highlight implications related to the lifespan development of SD, the importance of creating supportive academic communities, the role of educators and other professionals in fostering SD and in creating inclusive learning environments, the transition from secondary to post-secondary, and the benefit of creating online communities for social support. A special focus will be placed on the role of school psychologists in supporting SD skills for students with disabilities in post-secondary settings.

Previous studies reinforce the benefit of creating supportive social and physical academic environments, starting at the very beginning of students' academic trajectories, to increase the likelihood of adult outcomes and enhance overall QOL (Heller et al., 2011; Wehmeyer, 1999; Wehmeyer et al., 1997; Wehmeyer & Schalock, 2001). Some authors have specifically highlighted the role of parents, caregivers, and teachers in promoting SD from a young age by fostering self-regulation, problem-solving, decision-making, and offering opportunity for choice, in both home and school environments (Malian & Nevin, 2002; Núñez & León, 2015; Shogren & Turnbull, 2006). A process which should be continued into adolescence with a larger focus on autonomy support, goal-setting and attainment, and self-advocacy (Ginevra et al., 2015; Nota et al., 2011). Lastly, these efforts should followed into the transition from high school to post-secondary institutions to ensure the best possible post-transitions adjustment outcomes (Patrick & Wessel, 2013; Pierson et al., 2008).

An important approach to infuse academic environments with practices that supports the development of SD is to include students voices in educational planning. Specifically, allowing to students express their opinions and needs when creating Individualized Education Plans (IEPs), Individualized Transition plans (ITPs), and classroom learning goals. In fact, Malian and Nevin (2002), found that students with disabilities whose IEPs and ITPs included student collaboration as well as self-determination goals and objectives were more likely to have more successful outcomes upon exiting high school programs than those whose IEPs and ITPs did not contain SD benchmarks. This points to the fact that SD development should become an integral part of the school curriculum, beginning at the elementary level and continuing across further academic stages, with a particular focus on the transition from secondary to post-secondary settings (Getzel, 2014; Lindsay et al., 2017; Patrick & Wessel, 2013).

Currently, there is a lack of research exploring evidence-based programs to assist students with disabilities transition into post-secondary (Getzel, 2014; Ju et al., 2017). However, overall research findings emphasize the fact that such programs can lead to more successful transitions and future adjustment for students with disabilities (Landmark et al., 2010; Lindsay et al., 2017; Patrick & Wessel, 2013). Specifically, programs which focus on increasing awareness around the accommodations, resources, and supports available in post-secondary settings as well as how to access them can empower students in asking for them upon admission (Mull et al., 2001). Some studies also highlight the importance of inter-professional and inter-agency collaboration in order to ensure post-secondary transition best practices (Lindsay et al., 2017). Further, if students enter pos-secondary with existing knowledge about how communicate their needs, play on their strengths, work towards self-selected goals, self-advocate, asses their own progress and adjust accordingly, and evaluate the effectiveness of services, this could ensure students are accessing the supports that will be the most effective for them as individuals (Gelbar et al., 2020). Given the benefit of SD skills at the post-secondary level, Field (2016) suggested the following initiatives that can be infused into college and university curricula to assist in the development of self-determination skills and support transition outcomes: (a) incorporate instruction about self-determination into first-year orientation programming; (b) offer coaching services to students; (c) offer a learning community related to self-determination; and (d) provide peer mentoring programs that incorporate self-determination skills.

These initiatives further highlight the overall need for, “a comprehensive model of service delivery to increase the persistence and graduation of college students with disabilities” (Hong, 2015, p. 223). For instance, Hong et al. (2007) outlined specific strategies to empower students with disabilities and maximize success outcomes the post-secondary. These strategies we divided in 3 major areas: (1) helping students obtain timely and appropriate services (e.g., providing pertinent and timely information to enable students to request needed services/accommodations, helping students understand their responsibilities to identify services that work, respecting student confidentiality rights and nondisclosure, encouraging students to advocate for their right to reasonable accommodation, and model how to effectively communicate needs to instructors and student services), (2) strategies for planning instruction that develops self-regulatory behaviors (e.g., being consistent and clear about what is expected of students, specifying standards for assessing assignments, providing examples of past assignments so students have a better idea of what is expected, never making students feel they are not capable of making decisions because of their disability, allowing room for trial and error during guided practice), and (3) strategies for integrating essential study and learning skills (acknowledging students' successful strategies, supporting in assignment and time management, emphasizing students' successes rather than highlighting limitations, teaching and modeling essential social skills). However, while Hong recognizes that a comprehensive model of service delivery does not yet exist, beyond focusing on capacity development, it necessitates the collaboration of staff, clinicians, professors, and other professionals in the academic community.

Although Field's Hong's models were advanced to specifically support students with disabilities, these strategies can also be effective in efforts aimed towards creating inclusive physical and learning environments for all students. This can be achieved by following a universal design aiming to benefit everyone by focusing on equitable use, flexibility, information communicated effectively, identifying goals to accommodate diverse learners regardless of the discipline, and amplifying student voice and agency (Pilarski & Rath, 2013). Thus, contributing to improving post-secondary outcomes and QOL for all students, including student with disabilities.

In keeping with this idea, some authors suggest efforts should be made to increase awareness, sensitivity, and training in efforts to create more inclusive environments and ensure service providers and staff at the post-secondary level are better prepared to work with students with disabilities (Ju et al., 2017). Such that staff development programs focusing on promoting disability awareness as well as awareness about rights and obligations, barriers encountered by students with disabilities at the post-secondary level, evidence-based support practices, and ways to support student in transitioning to employment, should be prioritized (Hong et al., 2007). Further, academic policies and institutional agendas should also endorse values and goals aimed at promoting togetherness within campus communities and specifically target discriminatory and stigmatizing attitudes and practices (“Allies for Inclusion,” 2013). For instance, workshops and trainings focusing on allyhood, enhancing discreetness in handling disability disclosure and paperwork, raising awareness around disclosure barriers, and how past stigmatizing experiences may impact self-advocacy and disclosure processes (Marshak et al., 2010).

Lastly, this study was conducted against the backdrop of a worldwide pandemic. Results from Coronavirus related questions indicate that a significant portion of the sample (92%) was affected by Coronavirus-related events. As mentioned above, participants indicated difficulties experienced with regards to online learning as well as social isolation. This is a particularly relevant finding as people with disabilities are a population who due to various reasons (e.g., stigma, discrimination, limited mobility, pain, negative cognitions) may already be vulnerable to social isolation (Matt & Butterfield, 2006). However, studies investigating online-based support have found these types of interactions can help decrease social isolation, as well as mitigate the psychological effects of social isolation (Bricout, 2004; Guo et al., 2005; Miller, 2008). For instance, Obst and Stafurik (2010) conducted a study to explore the benefits that membership in disability-specific online communities may have for people with a physical disability. The authors administered online surveys to 160 online users. Results indicated that participants reported receiving moral support and personal advice through participating in such online communities. This, in turn, led participants to benefit from social support and feel a sense of community online which was positively associated with participants’ well-being in the areas of personal relations, personal growth, and self-acceptance. Further, participating in online communities allowed participants to share and receive disability-specific information which was used for decision-making regarding activities of daily living (e.g., transportation, housing, employment, recreation, education, healthcare). The authors concluded that “as people with a physical disability may lack large support networks, being a member of an online community …, can provide access to a large social network of others who may share similar life stories, interests and values" (p. 12). This highlights the important of ensuring that information about online networks (such as the many disability associations who supported recruitment in this study) is being disseminated on campus, such that students are aware of the existence of/know how to access online forums which could help support well-being. Further, this emphasizes the importance of creating university- and college-led online interventions programs, support groups, and mentorship environments through Internet-based methods. This is particularly important given the detrimental effects of the pandemic on emotional and psychological well-being.

The role of School Psychologists. It has been largely established that the role of school psychology has expanded to serve all students, including post-secondary students (Sulkowski & Joyce-Beaulieu, 2018). As school psychologists, we are in particularly privileged positions in that we can support students at different stages of their academic trajectories. Thus, allowing us to play a role in the implementation of programs, interventions, and initiatives seeking to uphold the lifespan development of SD and overall adjustment to academic environments. Specifically, according to the National Association of School Psychologists (NASP, 2010), to ensure effective service delivery, school psychologists should have expertise in the following areas (a) legal aspects of education; (b) academic, social, emotional, behavioral, and life skills assessment and intervention; (c) data-based decision making; (d) collaborating and consulting across systems and settings (e) be an advocate in promoting social justice; (b) and have the knowledge to provide equitable and evidence- based services to students (Wilczenski et al., 2016; National Association of School Psychologists, 2020). As such, school psychologists possess the skillset to support in different educational areas such as, enhancing transition planning, supporting the creation of inclusive educational paradigms, as well as offering individual support.

As mentioned in previous sections, the transition from secondary to post-secondary education can be a difficult one for students with disabilities (Gelbart et al., 2020; Nota et al., 2007). This transition is made even more difficult when students lack awareness of their own needs and information about their future academic settings. As school psychologists, we can support the transition process by ensuring students possess important self-advocacy skills which allow them to access services, if desired, as well as to better adjust to post-secondary settings. For instance, school psychologists can assist students in this process by ensuring that students can explain high school documentation, act as bridge between institutions by consulting with disability service offices on college campuses, role playing or practicing self-advocacy skills and disclosure prior to the transition and collaborating with students and families to establish realistic and attainable post-secondary educational goals (Morales & Sanetti, 2018).

In addition to supporting the transition process, school psychologists also play a role in facilitating student access to inclusive post-secondary education. Specifically, by encouraging and advocating for the participation of students in EIP and TIP meetings, school psychologists can help build a skills base that students will be able to deploy in post-secondary settings. Further, in ensuring that students have access to individualized supports and resources at the onset of difficulties, school psychologists can facilitate both learning and personal development and ensure preparedness and readiness for post-secondary undertakings. On a broader scale, school psychologists can be active participants in intervention and program research efforts aimed at promoting inclusive, strength-based, and anti-discriminatory post-secondary environments.

Lastly, as previously mentioned, school psychologists are in a unique position to provide services across systems, including at the individual level. Through psychoeducational assessments, as well as skills building and therapy services, school psychologists can provide more direct and tailored information and intervention through one-on-one environments. Specifically, at the assessment level school psychologists can ensure assessment practices are sensitive to student's racial and cultural make-up, as well as disability-specific factors which may impact interpretation of results. Thus, ensuring accuracy of diagnosis as well the identification of appropriate and effective supports. Further, psychoeducational assessments provide an opportunity to assess levels of SD skills, to later provide capacity building where needed and have discussions around how and when to use SD skills to empower students in determining future goals and decision-making. Lastly, providing a safe space in which students can process past experiences of stigma and discrimination as well as having conversations to raise awareness about disability issues and knowledge of rights, can also contribute to the enhancement of overall quality of life outcomes.

Conclusion

Although there is a substantial amount of research pertaining to the education of students with disabilities, most of the literature focuses on younger populations (Bakken et al., 2016). However, given the numerous barriers experienced by students with disabilities at the post-secondary level, additional research is needed to better understand the experiences of this population and identify effective interventions to enhance success outcomes (Ju at al., 2017). *Quality of life* and *self-determination* have emerged as important constructs offering more integrative and comprehensive frameworks with which to study the heterogeneous and unique experiences of students with disability in post-secondary settings (Wehmeyer & Schaloch, 2001).

By incorporating quantitative and qualitative frameworks, this study sought to expand the body of research exploring the experiences of students with disabilities in post-secondary settings, particularly related to SD and QOL. Major study findings relate to the significant differences in levels of SD for students with visible, invisible, and for students living with both visible and invisible disabilities. Specifically, the highest levels of SD were reported by students with visible disabilities, while the lowest levels were reported by students living with both visible and invisible disabilities. Further, results from this study demonstrate the predictive nature of SD when considering QOL, or specifically SQL, as an outcome measure. Research findings also highlighted the fact that some SD skills, such as autonomy, self-advocacy, goal-setting, and perceived control appeared to be more salient for students in this sample. Lastly, this study emphasized important SD facilitators (e.g., understanding SD processes and social supports), as well as how SD can help students overcome barriers (e.g., emotional difficulties, negative self-perceptions, stigma) present in their post-secondary settings. Altogether, this study provides important information that researchers, educational professionals, and practitioners can employ in creating self-determined, empowering, and inclusive post-secondary settings. Lastly, information presented in this study highlights the importance of incorporating the voices of students with disabilities in research and intervention efforts towards creating inclusive social environments:

> Despite the disability forced upon me, the discrimination, and difficult financial and socio-economic conditions, I have remained in school and intend to finish my university degree. … Not only has self-determination helped me in continuing my education, but it has allowed me to decide to launch a business to support myself & others with

> disabilities, since I know I will not be able to work physically for 8 hours a day at an office for the rest of my life. (Undergraduate student, visible and invisible disabilities)

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Table 1

Phases of Thematic Analysis

Phases	Description of the process
1. Familiarizing yourself with your data:	Reading and re-reading the data, noting down initial ideas.
2. Generating initial codes:	Coding interesting features of the data in a systematic fashion across the entire data set, collating data relevant to each code.
3. Searching for themes:	Collating codes into potential themes, gathering all data relevant to each potential theme.
4. Reviewing themes:	Checking in the themes work in relation to the coded extracts (Level 1) and the entire data set (Level 2) generating a thematic "map" of the analysis.
5. Defining and naming themes:	Ongoing analysis to refine the specifics of each theme, and the overall story the analysis tells; generating clear definitions and names for each theme.
6. Producing the report:	The final opportunity for analysis. Selection of vivid, compelling extract examples, final analysis of selected extracts, relating back of the analysis to the research question and literature, producing a scholarly report of the analysis.

Note. Taken from Braun and Clark (2006)

Table 2

Descriptive Statistics of the Demographic Variables (n = 104)

Variable	*n (%)*
Country of Birth (n = 103)	
Canada	62 (60.2)
United States	18 (17.5)
Germany	5 (4.9)
France	4 (3.9)
Lebanon	2 (1.9)
Argentina	1 (1)
Austria	1 (1)
Australia	1 (1)
Brazil	1 (1)
China	1 (1)
Colombia	1 (1)
United Kingdom	1 (1)
Israel	1 (1)
Korea, South	1 (1)
Mexico	1 (1)
Peru	1 (1)
Uruguay	1 (1)
Province or Territory of Residence	
Quebec	41 (30.4)
Ontario	29 (27.9)
British Columbia	15 (14.4)
Alberta	10 (9.6)
Nova Scotia	4 (3.8)
Manitoba	2 (1.9)
New Brunswick	2 (1.9)
Newfoundland and Labrador	1 (1)
First Language	
English	68 (65.4)
French	11 (10.6)
Bilingual (English/French)	7 (6.7)
Bilingual (English/Spanish)	6 (5.8)
Spanish	5 (4.8)
Arabic	1 (1)
Cantonese	1 (1)
Japanese	1 (1)
Korean	1 (1)
Portuguese	1 (1)
Tagalo	1 (1)
Race and Ethnicity	
White or Caucasian	51 (49)

Multiracial or Biracial	21 (20.2)
Asian or Pacific Islander	12 (11.5)
Hispanic or Latin X	11 (10.6)
Black or African-Canadian/American	4 (3.8)
First Nations, Aboriginal, or Indigenous	3 (2.9)
Other - Jewish	1 (1)
Other – Middle Eastern	1 (1)
Academic Level	
College/CEGEP	2 (1.9)
University (Undergraduate)	44 (42.3)
University (Master's Level)	34 (32.7)
University (Doctoral Level)	24 (23.1)
Major Concentration	
Health Sciences	28 (26.9)
Social Sciences	26 (25)
Arts and Humanities	21 (20.2)
Engineering and Applied Sciences	16 (15.4)
Other	13 (12.5)
Current Living Situation	
With a spouse or partner	33 (31.7)
With roommates	30 (28.8)
Alone	22 (21.2)
With parents	16 (15.4)
Other	2 (1.9)
With parents	1 (1)

Table 3

Descriptive Statistics for Regression Analyses

Variable	Mean	SD	Minimum	Maximum
Age	25.82	4.39	19	41
Gender	1.83	0.85	1	3
Visibility of disability	1.54	0.62	1	3
Academic level	1.79	0.80	1	3
Opportunity	44.29	8.01	23	60
SDS Total Score	109.04	23.68	54	143
Autonomy	73.37	18.25	29	96
Self-Regulation	11.13	4.40	0	20
Psychological Empowerment	13.56	2.45	7	16
Self-Realization	10.98	3.51	2	15
QSLQ Total Score	98.42	13.27	67	119

Table 4

Correlations of all IVs and DV in First Hierarchical Multiple Regression

Variable	1	2	3	4	5	6	7	8	9
1. Age	-	.029	-.041	.084	-.167**	.486**	.162**	.069*	.120*
2. Gender (male)		-	-.368	.113	-.033*	.022*	.002	-.137	-.050
3. Gender (trans & gender fluid)			-	-.005	.006	-.245*	-.140*	.098	.079
4. Visibility (visible)				-	-.872	.023	.347**	.296**	.331
5. Visibility (invisible)					-	-.065	-.416**	-.241*	-.257*
6. Academic level						-	.309	.351	.335*
7. AIR Opportunity							-	.575	.704**
8. SDS Total Score								-	.801*
9. QSLQ Total Score									-

Note. ** p < .01 and * p <. 05

Table 5

Correlations of all IVs and DV in Second Hierarchical Multiple Regression

Variable	1	2	3	4	5	6	7	8
1. Visibility (visible)	-	-0.872*	0.347**	0.291**	0.019	0.214*	0.312*	0.331**
2. Visibility (invisible)		-	-0.416**	-0.244**	-0.099	-0.076	-0.181*	-0.257**
3. AIR Opportunity			-	0.499**	0.355**	0.472**	0.510**	0.704**
4. SDS Autonomy				-	0.285**	0.538**	0.494**	0.701**
5. SDS Self-Regulation					-	0.485**	0.325**	0.431**
6. SDS Psych Emp.						-	0.701**	0.694**
7. SDS Self-Realization							-	0.737**
8. QSLQ Total Score								-

Note. ** p < .01 and * p <. 05

Figure 1

P-P Plot of Regression Standardized Residual for First Regression

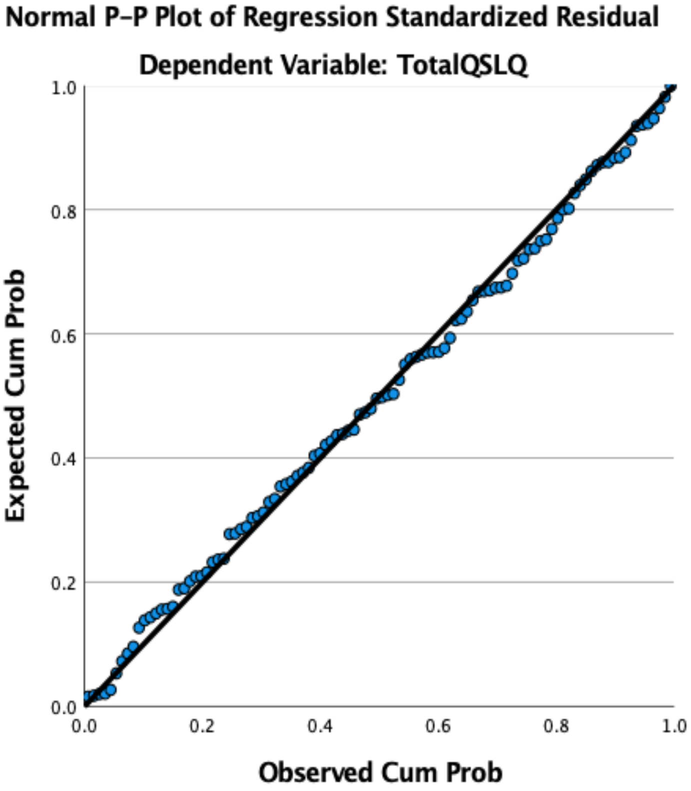


Figure 2

Regression Standardized Residuals for First Regression

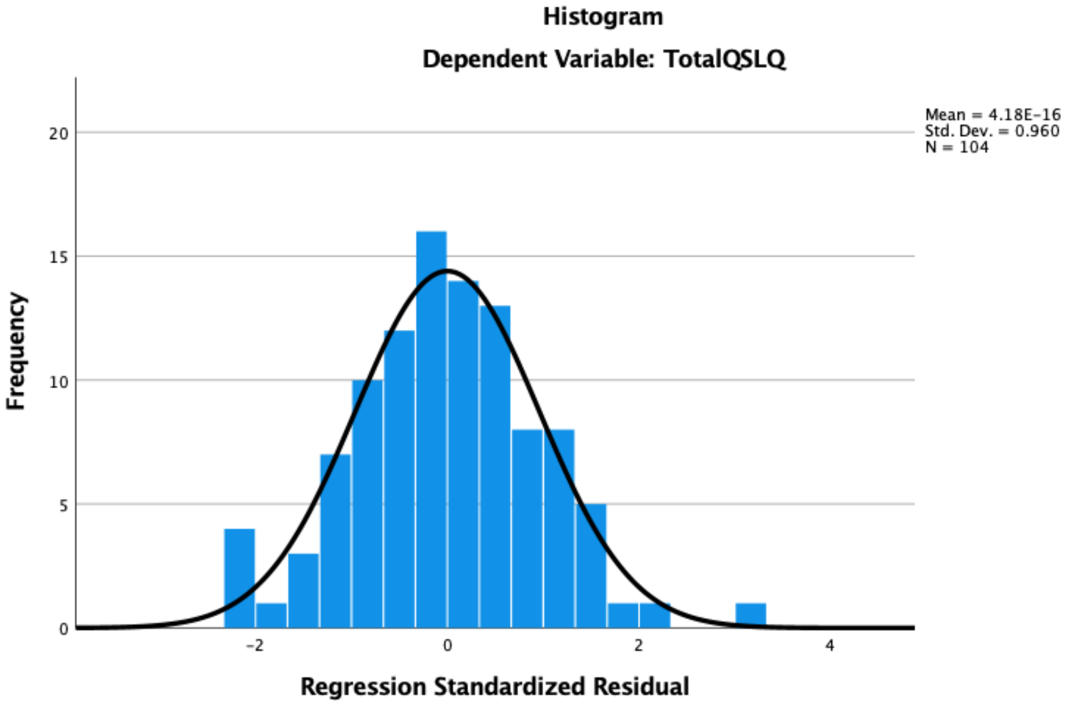


Figure 3

P-P Plot of Regression Standardized Residual for Second Regression

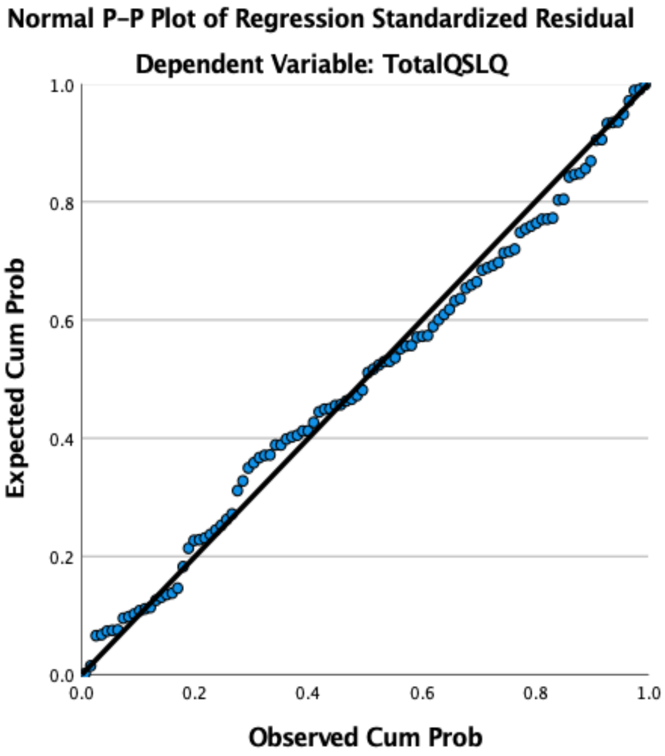


Figure 4

Regression Standardized Residuals for Second Regression

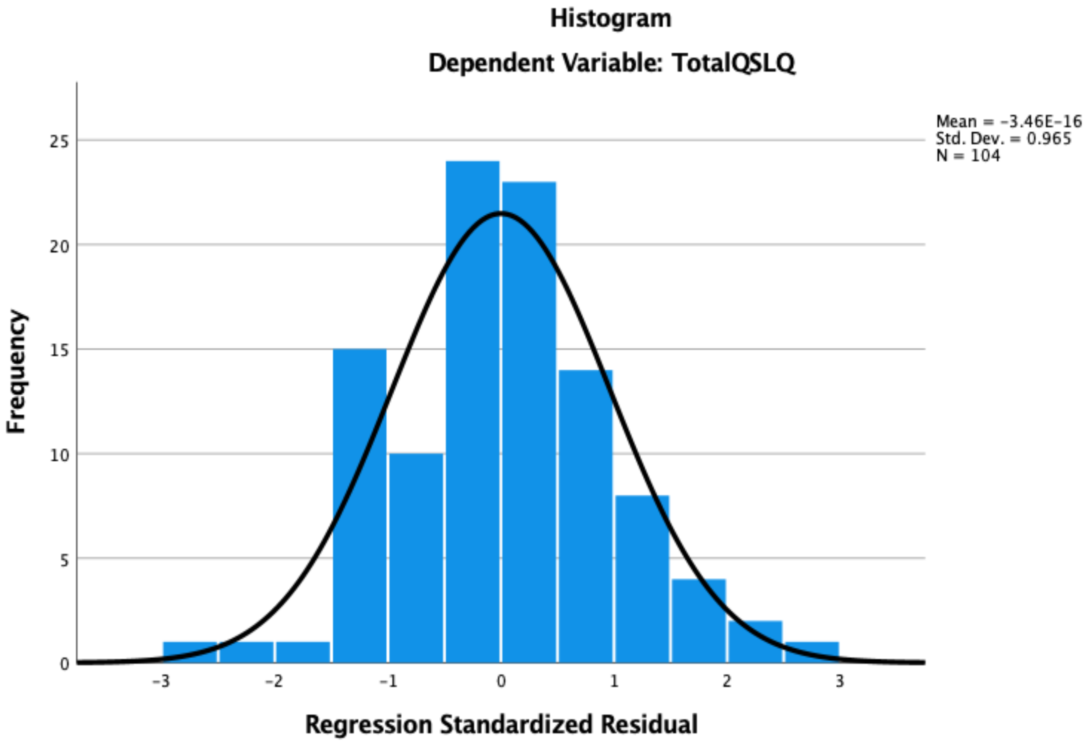


Figure 5

Visual Map of Thematic Analysis for Research Question # 4

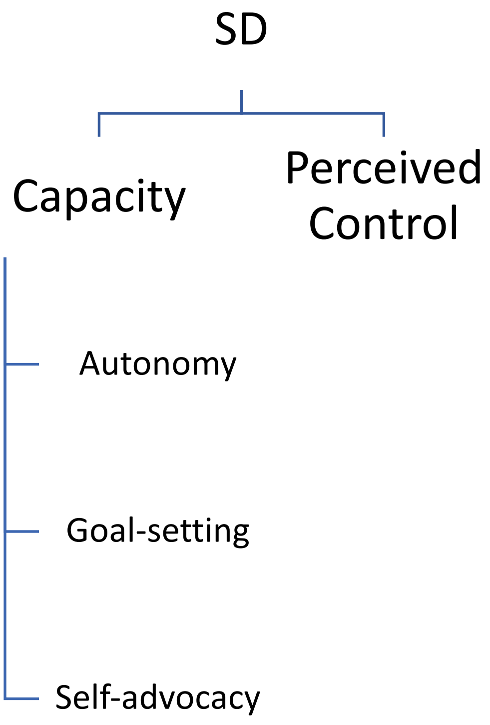
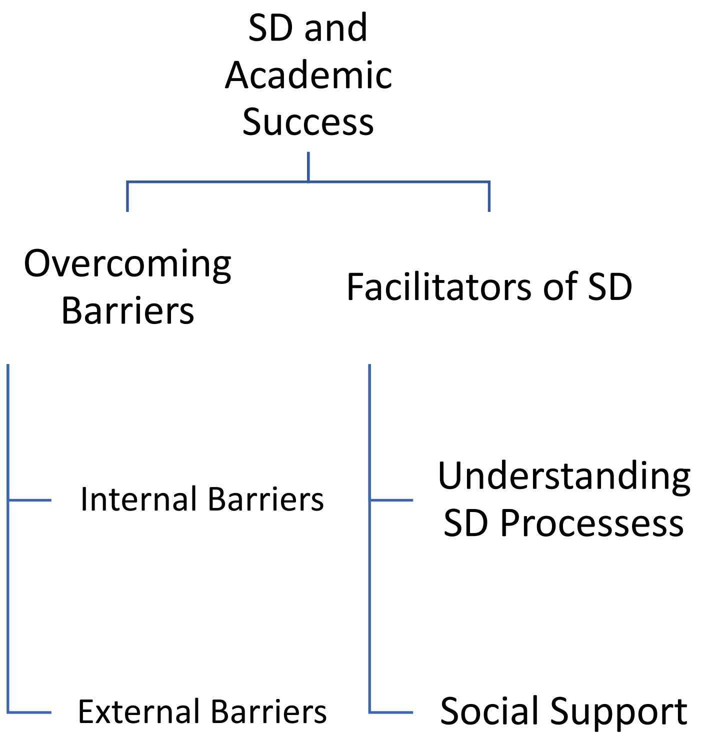


Figure 6

Visual Map of Thematic Analysis for Research Question # 5



Appendix A

Participant Request Form

McGill

Request for Research Participants!

I am a Ph.D. candidate in in the School/Applied Child Psychology Program at McGill University and I am currently recruiting English-speaking participants for a study concerning disability in post-secondary academic settings across Canada. The study will explore self-determination and quality of student life in students with disabilities. Participation involves taking part in an online survey. Study participants will be offered the opportunity to enter a raffle to **win one of 10 gift certificates of a 50$ value each!**

If you are:

1. 18 and older.
2. Self-identify as having any of the following disabilities:
    - Attention Deficit Hyperactivity Disorder (ADHD)
    - Autism spectrum disorder (ASD)
    - Deaf and Hard of Hearing
    - Learning disabilities
    - Medical Disabilities or chronic medical conditions
    - Mental health conditions or psychiatric disabilities
    - Mobility Disabilities
    - Neurological disabilities
    - Traumatic Brain Injury (TBI)
3. Are enrolled in a Canadian post-secondary institution

and are interested in participating, please visit

https://surveys.mcgill.ca/ls/542928?lang=en

Or contact:

Student Researcher: C. Julieta Aguilera Vasquez, MA, PhD Candidate School/Applied Child Psychology
SPARC Research Team
Department of Educational and Counselling Psychology, McGill University
Contact information: mcgillsdqslstudy@gmail.com , 213-880-7596

Thank you for your time!

Research Supervisor: Dr. Tara Flanagan
SPARC Research Team
Department of Educational and Counselling Psychology, McGill University
Contact information: 514-398-3441

Appendix B

Consent Form

Educational & Counselling Psychology Room 614, Education Building
3700 McTavish Street
Montreal, Quebec H3A 1Y2

Student Researcher
C. Julieta Aguilera Vasquez, MA, PhD candidate School/Applied Child Psychology McGill University
Email: carla.aguilera@mail.mcgill.ca
Phone number: 213-880-7596

Research Supervisor
Tara Dawn Flanagan, PhD
Department of Educational and Counselling Psychology McGill University
Email: taradawn.flanagan@mcgill.ca
Phone number: 514-398-3441

CONSENT FORM (Survey Study)

Project Title: Understanding the experiences of students with disabilities: A study of self-determination and the quality of student life in post-secondary settings

Purpose of the Study

My name is C. Julieta Aguilera Vasquez. I am a doctoral candidate in the School/Applied Child Psychology Program at McGill University. I am conducting a research study as part of the requirements of my Doctoral degree and would like to invite you to participate. This study is funded in part by the Fonds de Recherche sur la Société et la Culture (FRQSC).

I am currently recruiting participants for a study concerning disability in post-secondary academic settings. The study will explore self-determination and quality of student life for students with disabilities (18 and older) across Canada. If you decide to participate, you will be asked to take part in an online survey that will take approximately 30 to 45 minutes to complete. Study participants will be offered the opportunity to enter a raffle to win one of 10 gift certificates of 50$ value each!

Participation is confidential. Study information will be kept in a secure location at McGill University. The results of the study may be published and/or presented at professional meetings, but your identity will not be disclosed.

Involvement

Involvement will consist of completing an online survey. As a participant of this research study you will be asked to complete a demographic questionnaire, two questionnaires regarding self-determination, and a questionnaire regarding quality of student life. All three questionnaires will take approximately 30-45 minutes to complete. You are under no obligation to participate in this study. You may choose to exit the survey at any time and may refuse to answer any question(s) you are not comfortable answering. There are
no known risks associated with participating in this study. Once you click ‘SUBMIT’ you cannot withdraw responses at a later time. If you chose to exit before completion, partial information will be saved but usage of your data in data analysis will be determined on a case by case basis. If data is used, confidentiality measures outlined in this consent form will be followed. Since the survey link you received is separate,

your responses are delivered anonymously to the PI and cannot be withdrawn once submitted as there is no identifying information collected.

Risks and Benefits

There are no foreseeable risks to participating in this study. However, answering some of the questions may elicit feelings of frustration or discomfort. If this occurs, you may refer to the researcher, C. Julieta Aguilera Vasquez for a list of supportive online resources.

The researchers hope to use this knowledge to help raise awareness on the needs of students with disabilities in post-secondary settings and improve the services being offered across Canada.

Confidentiality

Survey information will be kept confidential. Once collected, information will be stored on a password protected electronic database on computers housed in locked offices at McGill University. Data will be stored for 7 years after publication of the study as per publication standards. The researcher will be responsible for all data analysis. Data collected will be de-identified and merged into one single database. I understand that participants will never be identified by name or in any way in any report or publication from the study.

Compensation:

Participants will be offered the opportunity to enter a raffle to win one of 10 gift certificates of 50$ value each. The raffle will take place between September 30th, 2020 and October 30th, 2020. Participants will have 2 weeks to claim gift cards. Once this time period has elapsed, another name will be picked to be entered into the raffle. Once the raffle has been completed and closed, all emails from those who entered the draw will be destroyed.

Ethical Approval

If you have any questions or concerns regarding your rights or welfare as a participant in this research study, please contact the McGill Ethics Officer at 514-398-6831 or lynda.mcneil@mcgill.ca. This study has been reviewed and received ethics clearance through the Research Ethics Board (REB) at McGill University.

Voluntary Consent

By clicking on AGREE, you are providing consent to participate in this study. By agreeing to participate, you reserve the right to complete some parts of the study and not others and to withdraw from participation at any time by clicking the exit button

Please sign below if you have read the above information and consent to participate in this study. Agreeing to participate in this study does not waive any of your rights or release the researchers from their responsibilities.

Participant name: ______________________ Signature: _______________________

Date: ___________________

Note: before exiting this page, participants will be prompted to save/print a copy of the Consent form for their reference.
Note: An additional link will be provided so that participants can access the online survey.

Letters of invitation and consent for interviews were deleted as this study will no longer include interviews

Appendix C

Demographic Questionnaire

1. What is your age?

   ____

2. What is your gender?

   ____

3. What is your sexual orientation?

   ____

4. Do you consider yourself to have an invisible/undetectable or visible disability?
   Invisible
   Visible
   Please specify the type of disability: __________________________

5. What is your Country of birth?

   ____

6. What Canadian province/territory do you live in? ____________

7. What is your mother tongue?
   English
   French
   Other_____________

8. What is your ethnicity?
   ____

9. Which best describes your academic institution?
   College
   University (undergraduate)
   University (Graduate-Master's level)
   University (Graduate-Doctoral level)
   University (certificate)

10. What is your enrolment status?
    Enrolled full time
    Enrolled part time

Currently not enrolled

11. What academic year are you currently enrolled in at your institution?
    First year
    Second year
    Third year
    Fourth year
    Other: ______________

12. What is your major concentration of study?
    Arts & Humanities
    Engineering and Applied Sciences
    Health Sciences
    Social Sciences
    Undeclared
    Other: __________

13. What would you consider your overall academic performance to be?
    A- to A+ (80-100%)
    B- to B+ (65-79%)
    C- to C+ (55-64%)
    F to D (0-54%)

14. Are you enrolled for next semester?
    Yes
    No
    Reason why ____________________

15. Are you currently receiving on campus services from your institution's disability office?
    Yes
    Please specify the types of services you are receiving: ______________________

    Have these services been helpful?
    Yes
        What has been your level of satisfaction with these services?

        1 Very Satisfied
        2 Satisfied
        3 Neutral
        4 Dissatisfied
        5 Very dissatisfied

    No
    Reason why? _______________________________

16. What is your employment status?
    Employed full time
    Employed part time
    Currently not employed
    If currently employed, how many hours per week do you work: _______

17. Who do you live with during the school year?
    I live alone
    with roommates
        If so, how many? _______
    With a spouse or partner
    With my child or children
    With my parents
    With other relatives
    Other _______

18. Are you a first-generation college or university student?
    Yes
    No

19. Who would you say are your main sources of social support? (i.e. support and assistance available from other people; encompasses emotional and informational support)
    Please check all that apply
    Parents
    Siblings
    Other family members
    Friends
    Teachers/Professors
    University/college personal
    Co-workers
    Other ___________

20. Please rate the level of emotional support (i.e., people you can trust with intimate thoughts and feelings) you receive within your post-secondary setting?
    1 More than I would like
    2 The amount that I would like
    3 Less than I would like

21. Please rate how important receiving emotional support in your post-secondary setting is to you
    1 Not Important At All
    2 Of Little Importance
    3 Of Average Importance
    4 Very Important
    5 Essential

22. Please rate the level of informational support (i.e. people you can ask for advice about decisions, get mentoring) you receive within your post-secondary setting?
    1 More than I would like
    2 The amount that I would like
    3 Less than I would like

23. Please rate how important receiving informational support in your post-secondary setting is to you
    1 Not Important At All
    2 Of Little Importance
    3 Of Average Importance
    4 Very Important
    5 Essential

24. What would you say is your level of empowerment (i.e., the level of autonomy and perceived ability to make decisions and control one's own life) currently experienced?

    0 1 2 3 4 5 6 7 8 9 10

    Not at all Empowered — Extremely Empowered

25. What does self-determination mean to you?

26. Do you think that being self-determined has helped you succeed in your post-secondary setting? (i.e., academic achievement, acquisition of knowledge and skills, persistence and retention, success in navigating your post-secondary environment, and developing and maintaining relationships?)
    Yes
    No

    Please explain:

Ending Questions:

1. Do you feel that this survey has helped you gain new knowledge regarding self-determination or student quality of life?
   Yes
   No
   a. Please explain what new information you have gained.
   b. Do you believe this information will be helpful in navigating post-secondary settings?

2. Following completion of this survey, has your definition of self-determination changed?
   Yes
   No

   a. How has it changed?

3. Please provide any additional comments or information here:
4. Have Corona virus (COVID-19) related events impacted your experiences of self-determination and/or quality of student life within your current academic context (e.g., courses, relationships to post-secondary institution staff, relationships to peers, etc)?
   Yes
   No
   If yes, how so?

Appendix D

ARC Self-Determination Scale

Section I – Check the answer on each question that BEST tells how you act in that situation. There are no right or wrong answers. (If your disability limits you from actually performing the activity, but you have control over the activity (such as a personal care attendant), answer like you performed the activity.)				
Questions 1-32 reflect the **Autonomy** of the person with ASD (i.e., acting independently and acting on the basis of preferences, beliefs, values and abilities). Pg. 68 of manual (Low scores represent low levels of autonomy; higher scores indicate higher levels of autonomy.)				
1. I make my own meals or snacks.	I do not do even if I have the chance.	I do sometimes when I have the chance.	I do most of the time I have the chance.	I do every time I have the chance.
2. I care for my own clothes.	I do not do even if I have a chance	I do sometimes when I have the chance.	I do most of the time I have the chance.	I do every time I have the chance.
3. I do chores in my home.	I do not do even if I have a chance	I do sometimes when I have the chance.	I do most of the time I have the chance.	I do every time I have the chance.
5. I do simple first aid or medical care for myself	I do not do even if I have a chance	I do sometimes when I have the chance.	I do most of the time I have the chance.	I do every time I have the chance.
6. I keep good personal care and grooming.	I do not do even if I have a chance	I do sometimes when I have the chance.	I do most of the time I have the chance.	I do every time I have the chance.
7. I make friends with others my age.	I do not do even if I have a chance	I do sometimes when I have the chance.	I do most of the time I have the chance.	I do every time I have the chance.
8. I use the post office.	I do not do even if I	I do sometimes	I do most of the time I	I do every time I

	have a chance	when I have the chance.	have the chance.	have the chance.
9. I keep my appointments and meetings.	I do not do even if I have a chance	I do sometimes when I have the chance.	I do most of the time I have the chance.	I do every time I have the chance.
10. I deal with sales individuals at stores and restaurants.	I do not do even if I have a chance	I do sometimes when I have the chance.	I do most of the time I have the chance.	I do every time I have the chance.
11. I do free time activities based on my interests.	I do not do even if I have a chance	I do sometimes when I have the chance.	I do most of the time I have the chance.	I do every time I have the chance.
13. I am involved in community activities.	I do not do even if I have a chance	I do sometimes when I have the chance.	I do most of the time I have the chance.	I do every time I have the chance.
14. My friends and I choose activities that we want to do.	I do not do even if I have a chance	I do sometimes when I have the chance.	I do most of the time I have the chance.	I do every time I have the chance.
15. I write letters, notes or talk on the phone to friends and family.	I do not do even if I have a chance	I do sometimes when I have the chance.	I do most of the time I have the chance.	I do every time I have the chance.
16. I listen to music that I like.	I do not do even if I have a chance	I do sometimes when I have the chance.	I do most of the time I have the chance.	I do every time I have the chance.
17. I volunteer in things that I am interested in.	I do not do even if I have a chance	I do sometimes when I have the chance.	I do most of the time I have the chance.	I do every time I have the chance.
18. I go to restaurants that I like.	I do not do even if I	I do sometimes	I do most of the time I	I do every time I

	have a chance	when I have the chance.	have the chance.	have the chance.
19. I go to movies, concerts, and dances.	I do not do even if I have a chance	I do sometimes when I have the chance.	I do most of the time I have the chance.	I do every time I have the chance.
21. I take part in community groups (like YMCA/YWCA and church).	I do not do even if I have a chance	I do sometimes when I have the chance.	I do most of the time I have the chance.	I do every time I have the chance.
22. I do free time activities based on my career interests.	I do not do even if I have a chance	I do sometimes when I have the chance.	I do most of the time I have the chance.	I do every time I have the chance.
23. I work on activities that will improve my career chances.	I do not do even if I have a chance	I do sometimes when I have the chance.	I do most of the time I have the chance.	I do every time I have the chance.
24. I make long- range career plans.	I do not do even if I have a chance	I do sometimes when I have the chance.	I do most of the time I have the chance.	I do every time I have the chance.
25. I work or have worked to earn money.	I do not do even if I have a chance	I do sometimes when I have the chance.	I do most of the time I have the chance.	I do every time I have the chance.
26. I am in or have been in career or job classes or training.	I do not do even if I have a chance	I do sometimes when I have the chance.	I do most of the time I have the chance.	I do every time I have the chance.
27. I have looked into job interests by visiting work sites or talking to individuals in that job.	I do not do even if I have a chance	I do sometimes when I have the chance.	I do most of the time I have the chance.	I do every time I have the chance.
29. I choose my own hairstyle.	I do not do even if I	I do sometimes	I do most of the time I	I do every time I

	have a chance	when I have the chance.	have the chance.	have the chance.
30. I choose gifts to give to family and friends.	I do not do even if I have a chance	I do sometimes when I have the chance.	I do most of the time I have the chance.	I do every time I have the chance.
31. I decorate my own room.	I do not do even if I have a chance	I do sometimes when I have the chance.	I do most of the time I have the chance.	I do every time I have the chance.
32. I choose how to spend my personal money.	I do not do even if I have a chance	I do sometimes when I have the chance.	I do most of the time I have the chance.	I do every time I have the chance.

Total Autonomy score
Total Autonomy Importance score

Autonomy is when a person acts independently and acts on the basis of preferences, beliefs, values, and abilities. How important is Autonomy to you?

Section II – Each of the following questions tell the beginning of a story and how the story ends. Your job is to tell what happened in the middle of the story, to connect the beginning and the end. Read the beginning and ending of each question, then fill in the BEST answer for the middle of the story. There are no right or wrong answers. Remember, fill in the answer you think BEST completes the story.

Self-Regulation – Interpersonal Cognitive Problem-Solving (higher scores representing more effective interpersonal cognitive problem-solving).

33. Beginning – You are sitting in a planning meeting with your boss. You want to learn to work the computer. Your boss wants you to learn to work a cash register. You can only learn one of them. Middle –

34. Beginning – You hear a friend talking about a new job opening at the local bookstore. You love books and want a job. You decide you would like to work at the bookstore.
Middle –
Ending – The story ends with you working at the bookstore.

35. Beginning – Your friends are acting like they are mad at you. You are upset about this.
Middle –
Ending – The story ends with you and your friends getting along just fine.

36. Beginning – You go to your job one morning and discover you do not have some of the papers you need. You are upset because you need those papers to do your job.
Middle –

Ending – The story ends with you using the papers to do your job.

37. Beginning – You are in a committee at work. The committee chair announces that the members will need to elect new officers at the next meeting. You want to be the chair person of the committee.
Middle –
Ending – The story ends with you being elected as the committee chairperson.

38. Beginning – You are at a new job and you don't know anyone. You want to have friends.
Middle –
Ending – The story ends with you having many friends at the new job.

Total Self-Regulation Importance Social Problem Solving Score
Section III – The next three questions ask about your plans for the future. Again, there are no right or wrong answers. For each question, tell if you have made plans for that outcome and, if so, what those plans are and how to meet them.
Self-Regulation – Goal-Setting and Task Performance (*Note. Goals are not judged on the probability that the student can achieve them, but simply on their presence or absence. Steps to achieve the goal are, however, judges based on whether they are viable steps in the process or unrelated to achieving the goal.)* (Higher scores represent more effective goal-setting and task attainment skills)
39. Where do you want to live in five years?
I have not planned for that yet
I want to live: __________________
List four things you should do to meet this goal:
1. ___________________ 2. ___________________ 3. ___________________ 4. ___________________

40. Where do you want to work in five years? (i.e., employment)
I have not planned for that yet
I want to live: __________________
List four things you should do to meet this goal:
1. ___________________ 2. ___________________ 3. ___________________ 4. _________________

41. What type of transportation do you plan to use in five years?
I have not planned for that yet
How important is goal setting and attainment to you?
Goal setting & attainment: an object or aim of an action by which progress can be mapped
I want to live: __________________
List four things you should do to meet this goal:
1. ___________________ 2. ___________________ 3. ___________________ 4. ___________________

Total Self-Regulation Importance Goal Setting and Task Performance Score
Total Self-Regulation Importance Score
(Total Social Problem Solving + Goal Setting/Task Performance Importance Scores)

Section IV – Check the answer that BEST describes you. There are no wrong answers.

Psychological Empowerment – refers to the related constructs of locus of control, self-efficacy and outcomes expectancy (three constructs that provide an overall indicator of perceived control). i.e., beliefs in ability, perceptions of control, and expectation of success (higher scores indicate that students are more psychologically empowered)
42. I usually do what my friends want. I tell my friends if they are or doing something I don’t want to do.
43. I tell others when I have new or different ideas or of opinions. I usually agree with other individualss’ opinions or ideas.
44. I usually agree with individuals when they tell me I can’t do something. I tell individuals when I think I or can do something that they tell me I can’t.
45. I tell individuals when or I am afraid to tell individuals they have hurt my feelings. when they have hurt my feelings.
46. I can make my own or Other individuals make decisions. decisions for me.
47. Trying hard at work or Trying hard at work will help doesn’t do much good. me get a good job.
49. It is no use to keep trying because that won’t or change things. I keep trying even after I get something wrong.
50. I have the ability to or I cannot do what it takes to do do the job I want. the job I want.
51. I don’t know how to make friends. or I know how to make friends.
52. I am able to work with others. or I cannot work well with others.
53. I do not make good choices. or I can make good choices.
54. If I have the ability, I will be able to get the job I or want. I probably will not get the job I want even if I have the ability.
55. I will have a hard or I will be able to make friends time making new friends. in new situations.
57. My choices will not or I will be able to make choices be honoured. that are important to me.
Total Psychological Empowerment score
Psychological Empowerment is related to locus of control (the extent to which you believe you can control events affecting your life), self-efficacy and outcomes expectancy (i.e., beliefs in ability, perceptions of control, and expectation of success). How important is psychological empowerment to you?

58. I do not feel ashamed of any of my emotions.
59. I feel free to be angry at individuals I care for.
60. I can show my feelings even when individuals might see me.
61. I can like individuals even if I don’t agree with them.

62. I am afraid of doing things wrong.
63. It is better to be yourself than to be popular.
64. I am loved because I give love.
65. I know what I do best.
66. I don’t accept my own limitations.
67. I feel I cannot do many things.
68. I like myself.
69. I am not an important person
70. I know how to make up for my limitations.
71. Other individuals like me.
72. I am confident in my abilities.

Total Self-Realization score
Self-Realization includes self-awareness, self-acceptance, self- confidence, self-esteem, and self-actualization. How important is self-realization to you?

Psychological Empowerment + Self-Realization Total Scores)

Appendix E

AIR Self-Determination Scale

Self-Determination: Air Self-Determination Scale – Student Version
Please answer these questions about how you go about getting what you want or need. This may occur at school, or after school, or it could be related to your friends, your family, or a job or hobby you have. **This is not a test.** There are no right or wrong answers. The questions will help you learn about what you do well and were you may need help. **Goal –** You may not be sure what some of the words in the question mean. For example, the word **goal** is used a lot. A **goal is something you want to get or achieve,** either now or next week or in the distant future, like when you are an adult. You can have many different kinds of goals. You could have a goal that has to do with school (like getting a good grade on a test or graduating from high school). You could have a goal of saving money to buy something (a new iPod or new sneakers), or doing better in sports (getting on the basket ball team). Each person's goals are different because each person has different things that they want or need or that they are good at. **Plan** – Another word that is used in some of the questions is **plan.** A **plan is the way you decide to meet your goal, or the steps you need to take in order to get what you want or need.** Like goals, you can have many different kinds of plans. An example of a plan to meet the goal of getting on the basketball team would be: to get better by shooting more baskets at home after school, to play basketball with friends on the weekend, to listen to the coach when the team practices, and to watch the pros play basketball on TV.
Capacity = Things I Do + How I Feel Capacity refers to students' knowledge, abilities, and perceptions that enable them to be self-determined and feel good about it.
Things I Do:

THINGS I DO

1. I know what I need, what I like, and what I'm good at.	Never **1**	Almost Never **2**	Sometimes **3**	Almost Always **4**	Always **5**
2. IsetgoalstogetwhatIwantor need. I think about what I am good at when I do this.	Never **1**	Almost Never **2**	Sometimes **3**	Almost Always **4**	Always **5**

Things I Do – Total Items 1 + 2

3. I figure out how to meet my goals. I make plans and decide what I should do.	Never **1**	Almost Never **2**	Sometimes **3**	Almost Always **4**	Always **5**
4. I begin working on my plans to meet my goals as soon as possible.	Never **1**	Almost Never **2**	Sometimes **3**	Almost Always **4**	Always **5**

Things I Do – Total Items 3 + 4

5. I check how I'm doing when I'm working on my	Never **1**	Almost Never	Sometimes **3**	Almost Always	Always **5**

plan. If I need to, I ask others what they think of how I'm doing.		**2**		**4**	
6. If my plan doesn't work, I try another one to meet my goals.	Never **1**	Almost Never **2**	Sometimes **3**	Almost Always **4**	Always **5**

Things I Do – Total Items 5 + 6

HOW I FEEL

1. I feel good about what I like, what I want, and what I need to do.	Never **1**	Almost Never **2**	Sometimes **3**	Almost Always **4**	Always **5**
2. I believe that I can set goals to get what I want.	Never **1**	Almost Never **2**	Sometimes **3**	Almost Always **4**	Always **5**

How I Feel – Total Items 1 + 2

3. I like to make plans to meet my goals.	Never **1**	Almost Never **2**	Sometimes **3**	Almost Always **4**	Always **5**
4. I like to begin working on my plans right away.	Never **1**	Almost Never **2**	Sometimes **3**	Almost Always **4**	Always **5**

How I Feel – Total Items 3 + 4

5. I like to check on how well I'm doing in meeting my goals.	Never **1**	Almost Never **2**	Sometimes **3**	Almost Always **4**	Always **5**
6. I am willing to try another way if it helps me to meet my goals.	Never **1**	Almost Never **2**	Sometimes **3**	Almost Always **4**	Always **5**

How I Feel – Total Items 5 + 6

WHAT HAPPENS AT SCHOOL

1. People at school listen to me when I talk about what I want, what I need, or what I'm good at.	Never **1**	Almost Never **2**	Sometimes **3**	Almost Always **4**	Always **5**
2. People at school let me know that I can set my own goals to get what I want or need.	Never **1**	Almost Never **2**	Sometimes **3**	Almost Always **4**	Always **5**

What Happens at School – Total Items 1 + 2

3. At school, I have learned how to make plans to meet my goals and to feel good about them.	Never **1**	Almost Never **2**	Sometimes **3**	Almost Always **4**	Always **5**

4. People at school encourage me to start working on my plans right away.	Never **1**	Almost Never **2**	Sometimes **3**	Almost Always **4**	Always **5**

What Happens at School – Total Items 3 + 4

5. I have someone at school who can tell me if I am meeting my goals.	Never **1**	Almost Never **2**	Sometimes **3**	Almost Always **4**	Always **5**
6. People at school understand when I have to change my plan to meet my goals. They offer advice and encourage me when I'm doing this.	Never **1**	Almost Never **2**	Sometimes **3**	Almost Always **4**	Always **5**

What Happens at School – Total Items 5 + 6

WHAT HAPPENS AT HOME

1. People at home listen to me when I talk about what I want, what I need, or what I'm good at.	Never **1**	Almost Never **2**	Sometimes **3**	Almost Always **4**	Always **5**
2. People at home let me know that I can set my own goals to get what I want or need.	Never **1**	Almost Never **2**	Sometimes **3**	Almost Always **4**	Always **5**

What Happens at Home – Total Items 1 + 2

3. At home, I have learned how to make plans to meet my goals and to feel good about them.	Never **1**	Almost Never **2**	Sometimes **3**	Almost Always **4**	Always **5**
4. People at home encourage me to start working on my plans right away.	Never **1**	Almost Never **2**	Sometimes **3**	Almost Always **4**	Always **5**

What Happens at Home – Total Items 3 + 4

5. I have someone at home who can tell me if I am meeting my goals.	Never **1**	Almost Never **2**	Sometimes **3**	Almost Always **4**	Always **5**
6. People at home understand when I have to change my plan to meet my goals. They offer advice and encourage me when I'm doing this.	Never **1**	Almost Never **2**	Sometimes **3**	Almost Always **4**	Always **5**

What Happens at Home – Total Items 5 + 6

PLEASE WRITE YOUR ANWERS TO THE FOLLOWING QUESTIONS...

Give an example of a goal you are working on.

What are you doing to reach this goal?

How well are you doing in reaching this goal?

Appendix F

Quality of Student Life Questionnaire

Instructions

Please think about where you live, study, and have fun, and the family, friends, and teachers whom you know. The following questions ask how you feel about these things. Check the choices given for each item. Circle the answer that best describes how you honestly feel. Please try to answer each of the items, and take as much time as you need. There are no right or wrong answers. We just want to know how you feel about where you live, go to school, and have fun, and the family, friends, and teachers whom you know. Do you have any questions?

Items

Satisfaction

1. How satisfied are you with your current school?
2. How well is your educational program preparing you for what you want to do?
3. Do you feel your school work is worthwhile and relevant?
4. How satisfied are you with the skills and experience you have gained or are gaining from your education?
5. Are you learning skills that will help you get a good job?
6. Do you feel you receive fair grades for your effort?
7. How satisfied are you with the education that you are receiving?
8. How closely supervised are you in the classroom?
9. How did you decide on the classes you are now taking?
10. How satisfied are you with the clubs or organizations to which you belong?

Well Being

11. Overall would you say that life:
12. Compared to others, are you better off, about the same, or less well off?
13. Are most of the things that happen to you:
14. Do you have more or fewer problems than other people?
15. How successful do you think you are compared to others?
16. How well do you feel you do in school?
17. Does your job or allowance provide you with enough money to buy things you want?
18. Are there people living with you who sometimes hurt you, pester you, scare you, or make you angry?
19. What about your family members? Do they make you feel:
20. Overall, would you say your life is:

Social Belonging

21. How much fun and enjoyment do you get out of life?
22. How do your fellow students treat you?
23. How many times per month do you feel lonely?
24. Do you ever feel out of place in social situations?
25. How do people treat you at school?
26. How many school clubs or organizations do you belong to?
27. Do you worry about what people expect of you?
28. How many times per day do you talk to (associate with) your classmates?
29. How often do you attend recreational activities (homes, parties, dances, concerts, or plays)?
30. Do you actively participate in those recreational activities?