

## **Creative Resilience**

**THE PROCESS OF CREATIVE RESILIENCE: EXPERIENCES OF MEDICAL  
STUDENTS WITH DISABILITIES AND ACCESSIBILITY**

**By**

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## **Abstract**

In light of Accessibility for Ontarians with Disabilities Act, 2005, medical schools witnessed increased number of students with disabilities matriculating in their program. However, the administrators face challenges because ensuring accessibility in dynamic clinical settings may not always be feasible or ideal while considering the resource implication and patient safety. There is little consensus and established guidance on how to provide responsible accommodations for otherwise-qualified medical students with disabilities.

To understand the development of resilience in medical students with disabilities as they confront potential institutional barriers and social or self-imposed stigma, we asked: how do medical students with disabilities identify and communicate their learning needs to negotiate necessary accommodations with the Student Accessibility Services and/or the MD program?

The Constructivist Grounded Theory approach by Charmaz (2006) served as the methodological guide. In-depth individual interviews were conducted capturing the students' perspective on accommodations arranged by the program, inclusion challenges in medical education and their recommendations on how to enhance program accessibility.

Three major themes emerged: 1) creating a dialogue to devise learner-centered accommodation strategies, 2) recognizing available extrinsic and intrinsic resources, and 3) optimizing available extrinsic and intrinsic resources. Self-reflection was the key

underlying ingredient driving students' resilience development in partnership with inclusive learning environment and supportive faculty.

Student diversity present in the medical schools merits further research. Diminishing stigma towards health professionals with disabilities is imperative. Endorsement of cross-departmental and institutional collaboration that enables dissemination of cost-effective and comprehensive accommodation strategies is recommended.

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*“The one truth of living with a constant disability is this. There is no panacea, no magic pill. I still struggle to this day. Instead, you try to manage your weakness and pray that you find mentors who understand your troubles, believe in you, and give you a chance.”*

*Heffner, 2012*

## Chapter 1

### Introduction

*“Even though we are in a profession that treats those who are ill, are infirm or have disabilities, we often find it difficult to treat one of our own.” (Manders, 2006, p.1586)*

#### Study Background

Imagine that there is a doctor with a disability in the office, a doctor who has an obvious disability. What is your first reaction? Would you consult with this individual about your health? When this question is asked to health care providers and ordinary patients, the majority of them seem to ask, how could someone with disability provide safe care to another person who is ill? This may be a fair question given that patients put an enormous amount of trust in physicians who save people’s lives. In 1998, the Journal of the American Medical Association (JAMA) Pulse –the medical students’ section of the journal- published a series of articles addressing issues related to physicians with disabilities (Yom, 1998). The stories featured in the issue ranged widely from candid personal narratives of medical students who have disabilities to those who simply wanted to raise awareness about health professionals with disabilities in medicine because there are not a lot of people with disabilities in the health care sector that are open about their experiences.

In 2006, a psychiatry resident from Dalhousie University wrote a commentary in the Canadian Medical Association Journal (CMAJ) to generate a discussion about disability among those who treat patients with chronic illnesses and conditions (Manders, 2006). Manders’ concern was that the student population with disability is small in

medical education and rarely documented systematically; each school's experience in dealing with the unique needs of such students is limited. Although Manders disclosed her condition before entering medical school, the author was not exactly sure how to advocate for herself and for those who would follow.

Similarly, in 2012, a medical student from the University of Calgary wrote in CMAJ (Heffner, 2012) about his experience in the undergraduate medical program with a learning disability. Heffner declared that there is no one-size-fits-all educational management approach to disability or chronic illness. Instead, he chose to compensate meticulously for his weaknesses and “prayed” that he would find someone who could “understand [his] circumstance, believe in him and give him a chance” (Heffner, 2012, p.1066).

Notably in recent years, there have been highlights of stories of triumphs shared in the public media featuring students with disabilities pursuing medicine in Canada (Hewko, 2014; Goldman, 2013; Heffner, 2012; Vo, 2012). Surprisingly, these articles and discussions were not about the potential challenges of accommodating for students with disabilities in medical schools. Instead, these stories and the individuals associated with these stories all shared something in common – the cultivation of resilience. There seems to have been a shift towards a resilience framework in the conversation surrounding program accessibility within medical education in recent years. These authors explored how students with disabilities managed to confront potential challenges and barriers to become accepted into one of the toughest professional university programs and pursue their passion despite experiencing those obstacles.

As a result, this M.Sc. thesis will build from an emphasis on the resilience construct, using seemingly extraordinary narratives, extraordinary in even more so when one reflects how ironically ordinary these stories are (Masten, 2001). Without a doubt, these not so obvious, yet pragmatic life lessons learned from the study participants can offer much optimism when considering the enhancement of accessibility in medical training as described by the undergraduate medical students who were participants in this thesis. The cohort under discussion is the undergraduate medical student population. The strengths and determination of students with disabilities pursuing medicine is examined in order that others may learn from their experiences.

### **Purpose Statement**

The purpose of this grounded theory inquiry is to explore how medical students with disabilities communicate their learning needs to the MD program and arrange reasonable accommodations. A central interest is in exploring how these students are accommodated effectively in clinical settings to examine the factors that either enable or hinder their academic and clinical success. While exploring how these accommodations are arranged, the process of resilience development will be captured that is foundational to the experience of these students.

This study will explore potential strategies that may enhance accessibility in the professional learning environment through insights and narratives shared by these students. The desired outcome of this project is to develop greater awareness surrounding the issue of inclusion in health professional programs in order to contribute towards current literature advocating for student diversity in medical education.

**Overarching Research Question**

*How do medical students with disabilities communicate their learning needs and negotiate necessary accommodations with the Student Accessibility Services and/or the Undergraduate Medical program?*

**Sub-questions:**

1. When and how do medical students choose to disclose their disability to peers and program educators?
2. Why do some medical students decide not to disclose and forego the option of receiving accommodations?
3. How do medical students with disabilities overcome potential institutional barriers and social stigma surrounding disability?
4. What kind of resources or support system do these students have?
5. What motivates them to pursue or even embrace challenges under demanding academic and clinical curriculum?

**Rationale**

This thesis aims to understand program accessibility in medical education in light of the implementation of Accessibility for Ontarians with Disabilities Act (AODA, 2005). It will explore various strategies to promote inclusion of otherwise-qualified students with disabilities and/or chronic health conditions in medical schools. Currently, there is a paucity of literature addressing program accessibility in the context of health professions education. Therefore, this study will examine how medical students with disabilities and/or chronic health conditions identify and negotiate their learning needs using the resilience framework.

**Overview of the thesis**

Chapter 2 (Literature Review) will use a review of the literature to provide important background information, which helps to frame the interpretation of the research. In order to understand the experiences of our participants with disabilities, it is important to first understand the relevant disability legislations and their impact on post-secondary education. Additional historical background of the medical education context is outlined related to AODA (2005) implementation in health professional programs. Three sensitizing concepts are introduced briefly within the resilience framework: 1) Empowerment Theory (Zimmerman, 1995), Self-Determination Theory (Ryan & Deci, 2000) and 3) Resilience Theory (Masten, 2001).

The ontological and epistemological background of Charmaz's Constructivist grounded theory methodology (Charmaz, 2006) is discussed in Chapter 3 (Methodology). Major philosophical worldviews such as social interactionism, relativism, and constructivism underlying this particular approach are highlighted. The development of the research question and sub-questions is outlined, as well as procedural details regarding data collection and subsequent analysis. Challenges ensuring participant confidentiality in qualitative research are discussed, with potential strategies that would ensure trustworthiness of data while maintaining privacy protection.

There are two main sections for Chapter 4 (Results): 1) participant demographics and 2) delineated categories and sub-categories from personal interviews. In the first section, descriptions of aggregated participant demographic information is presented using appropriate tables. In the second section, delineated categories and sub-categories are presented with detailed interpretation of each category; direct quotations from

participants are also included. The developed theory that is grounded in the collected data is shared by outlining the emergent relationships within the major concept.

In Chapter 5 (Discussion), three major categories will be described and how the development of the theory was guided will be explained by integrating the findings with the relevant literature:

1. Examining available extrinsic and intrinsic resources
2. Integrating available extrinsic and intrinsic resources to adapt creatively
3. Creating a dialogue and devising learner-centered accommodation strategies

The process of developing creative resilience underlying this particular group of medical students with disabilities served as the focus of the thesis. Areas of strength and limitation of this thesis are discussed, as well as practical implications for program accessibility enhancement and research.

The summary of each chapter is presented briefly in Chapter 6 (Conclusion). Additionally, my story is shared as a researcher with disability for the transparency of the research process. The readers are invited to discern the potential impact of my personal experience with disability on this study and how it may have guided my interpretation of participants' narratives.

## Chapter 2

### Literature Review

#### Overview

The experiences of accommodating students with disabilities by medical schools have been documented in the literature since the early 1950s (Wainapel, 1987). The relevant provincial legislation, Accessibility for Ontarians with Disabilities Act (2005) will be discussed with respect to its implications concerning medical education. Then, the published prevalence will be presented of medical students with disabilities in the United States, the United Kingdom and Canada along with concerns surrounding the validity of the data from the literature. Specific challenges ensuring training accessibility in medicine are discussed with the paucity of research existing on this topic. The impact of social or self-imposed stigma placed on medical trainees with disabilities will be explored through the lived experiences and narratives of medical students with disabilities. More specifically, these students' distinct process of negotiating appropriate accommodations is explored to delineate successful accessibility strategies and implications.

#### Study Background

The Accessibility for Ontarians with Disabilities Act (AODA) was first established in Ontario, Canada (2005). It was proposed by the AODA Alliance, a disability advocacy group led by Lepofsky (Lepofsky, 2014). Since then, there has been consistent effort to develop policies that promote accessibility for students with disabilities in the provincial education system (Ontario Ministry of Training, Colleges and Universities, 2005; Tsagris & Muirhead, 2012). Notably, the Council of Ontario Universities (COU) reported a significant increase, by 320%, of the total number of

students with *registered* disabilities in universities in Ontario from 4,045 in 1991-1992 to 17,002 in 2007-2008 (COU, 2010). It is unclear what may have contributed to this sudden surge of students registering with disability services in higher education. Advance in adaptive technology certainly enabled sophisticated accommodations and greater screening tools, allowing more students to be diagnosed earlier and receiving appropriate accommodations. Perhaps programs and student accessibility services can be credited for implementing awareness initiatives on university campuses and in communities (e.g. providing mandatory AODA training modules for all students and staff) (Russell & Demko, 2004).

All of these facilitating factors may underscore the provincial government's recognition of the importance of inclusion for persons with disabilities in our society. However, in the context of health professions education, the actual implementation of accessibility and support systems can be challenging due to the dynamic clinical environments in which these accommodations will require implementation. For example, providing extra time during clinical procedures may not always be possible without compromising patient safety. Many health professional trainees learn in dynamic clinical settings where they are often evaluated while working with other health professionals. Therefore, being provided a private room for clinical exams may not be always feasible. Not surprisingly, Eickmeyer, Do, Kirschner & Curry(2012); Miller, Ross & Cleland (2009); Moutsiakis & Polisoto (2010); Oullette (2013) reported underrepresentation of students with disabilities in American and British medical schools. Professional programs such as medicine can be highly competitive when it comes to admission and the question arises as to whether students with disabilities traditionally avoided applying to these

programs all together or simply did not disclose their conditions upon getting admitted due to potential repercussions of disclosure (Miller et al., 2009).

In Ontario, despite the establishment of AODA in 2005, and its subsequent implementation across all public sectors, medical students with disabilities in Ontario are considered to be still under-represented with 3.5% of the medical student population reporting having activity limitation (Young et al., 2012). This trend is similar to the prevalence of medical students with disabilities reported from the United States and United Kingdom (Eickmeyer et al., 2012; Miller et al., 2009). Given this “under-representation”, the need for further accessibility research in medical education was explored. The discordance was observed between the demand to increase accessibility in post-secondary training programs and the lack of organized resources and guidance for accommodating medical trainees in dynamic clinical environments. Finally, this project was aimed at understanding the potential impact of social and self-imposed stigma on medical trainees with disabilities as a key barrier to program accessibility.

### **Accessibility for Ontarians with Disabilities Act (AODA, 2005)**

#### *Accessibility Standards for Customer Service*

AODA adopted the definition of disability stated under Section 10 (1) of the Ontario Human Rights Code (Ontario Human Rights Commission, 2000), which defines “disability” as follows: “because of disability” means for the reason that the person has or has had, or is believed to have had,

1. any degree of physical disability, infirmity, malformation or disfigurement that is caused by bodily injury, birth defect or illness and, without limiting the generality of the foregoing, includes diabetes mellitus, epilepsy, a brain injury, any degree of

paralysis, amputation, lack of physical co-ordination, blindness or visual impediment, deafness or hearing impediment, muteness or speech impediment, or physical reliance on a guide dog or other animal or on a wheelchair or other remedial appliance or device,

2. a condition of mental impairment or a developmental disability,
3. a learning disability, or a dysfunction in one or more of the processes involved in understanding or using symbols or spoken language,
4. a mental disorder, or an injury or disability for which benefits were claimed or received under the insurance plan established under the Workplace Safety and Insurance Act, 1997 (Ontario Human Rights Commission, 1962).

With this definition of disability, the province of Ontario has developed the Accessibility Standards for Customer Service (Ontario Regulation 429/07), under the Accessibility for Ontarians with Disabilities Act (AODA, 2009). This standard has been implemented since January 2008, and is applicable to all public and private organizations that provide goods and services either directly to the public or to other businesses or organizations, including post-secondary institutions, and have one or more employees in Ontario.

### **Why implement AODA?**

With the goal of making Ontario fully accessible by 2025, AODA (2005) mandated that all public sector organizations including universities and Government of Ontario Ministries must adhere to the standard by January 1, 2010. Dating back to 1962, the Ontario Human Rights Code (OHRC) ensured that persons with disabilities were provided with the proper access to goods, services and employment, etc. without

discrimination. Essentially, the Code obligated employers and service providers to accommodate persons with disabilities to the point of undue hardship ("action requiring significant difficulty or expense") (Ontario Human Rights Code, 1962). The province had made progress towards eliminating some inaccessibility. However, it was done on a case-by-case scenario rather than proactively anticipating potential barriers. As a result, persons with disabilities continued to experience obstacles that hindered or limited their full participation. The implementation of AODA was one potential solution to emphasize the importance of removing barriers and ensuring accessibility in communities. Importantly, its additional goal was to increase access to post-secondary trainings for students with disabilities.

Returning to the context of medical education, in an editorial from the British Medical Journal (BMJ), Mercer, Dieppe, Chamber & McDonald (2003) explored three inherent challenges typically experienced by medical students with disabilities relative to program accessibility. The first challenge is that medicine remains a field where perfection is highly valued and sought-after and, as stated by Goldman (2013) in his radio broadcast, physicians rarely discuss weaknesses or shortcomings. Therefore, the stigma towards anyone who requests "extra help" through accommodations can be paramount. In fact, "misunderstood by the public and unsupported by their colleagues" (Goldman, 2013), these individuals may be perceived, as "the burden on other individuals who work with them. [And], it is not fair to the patients who are seeking medical attention/care" (as one medical student without disability shared in the study by VanMatre, Nampiaparampil, Curry & Kirschner, 2004, p.57). As a result, one could imagine that for any trainee, disclosing a disability or other chronic condition can be disadvantageous for

advancing a career (e.g. applying to competitive residency programs) (Eickmeyer et al, 2012).

A second challenge is the provision of accommodations in clinical settings for medical students with disabilities can be costly due to the complexity of many of the procedures they are required to learn and perform. Within the legislation, there is provision for a circumstance of “undue hardship” that may be experienced by the business or institution attempting to provide the accommodations. Thus, the idea of “undue hardship” when providing accommodation for a medical student could lead to a large and potentially unreasonable financial burden or significant interference with the administration of the medical program and other students without disabilities (Ontario Human Rights Commission, 2000). This conceptualization of possible “burden” towards other students remains controversial. There is inadequate funding designated by government to support medical schools in providing such sophisticated accommodations for students with disabilities (Miller et al., 2009). One must also recognize that there are many student groups that fit into a similar circumstance not only in medicine, such as law, other health professions, engineering and laboratory science. Often, accommodations can be costly due to highly dynamic nature of professional programs.

Lastly, the biggest challenge seems to originate from the fact that providing accessibility in medical education is a relatively new phenomenon (Moutsiakis & Polisoto, 2010) across North American and British medical schools. Due to little experience with these situations, the medical programs may not feel prepared to consult effectively with and support students with disabilities to respond to their accommodation needs in a fair, feasible and safe manner.

There has been very little systematic analysis of types of accommodations negotiated and received successfully by medical students in the past that encompasses varied disabilities - both visible and invisible, including mental health and chronic conditions (Faigel, 1998; Rosebraugh, 2000; Miller et al., 2009; Moutsiakis & Polisoto, 2010). Due to the dynamic nature of health care, coupled with individual students' strengths and weaknesses, every accommodation process tends to be highly individualized, leading to even more complexity. There is a paucity of literature outlining strategies and their implications for accommodating medical students with disabilities and promoting program accessibility. Moreover, there is a lack of clearly outlined and accessible protocols for implementing accommodations during clerkship. Although there is literature on inclusive education in other disciplines of study (Marquis et al., 2012), there is no known published Canadian study on this topic with undergraduate medical student population. Therefore, this study will explore: how medical students with disabilities identify and communicate their need for accommodations; and, how they negotiate with their program to receive the needed accommodations. The scope of the study includes gaining an understanding and appreciation of why and how some students continue to thrive and excel, despite facing barriers. The concept of resilience and its development amongst students with disabilities who are seeking program accessibility is examined by careful documentation of the lived experiences of medical students.

### **Historical background**

The prevalence of physical disability among American medical students was reported to be 0.19% by Wu, Tsang & Wainapel (1996). Another American study by Moutsiakis & Polisoto (2010) reported a decrease in this number to 0.15%. However, this

number, still in the American context, increased to 0.56% (matriculation rate) in the study by Eickmeyer et al. (2012).

From Britain, Miller et al. (2009) reported that 6% respondents, 19 out of 328 students, considered they had a disability at the time they were applying to medical school, with 4% (12 students) of those admitted disclosing this circumstance during admission. However, this prevalence of students with disabilities jumped to 13% (42 students) after participants read the full legal definition of disability defined under the British legislation, Disability Discrimination Act (DDA). In a more recent Canadian study on student diversity by Young et al. (2012), the four participating Canadian medical schools reported 3.5% of students with “activity-limitation” within their student population. Previously, Manders (2006) questioned the validity of these demographics sampled within the United States, Canada and Britain because keeping track of students with disabilities can be highly controversial and laborious while following the rules of strict confidentiality. Importantly, not all students with disabilities will disclose, even more prevalent in those with invisible disabilities due to stigma associated with learning and/ mental health disorders, as well as other hidden conditions. Different types of disabilities and chronic health conditions, including mental health conditions likely will affect medical school participation in varying degrees and therefore, some students may not even feel the need to disclose their conditions to the program or disability services office (Miller et al., 2009).

Nonetheless, as Manders (2006) and others Eickmeyer et al.(2012) argued, all these studies reported low response rates. These published numbers could be underestimating the prevalence of students with disabilities in medical schools. Their

matriculation rate may also be underrepresented and more robust and systematic documentation of both acceptance and graduate rates is recommended to gain better understanding of program accessibility in medicine.

### **How does AODA apply to medical schools?**

In the context of medical education in Ontario, Canada, the AODA allows students with disabilities to be legally entitled to request reasonable accommodations (AODA, 2005). Without legislations protecting the rights of persons with disabilities, these students, especially those with learning disabilities or other invisible conditions, may have difficulty negotiating accessibility accommodations to which they are entitled. Essentially, the law legally qualifies one's disability by clarifying the definitions of disability and other chronic conditions. With the legislation in place, those with disabilities can receive the accommodations to which they are entitled, without having to constantly advocate for them.

Even with the limited number of students with disabilities graduating university and entering into professional programs such as medicine, institutions will be asked to discern whether or not a student can perform essential duties as trainee and what would constitute reasonable accommodations without causing undue hardship to the program. In other words, along with the essential competencies outlined in the curriculum, AODA can help schools to establish whether someone is otherwise qualified and devise accommodations and/accessibility strategies accordingly that does not go beyond the line of causing undue hardship. The program must be accessible for students with disabilities to the best of its ability by using its capacity and available resources efficiently. This means anticipating potential barriers and removing those barriers proactively to ensure

equal access for all students.

Most importantly, AODA provides an impetus for raising awareness about the importance of inclusive education and student diversity amongst program administrators, faculty members, and the student body as a whole. With the implementation of AODA, universities and colleges began to provide mandatory accessibility training and workshops for their students and employees to educate about the legislation. Such an initiative can normalize disability experience, decrease stigma and enable accessibility more quickly and efficiently, by reducing assumptions and clarifying the reality of enacting such legislation. When students or employees with disabilities request accommodations, these requests will be more likely validated and justified if awareness and understanding has been enhanced through education and training

### **What are some of the challenges ensuring program accessibility in medicine?**

As mentioned previously, the existing research initiatives regarding program accessibility in the context of health professions education have been limited. Interest in this area seems to be most realized within selected countries such as the United States, the United Kingdom and Canada (ex. Miller et al., 2009; Eickmeyer, 2010; Young et al., 2012). According to VanMatre et al. (2004), there is a controversial debate about the concept of the undifferentiated medical graduate. Traditionally, medical schools have enrolled almost exclusively those students who have demonstrated potential to pursue any specialty in medicine; these students, after successful completion of medical school, are considered to be undifferentiated graduates. However, DeLisa & Thomas (2005) reported a substantial differentiation of physicians into various medical specialties. They

suggested that this phenomenon could provide an argument that perhaps the requirement that all students must demonstrate competencies in all clinical skills not necessarily relevant to future practice areas, needs to be re-examined in order to discern how these rigid criteria may affect program accessibility. In fact, specialization in medicine has transformed the physician's work environment from a more homogenous field to one of discrete practice areas, growing expertise in very specific systems and conditions. This study argued, "attempts to define core technical standards and competencies have not kept pace with technological changes, diverse specialization, and changing practice options...[which may have] resulted in the inappropriate exclusion of some people with disabilities [in medicine]" (DeLisa & Thomas, 2005, p.6). Thus, there have been suggestions that the concept of the undifferentiated medical graduate should be revisited as "disability can preclude the study of medicine, but not its practice" (Fielder, 2003, p.1305).

Moreover, DeLisa & Lindenthal (2012) acknowledged the crucial need for a collaborative initiative between attending physicians, residents (and medical students) and program administrators when negotiating and arranging for accommodations in clinical learning environments. They emphasized that disclosure of disability can be beneficial when requesting accommodations, especially in the context of dynamic health care training environments. Unfortunately, as reported by many research studies (VanMatre et al., 2004; Miller et al., 2009; Moutsiakis & Polisoto, 2010), negative attitudes towards disability could still continue to discourage students with various health conditions to seek support actively and advocate for an accessible learning environment, despite the program's willingness to provide accommodations and other necessary

supports.

In short, the necessity for more research and data on disability amongst medical trainees was emphasized across all studies examined with the underlying message that students with disabilities are vastly underrepresented in medical schools. Medical trainees, as well as physicians with disabilities should be encouraged to document their experiences and disseminate those lessons and successful strategies for others to adapt and utilize. One cannot define definitively what “reasonable accommodation” entails as accommodations vary in cost and complexity, not to mention feasibility from one clinical context to another. Nonetheless, its impact needs to be measured and evaluated over time by utilizing concrete and tangible strategies to enhance access and promote inclusion (Mercer et al., 2003; DeLisa & Lidenthal, 2012).

The former president of the American Association of Medical Colleges, Dr. Jordan Cohen (2004) shared a commentary on how fostering diversity and inclusion regarding minorities can improve health outcomes and decrease health inequalities amongst those who are marginalized in our society. More specifically regarding disability, Cohen proposed two main strategies to enable such diversity: 1) critically evaluate how medical schools develop and interpret admission policies to “otherwise-qualified” individuals with disabilities, and 2) promote effective communication between the program and those individuals seeking program accessibility.

Campinha-Bacote (1999) defined cultural awareness as, “the process in which the health care provider continuously strives to achieve the ability to effectively work within the cultural context of a client (individual, family or community)” (Campinha-Bacote, 1999, p. 203). Although the number of cultural awareness programs in medical schools

has increased, this initiative can be further implemented in post-graduate and continuing medical education levels for practicing physicians with disabilities to *normalize* disability experience (Delisa & Lidenthal, 2012).

Within Ontario, the Ontario Human Rights Code provides all people with equal rights and opportunities without discrimination. Based on the code, as well as other relevant legislation (Ontario Human Rights Commission (1962), AODA, (2005), medical schools determine how otherwise-qualified applicants, regardless of physical or cognitive ability, can be accommodated effectively to be able to pursue the most appropriate branch of medicine. Additionally, as DeLisa and Thomas (2005) argued, “a serious effort to redefine the technical standards and core competencies of the 21st century medical education would likely resolve many of troubling questions regarding medical students with disabilities” (p.6). However, the empirical evidence is limited when it comes to demonstrating the benefits of promoting student diversity in the medical education context regarding students with disabilities. Anecdotally, greater diversity has been reported as valuable in reflecting the population in medical schools and “a right thing to do” from human rights and social justice point of view. However, the paucity of research on this topic may be insufficient to explain why that is the case. Additionally, as discussed previously, attempts to define the acceptability and feasibility of promoting accessibility in medical education has been quite challenging as every medical school interprets disability-related legislations differently for policy development. Furthermore, little concerted effort appears to exist in integrating resources and initiatives across institutions to enhance program accessibility. Because this is a recent phenomenon in post-graduate learning context, promoting inclusion in medical education has been a slow

process that merits more research solidifying optimal approaches to discern what is reasonable and fair.

### **Theoretical Lens/Perspective**

The sensitizing concepts introduced in this study provided an orienting lens that was used to capture disability-related issues present within marginalized groups.

Qualitative researchers use sensitizing concepts “to begin their studies with certain research interests and a set of general concepts. These concepts provide them with ideas to pursue and become sensitized to ask particular questions about the research topic.”

(Charmaz, 2006, p.16).

In quantitative research, theoretical framework is defined as, “the structure that can hold or support a theory of a research study. The theoretical framework introduces and describes the theory that explains why the research problem under study exists (Swanson & Chermack, 2013).” Similarly, sensitizing concepts provided “theoretical binoculars” as this study was conducted by providing its research scope under the topic of interest. According to Creswell (2013), these concepts typically serve to provide an appropriate scope of the study and shape the research question in a manner that potentially could transform the existing way a phenomenon is understood. The following theories will be explained further in the discussion section from the perspective of theory to practice.

### **Personal/individual empowerment theory**

Empowerment theory captures the process of granting someone the authority or power to do something, such as making someone stronger and more confident, especially with respect to gaining independence and control over their lives (Lord & Hutchison,

2009). For this research question, the exploration was specific to how medical students with disabilities are empowered to confront potential institutional and attitudinal barriers to gain access to their desired career training. The integrative framework of Schwartz & Drotar (2006) was applied to delineate how students with disabilities optimize different systems of supports and resources.

### **Self-determination theory**

Self-determination theory explains the intrinsic drive behind specific human behaviours and pertinent personality traits that enable those behaviours (Ryan & Deci, 2000). The unique aspect of this theory of human motivation lies in its scope. It is geared specifically towards understanding people's inherent potential for growth and development, as well as their internal psychological needs in the absence of any external influence or interference. Due to the focus of self-determination theory being the *extent* of self-driven motivation, for the purpose of studying the lived experiences of medical students with disabilities, a specific group of students was followed and studied to understand their intrinsic motivation.

### **Resilience theory**

Resilience theory is a collection of phenomena organized by good outcomes in life in spite of serious threats to adaptation or development. Although there is a current debate on whether resilience is a trait or a process (Fletcher & Sarkar, 2013), Masten's interpretation of resilience development as a process is applied here based on the observation that resiliency is attained over time, albeit not in a linear fashion. According to Masten (2001), research on resilience aims to understand the processes that account for these good outcomes and this construct served as the overarching framework for this

research. Various challenges from the dynamic clinical learning environment were examined to explore how they impacted the participants' identity formation as medical students with disabilities, and their subsequent demonstration of resilience while confronting those potential barriers in their training.

### **Summary**

There is a paucity of literature addressing accessibility implications for Canadian medical schools as these institutions strive to provide inclusion and diversity within the student population. Currently, the discordance between the provincial governments' legislative mandate to enable accessibility in the health professions education sector is apparent. The limited resources and guidance on how to provide feasible accommodations for otherwise qualified students with disabilities in our specific learning context pose unique challenges for medical schools, as well as other health professional programs. Nonetheless, deficit-focused approaches to these challenges need to be discarded looking instead towards the compelling evidence of resilience within strengths-based models. By learning about how students with disabilities pursue an intensely demanding professional program, creative ways may emerge that can capitalize on human factors, which can protect against uncertainty.

## **Chapter 3**

### **Methodology**

#### **Overview**

The grounded theory method was selected as an optimal qualitative research strategy to guide the thesis. With the resilience framework providing the overall vision for this research, the process of how medical students with disabilities identify their learning needs and negotiate necessary accommodations with the program to ensure training accessibility was studied. The resilience literature review revealed several studies using grounded theory methodology on personal resiliency (Denz-Penhey & Murdoch, 2008), shame and resilience (Van Vliet, 2008), as well as how students develop resilience in a medical education context (Dunn, Iglewicz & Moutier, 2008). However, there did not appear to be any qualitative studies conducted to date exploring the resilience development of health professionals with disabilities, let alone medical students with disabilities. This process of “how” resilience is developed by medical students with disabilities in the context of health professions education is the underlying focus of this thesis and it provided the rationale behind selecting this particular qualitative approach. All methodological decisions made in this study were influenced by the philosophical worldview of social constructivism to allow person-centered exploration of the individual narratives shared by participants (Annells, 1996).

With its origin in sociology under pragmatism (Mead, 1934) and the symbolic interactionist paradigm (Blumer 1969; cited in Jeon, 2004),<sup>1</sup> the grounded theory methodology requires an iterative data collection process using in-depth interviews and validation through member checking. Subsequently, major categories emerge out of

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<sup>1</sup> Social constructivism will be discussed in detail under Epistemological Framework (p.25).

participants' lived experiences carefully defined by the researcher (Punch, 2010). This analytical process is based on delineating codes, categories, and relationships between the experiences, as well as integrating those identified relationships with extensive memos written at every level of analysis. The purpose of writing memos will be discussed in this chapter under the section titled, *Important processes of the grounded theory methodology*. These relationships are re-explored with care for further elaboration through constant comparison and sorting, eventually leading to the development of a theory grounded in the collected data. This theory explains the significance of interpreted relationships within major categories. The work of Charmaz (2006) was the primary guide for this thesis.

In regards to the resilience framework underlying this thesis, there is a transformative agenda in the research to further enhance program accessibility in medical education. Therefore, various strategies that would empower and encourage students with disabilities to pursue medicine were explored. A brief discussion about different types of sensitizing concepts used for data collection and analysis was integrated in the outlining of the overall theoretical lens underlying this study. Difficulties surrounding recruiting participants not wishing to disclose their condition were shared, as well as dilemmas encountered while maintaining strict participant confidentiality. Appropriate solutions to address these challenges were created.

## **Epistemological Framework**

### *Social constructivism*

Constructivism is the major theory underpinning Charmaz's interpretation of grounded theory methodology. It holds that individuals strive constantly to gain an active

understanding of the world to which they belong. Essentially, this approach asserts that people learn to develop subjective interpretations of their lived experiences and establish personal meanings based on those experiences, as well as past experiences (Charmaz, 2006). Constructivism enables the researcher to be reflective about how participants construct meaning out of their lives based on individual perceptions of their realities, and these *constructions* become valuable starting points for understanding the phenomenon under study (Creswell, 2013).

Arguably, most quantitative research studies do not mention explicitly researchers' viewpoints, any privileges they may have or anyone with whom they interact, nor where they come from. By contrast, qualitative research is not conducive to one set of objective and standardized methodological procedures. Rather, it encompasses a diversified approach and embraces relativism, claiming research is not free from the biases or perspectives of the researchers (Punch, 2010). In fact, qualitative researchers must be aware of their observations, interpretations of those observations and various perspectives that develop from analyzing those observations based on one's own theoretical lens. As a result, the concept of relativism provides ways of interpreting various realities shaped by the study participants (Charmaz, 2006).

### *Transformative paradigm*

Simultaneously, this study embraced a transformative agenda to enhance program accessibility for marginalized groups and promote student diversity in medical education. According to Mertens (2010), transformative research confronts social justice and oppression issues thus empowering those who are marginalized and neglected. This particular approach aligns research objectives strategically with the need for change in

our society. As a result, it strives to change previously accepted ways of understanding the world and to modify existing paradigms that appear ineffective (Mertens, 2010). This element of a transformative agenda was integrated within this thesis for the purpose of enabling and affirming students with disabilities in the context of health professions education. Potential repercussions on students with disabilities of unforeseen institutional and attitudinal barriers were delineated. This was accomplished by exploring participants' perspectives on strategies to promote inclusion.

### **Constructivist Grounded Theory Methodology**

The Constructivist grounded theory approach suggested by Charmaz (2006) was the primary methodological guide for this thesis. In-depth interviews were conducted to capture medical students' perspectives on the accessibility of their program as they navigated the training as persons with disabilities. Additionally, individual narratives of resilience development, despite experiencing potential barriers to participation were explored. The qualitative analysis generated an inductive theory that is grounded in the stories collected.

#### *Historical Background*

Charmaz's constructivist grounded theory methodology was adapted from the original version of Glaser and Strauss's classic grounded theory (Glaser, Strauss & Strutzel, 1968). It claims that essentially, knowledge is *constructed* by our society. The researcher recognizes that a phenomenon under study can be viewed from multiple perspectives by deliberately exercising reflexivity towards one's actions, situations and participants within research. For this constructivist approach, procedural transparency plays a crucial role to ensure trustworthiness of analysis. Hence, this methodology asserts

that examining real-life problems and *how* people make sense of them generates knowledge. In other words, the existence of a real world is acknowledged, but it can never be separate from the researcher who may interpret it through different lenses based on his or her previously developed ideologies. Naturally, these prior presumptions may clash with the constructed “realities” and perspectives shared by participants (Creswell, 2013). These influences can be subtle or remain completely invisible. In short, the constructivist grounded theory methodology investigates thoroughly tacit assumptions and intentions uncovered during analysis. This process recognizes the relationships between participants’ actions and the researcher’s interpretations of those actions. The researcher’s exploration of participants’ beliefs, purposes, and decisions, as well as their reasoning behind those choices are deliberately observed and studied (Charmaz, 2006).

Moreover, greater system-level influences from society are taken into consideration during data analysis. Examples of these influences include power dynamics, religious beliefs and cultural backgrounds. By examining the potential impact of these multi-level influences, relationships between these different levels of analysis are identified by raising awareness of how participants make assumptions and draw meanings based on those points of views. All collected data were treated as personal stories, each containing different interpretations of life. The multiple realities seen within the analysis, as well as **the researcher’s** personal worldview are mentioned explicitly. Heightening awareness was critical in exercising reflexivity throughout the entire research process (Guba & Lincoln, 1989 cited in Mills, Bonner & Francis, 2008).

## Participants

The participants in this study consisted of students with disabilities (with one or more physical, learning, sensory and developmental disability, as well as mental health and chronic conditions) from three medical schools in Ontario. Only those who met the inclusion criteria were invited to participate.

*Inclusion Criteria*      Medical students with disabilities (using the definition of disability provided by the Ontario Human Rights Commission) who are currently enrolled in an undergraduate medical program within Ontario, Canada.

*Exclusion Criteria*      Medical school applicants, residents and physicians with disabilities. Medical students with disabilities who attend programs outside Ontario, Canada.

Students were reached either via email distribution list-serve from the Student Accessibility Services or directly through their program. All participants were selected using maximum variation sampling method to represent a variety of experiences pertinent to different types of disabilities. The scope of diversity included different educational backgrounds prior to starting medical school, age, gender, geographic location within Ontario as well as a range of training levels within the program (1<sup>st</sup> year-4<sup>rd</sup> year students).

The study recruitment announcement (Appendix I) was sent through email by administrative staff at the Undergraduate MD program of one university as well as disability services offices at that same university and two other participating institutions that permitted recruitment. Due to logistical challenges, only students who were registered with the disability services offices were sent study invitations at two of the participating schools. Interested participants were instructed to contact the researcher via

email or telephone contacts provided in the invitation. The details were given regarding the individual interview arrangement in terms of time, date and location.

During initial recruitment, four participants expressed interest in being interviewed for this study. Upon preliminary data analysis, theoretical sampling was conducted in order to define further the specific properties of emerging categories.

Schwandt (2007) described theoretical sampling as:

“Theoretical sampling means that the sampling of additional incidents, events, activities, populations, and so on is directed by the evolving theoretical constructs. Comparisons between the explanatory adequacy of the theoretical constructs and these additional empirical indicators go on continuously until theoretical saturation is reached (i.e., additional analysis no longer contributes to anything new about a concept). In this way, the resulting theory is considered conceptually dense and grounded in the data.” (Schwandt, 2007, p. 133)

This subsequent recruitment also meant enhancing participant confidentiality as one more institution was added, making participants less identifiable.

The second round of recruitment was shorter in duration, at the conclusion of which three students with disabilities and/ chronic health conditions consented to participate. Students from all years of study (both academic and clinical) were invited. Only 1<sup>st</sup> year students who met the inclusion criteria responded to this recruitment for theoretical sampling purpose. One student amended content in the transcript to protect identity further. Active discussions and guidance from content experts within the thesis committee and continuous partnership with participants during data analysis served to ensure the trustworthiness of findings.

**Setting**

The three medical schools in Ontario, Canada provide the overall context of this study. The undergraduate medical education program was the specific focus because: it housed the didactic portion of the curriculum, resembling traditional academic, in-class environments closely; and it contained the clinical component in the latter half of the curriculum, where students are exposed to more dynamic learning environments in hospital settings. As a result, the undergraduate medical program provided the backdrop that exhibited the dual-nature of medical education. By aiming to understand the lived experiences of students with disabilities transitioning from or anticipating transition from their traditional class-room setting to a more dynamic clinical setting, the goal of this thesis was to capture how they identify and communicate their learning needs to the program and negotiate necessary accommodations. This was a master-level thesis and as a result, recruitment was confined to Ontario, given the parameters of resources and time. This thesis could provide opportunities for expanding its scope in future studies.

**Protocol***Ethical Issues*

An application for ethics approval was prepared and submitted in conjunction with a parent study at one of the three institutions participating in this study on January 13<sup>th</sup>, 2014. The name of the parent study will not be revealed in order to anonymize the three participating schools for further protection of participant confidentiality.

The rationale behind this “piggy-backing” approach to recruitment was to encourage a good response rate. One of the advantages of aligning with the parent study was to recruit participants for that study and this thesis simultaneously. The on-line recruitment survey

was already set-up for the parent study through the Undergraduate Medical Education program at one of the participating schools. The application clearly outlined the study protocol for informed consent, where participants would be provided with a letter of information and a consent form prior to the interview. These documents were emailed to participants before their individual in-person meeting to allow time for review.

Participants were invited to ask any questions they may have about the study and responses were provided to all inquiries. Privacy protection and participant confidentiality was discussed while reviewing the consent form. Everyone participating in the study was reminded that all data would be anonymized following the interview. The data collection, storage and analysis process was outlined; there were no concerns expressed by the REB regarding the study protocol. Approval was granted on February 5<sup>th</sup>, 2014 (See Appendix II) from the Hamilton Integrated Research Ethics Board (HiREB).

Due to an unexpected delay with the parent study, the Undergraduate Medical Education program decided that the parent study would no longer be conducted for the academic year of 2013-2014. As a result, an amendment application was prepared and appropriate changes were made in the email invitation, letter of information and consent form reflecting changes on how participants would be recruited in the absence of the parent study (See Appendix III for the final version of the recruitment email script).

All qualitative and participant demographic data were collected through individual interviews to ensure strict participant confidentiality. Undergraduate medical students from three medical schools in Ontario who have one or more physical, learning, developmental disabilities, mental health and/or chronic health conditions, were invited

to participate in the study and share their perspectives on program accessibility in medical education.

### **Important processes of the grounded theory methodology**

#### *i. Field notes*

Documenting important observations and thought processes during data collection in the research field was crucial because it can provide additional sources of information. More specifically, notes about participants' overall impressions and non-verbal language were made during individual interviews to capture the vividness of the in-person encounter. Neuman & Robson (2009) suggested that the researcher spontaneously makes notes during data collection. Direct observation notes are also made to record detailed descriptions of what the researcher saw, heard or felt during the direct experience. All descriptions are open to further interpretation. The following excerpt is taken from field notes from the second set of interviews:

*“Impression: calm, grounded, gentle and soft-spoken; widely curious eyes, speaks intelligently; she is critical yet constructive; approachable.”*

*“As much as the experience [of recovering in hospital] was difficult for her, she wanted to live it out and experience hard feelings and emotions.”*

*“Impression: gentle, soft-spoken, thoughtful and personable; some hesitation surrounding topic of disclosure.”*

*\*The above memo refers to one participant.*

#### *ii. Coding*

Coding is a process of where segments of meaningful data are labeled and defined through the narratives shared by participants. It is a methodological tool to organize

useful information for analysis. There are no preconceived categories applied to the data, but rather, codes are generated in accordance with the information emerging from the data (Charmaz, 2006). The following is a set of examples of coding from the collected data:

*a. Initial code: turning weaknesses into strength*

*“Participant 4 (p.39): Well, because like you can look at all your weaknesses. It’s all about perspective too. Cause it still gives you some strength. Like, I am impulsive but that showed me how important self-reflection was. Impulsivity is good when you want something done. Right? You can harness that.”*

*b. Focused code: feeling a sense of loss*

*“Participant 7 (p.2): I remember a huge sense of loss [after being hospitalized]. A huge sense of loss. I had these windows in my room and I literally spent hours a day in bed. I refused to watch TV, because I knew that would just be mind numbing and I could kind of coast through the experience without feeling any of it, so I read a lot of books. I remember feeling a huge sense of loss. Looking out the window and sometimes crying, just because all these things were happening to me, like I suddenly wasn’t in school anymore. My friends came to visit, but then they stopped visiting as often, because they had their own lives.”*

*iii. Categorization*

Categorization is an analytic step that identifies patterns and relationships between various codes developed through analysis. Categories of similar significance are formed by the identification and grouping of common themes. These are developed later into more abstract concepts. More specifically, the grounded theory methodology

organizes these categories in a meaningful way towards discovering major concepts that eventually leads to theory generation. This theory, grounded in the collected data, integrates the relationships between the different analytic concepts identified (Charmaz, 2006). The following is an example of a Category from the data analysis:

Category: accepting disability as part of who you are

*“Participant 8 (p.11): I guess you learn to accept is part of who you are, eventually you have to. I guess it’s allowed me to become more reserved and less sharing. But I don’t know again, see I’m doing that assessment phase [whether to disclose or not], so I don’t know if I should divulge everything to my classmates all at once, make it a Facebook post but...I would not, at any point...because part of your personal comfort, your routine, your daily life and you either let it mentally affect you [or not]. And if you let it mentally affect you, it can actually take it over. Or you learn to just cope with it as one of the components of your life.”*

iv. *Memoing*

Memoing is a crucial documenting step between data collection and writing the drafts of the final paper. This process is similar to journaling but more structured in a way that the researcher is deliberately reflexive about his or her ideas towards the data as well as how the codes, categories and concepts have emerged out of the data (Charmaz, 2006). The following is a personal memo (free writing) made during data analysis:

*“P6 is a very personable, warm and passionate individual. The moment she walked into the room, she had a beautiful smile on her. Her presence immediately made the room brighter. She talked about her diagnosis and what it meant to her as someone who was considering medicine [as a career]. After experiencing a series of hospitalizations*

*because of her condition, she shared that “it made her realize that she will always going to be vulnerable to the unexpected.” Going through [deleted] meant that she had to think about how these interventions will impact her future. I found interesting that she was always thinking about the future.”*

### **Inductive Theory Generation (Charmaz, 2006, p.63-66)**

Meaningful segments of data were labeled during initial coding. Following the iterative nature of qualitative research, more prominent and common codes across all participants were selected as subcategories and these subcategories were examined once again through focused coding. This analytical process defined specific properties and variations within those selected subcategories. Finally, through theoretical coding, codes developed from one data set to the other were constantly compared and further conceptualized to define major categories. Eventually, identifying potential relationships between these categories established more abstract concepts, and these concepts provided ideas that formed the basis of the developed theory that captured the significance of those relationships. By discovering meaningful relationships among these categories, a theory *grounded* in the narratives shared by all participants was developed.

### **Theoretical sampling**

Upon subsequent data collection, theoretical sampling was utilized to delineate in-depth properties of developing categories. Theoretical sampling occurs while pursuing relevant information to develop the emerging theory. It serves to define and expand the properties of major categories in the building of theory until saturation of information is observed. The initial four interviews provided guiding codes that informed subsequent

data collection from the second set of interviews until theoretical saturation was observed (no new codes are emerging from data) (Charmaz, 2006).

This process guided how subcategories were formed through the emerged codes grounded in the collected data. In other words, staying close to the collected data helped me to sample information efficiently and develop appropriate categories with guided focus. While engaging in theoretical sampling, the identified categories from prior coding directed subsequent analysis for the inductive theory generation. Unlike quantitative research, there was no randomization of sampling to achieve generalizability. Instead, at every level of analysis, segments of participants' narratives were consciously selected to study how and why they told their stories as they did (Draucker, Martsof, Ross & Rusk, 2007).

### **Trustworthiness of Data**

In qualitative research, validity and reliability measures are replaced with critical reflection on the trustworthiness of collected data. There are different strategies and tools used by researchers to ensure accuracy of what is gathered. Five approaches to ensure trustworthiness of data were used: 1) constant comparison, 2) establishing trust, 3) reflexivity, 4) member checking, and 5) triangulation. Each strategy is briefly described below:

#### *i. Constant comparative method*

The iterative comparison between codes and categories developed across collected data generated “successively more abstract concepts and theories” (Charmaz, 2006, p.187). This procedure revealed how those emerged concepts are related to one another. Comparison was accomplished through diligent memoing that accompanied each

level of analysis, as well as field notes gathered during interviews for further triangulation. This exercise avoided mere recognition of “patterns” in the collected data across participants. Rather, comparison defined sophisticated properties of developed categories, which were used in the later stages of data analysis to establish notable relationships between them. Moreover, constant comparison revealed important variations as well as outliers within the defined properties of each category.

*ii. Establishing Trust*

One of the unique challenges of this study was to build rapport and trust with participants in the limited amount of encounter time possible. In an attempt to alleviate this problem, the researcher chose to be transparent about her disability to participants during the interview and how her personal experience shaped this research endeavor. The assumption was that they might be more comfortable telling their stories knowing that the researcher could personally relate to some of their experiences. However, exercising continuous reflexivity was crucial to avoid projecting personal views and assumptions onto their narratives.

*iii. Reflexivity*

Charmaz defined reflexivity as, “the researcher’s scrutiny of his or her research experience, decisions, and interpretations in ways that bring the researcher into the process and allow the reader to assess how and to what extent his or her interests, positions and assumptions influenced inquiry” (Charmaz, 2006, p.188). This transparency was necessary to ensure validity of the results. The iterative reflection examined the process behind this research and it revealed how data collection was conducted. The

impact of multiple layers of perspectives embedded within in-depth interviews was explored with respect to subsequent analysis.

*iv. Member checking*

The data analysis involved partnering closely with participants in validating what was analyzed. To ensure accuracy of collected data, each individual reviewed his or her corresponding transcript. Additionally, all participants, with the exception of one person, verified the summary of findings at least once and provided feedback accordingly to ensure that the analysis correctly represented their stories. At the end of the interview, all participants offered to be available for further discussions as needed (Creswell, 2013). The one participant who did not respond was sent a reminder email with a request for verification. There was no response received and the transcribed data were assumed to be reflective of that individual's narrative.

*v. Triangulation*

Triangulation enables the researcher to gain more confidence in the analysis of the results by integrating information from two or more sources. These sources can be different types of data, research methodologies, theoretical frameworks and perspectives from different researchers. There are three kinds of data sources based on time, space and person (Denzin, 1970 cited in Thurmond, 2001). Triangulation aims to discern variations within collected data in “events, situations, times, places and persons” to reveal similar patterns and unexpected outliers. It serves to enhance accuracy of the results by identifying any existing gaps (Fielding & Fielding, 1986, cited in Thurmond, 2001, p. 254). In this thesis, different data sources were used to exercise triangulation from published individual commentaries (e.g. Manders, 2006; Vo, 2012; and Heffner, 2012),

radio interviews (e.g. Goldman, 2013) and discussions at academic conferences regarding program accessibility in medical education.

## **Interview Guide**

### **Overarching Research Question**

*How do medical students with disabilities and/ chronic health conditions communicate their learning needs and negotiate necessary accommodations with the Student Accessibility Services and/or the MD program?*

The guide was developed based on the research question. First, barriers that students with disabilities and/ chronic health conditions experience or have experienced in the past were chosen as the avenues to understand how students identify and communicate their learning needs. Additionally, their support system was examined to study how necessary accommodations were devised and implemented. Interviewing about personal traits such as motivation served as a unique opportunity to understand ingredients to resilience development. Practical recommendations on enhancing program accessibility finalized the guide.

Introduction question: an “ice-breaker” question was developed to provide ease and comfort during the interview. Participants were asked to share a little bit about themselves and why they chose medicine as their career.

1. Barriers: The different types of challenges present in participants’ lives were key information for examining sources of hindrance to training in the context of medical education. Participants were asked to share various strategies on how they identified their learning needs and whether they disclosed their disability to

- receive accommodations or other supports (first part of the research question).
2. Support system: Upon exploring various types of challenges/barriers identified, facilitating factors that helped participants to navigate through those obstacles were explored. Available support systems and resources unique to each participant were observed. Careful observations were made of how each person negotiated accommodations/arrangements successfully to enable his or her education/training; this assisted with gaining an understanding of participants' external environments (e.g. inclusive and supportive learning environment) that enabled them to confront challenges and persevere despite experiencing adversity.
  3. Motivation: participants' intrinsic motivation was examined; elements of this component included strengths and weaknesses, what they are passionate about, as well as different experiences or perspectives that may be brought to the MD program as a medical trainee with disability. Through this specific question, personal motivators were identified. Additionally, underlying character traits were delineated that enabled participants to initiate and craft their own process of creative resilience development.
  4. Program Development: The last part of the interview revolved around insights and reflection on the quality of program accessibility in Undergraduate Medical Education. By seeking their feedback on ways to enhance access to medical training further, their creative strengths in tackling inherent barriers were identified.

This interview guide was piloted with Participant 1. The interview transcript from piloting the guide was included in the data. There were no concerns with the wording of

the questions from participants. For the list of core interview questions, sub-questions and set of probing questions (please refer to Appendix IV).

### **Data collection**

Participants will not be identified in any academic publications, conference presentations and/or reports resulting from this project. Individual details will not be presented as they may compromise confidentiality. Instead, all demographic information will be presented as aggregate data. Due to the sensitive issues (e.g. discrimination and disclosure) addressed in the study, it was acknowledged that participants may not want to answer all questions. If they did not wish to answer a specific question, there was an option to simply move to the next one. If a student chose to participate in the study, he or she was asked to sign a consent form detailing the study and their response options. Each participant was reminded of the option to withdraw at any time throughout the study without any consequences to the medical student record.

For further protection of participant confidentiality, each participant reviewed his or her respective transcript for member checking. He or she had the option to either: 1) accept the transcript, 2) amend the transcript as needed, 3) generalize segments of the transcript so that details of the data are not disclosing their identity/condition, or 4) remove segments of the transcript completely. For validation purpose, the researcher worked closely with all but one participant in ensuring trustworthiness of data and received their feedback accordingly. Participants were not obligated to respond if they were content with their transcripts. One student did not respond to the option to participate in member checking.

The recruitment information letter was circulated by the Undergraduate Medical

Education program and disability services from three universities in Ontario, Canada. Student emails used in this study were their official medical school email addresses at which they receive school-related communications.

The pre-interview demographic survey responses were exported to MS Excel for descriptive analysis. The Undergraduate MD programs did not have access to the individual survey and qualitative interview data.

Each participant was interviewed within a single session ranging from one to two hours. All interviews were conducted by following the REB-approved interview guide prepared for this study. Participation was voluntary and confidential. Prior to interview, participants received a copy of the consent form and demographic survey (Appendix V) to familiarize themselves with the nature of the study and topics that would be addressed in the meeting. Participants did not receive payment for this study. Each participant was instructed to choose one of the following options for the private interview session: 1) in-person, 2) Skype, 3) teleconference. The in-person private interview location was a convenient yet confidential space on respective campuses (e.g. a private room).

Each interview was audio-recorded with the participant's permission. The researcher transcribed the first four interviews to become immersed in the data. The last three interviews that were conducted for theoretical sampling and data saturation purposes were transcribed by an external transcription service due to time constraint. The participants were given individualized passwords to facilitate member checking of transcribed and analyzed materials. During transcription, all participant identifiers were anonymized to ensure confidentiality by replacing names with a letter and number as the participant ID. No one had access to information linking IDs to participants except the

researcher.

### **Data Analysis**

In accordance with Constructivist Grounded Theory (Charmaz, 2006), the following analytic procedures were followed in this study. As stated by Charmaz (2006), these steps were not prescribed methods to be followed strictly. Instead, they provided guidelines on how to approach and “handle” collected information (p. 63-66):

- i. Transcribed interview data and field notes were organized into appropriate themes and analyzed separately for each participant.
- ii. Prior to more in-depth analysis, the collected interview data were read once briefly to ensure accuracy and obtain an overview of the data. Then, each story shared by participants was reviewed to obtain the overall impression of each narrative.
- iii. Field notes were taken during the interview consisting of brief descriptions of the interview settings as well as participants’ demeanor such as body language, facial expression, mood and tone of voice.
- iv. The first step of the analysis was open coding where segments of data were labeled with meaningful codes. The most frequently observed codes were observed further and grouped into similar categories.
- v. The data were coded again using previously identified themes (done using initial coding) for further conceptualizations of emerging ideas (focus coding).
- vi. Memoing was completed simultaneously at each point of analysis to compare categories as they developed across participants and appropriate conceptual relationships were delineated. The whole process was iterative and data collection

ended when theoretical saturation was reached, where no new properties emerged from the developed categories.

- vii. The defined properties help to develop relationships among emerged categories.
- viii. Those categories were integrated to develop a theory closely grounded in the collected data.

The analysis occurred iteratively with further data collection, taking into account theoretical sampling and saturation. The transcripts and field notes, as well as the detailed analysis (e.g. coding, memoing and development of categories) were shared with the committee members to ensure that the study adhered to a scholarly and evidence-based process. Any disagreements or areas of confusion were resolved through further discussion and clarification.

Right before commencing each interview, participants were asked to fill out a short demographic survey about the nature of their disability, time of diagnosis, and whether they disclosed their condition to the Undergraduate Medical Education program. There was a question about different types of accommodations previously or currently arranged by the program and/or the disability services office. This information was used to inform the demographic profiles of the study participants (See Appendix V). The invitation to participate in the study was extended to students in three Ontario medical schools to increase study response rate as well as protect participant confidentiality by involving multiple institutions thus making participants less identifiable. Only the researcher and the transcriber had access to the raw data. All electronic documents were password-protected and stored in a password-protected computer.

**Summary**

This chapter presented the foundations of the methodology used, including a discussion of the constructivism paradigm that guided this study, a description of the procedures, the study context and participants. The stories shared by the participants grappled with real-life problems. Throughout the study, the researcher aimed to be explicit and transparent about potential biases and influences embedded in interpretations of their stories. The process of resilience development explored in this study traversed through elements of time, transforming senses of self, as well as uncertainty. Charmaz's (2006) grounded theory methodology not only allowed thorough exploration of participants' perspectives on program accessibility strategies, but also pushed this research to reach beyond practical implications. Notably, this qualitative journey investigated the underlying process of how one deliberately chooses to thrive in the face of adversity. Furthermore, the constructivist methodological guidelines were not prescriptive. They provided flexibility as to how one experiments and adopts such guidelines.

## Chapter 4

### Results

#### Overview

Aggregate demographic information was analyzed for all participants. Anonymized personal details of participants were shared within the committee resulting in unanimous agreement that providing details would compromise the protection of privacy.

The relationships between major concepts and categories were described using approaches guided by the grounded theory methodology. Individual codes emergent from all collected data are presented. Themes were divided into primary and secondary research outcomes:

**Primary Outcomes** Practical implications for enhancing program accessibility in medical education.

**Category 1** Creating a dialogue and devising action plans towards learner-centered accommodations<sup>2</sup>

**Secondary Outcomes** Exploration of the *process* behind participants' resilience development, as well as its impact on their training.

**Category 2** Examining available extrinsic and intrinsic resources

**Category 3** Optimizing available extrinsic and intrinsic resources

Categories and subcategories from both sections are described sequentially, supported by anonymized, direct participant quotations (amended to ensure confidentiality as needed).

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<sup>2</sup> See Table 3-6 (p.79) for the summary of developed category, subcategories and codes.

## Participants

Five students responded to the initial email invitation to participate in this study distributed via the Student Accessibility Services email distribution list for those students who are registered with the disability services. Out of five, four students who expressed interest in participating met the inclusion criteria. An additional three students were recruited from the Undergraduate Medical Education program class email distribution list at one of the participating schools through a second round of recruitment for theoretical sampling purpose. In total, seven undergraduate medical students with disabilities and/or chronic health conditions (including mental health conditions)<sup>3</sup> participated in the study. Each person was interviewed once for the duration of 1 to 2 hours. One student was interviewed via Skype and all other students were interviewed face-to-face at their respective institutions, in a location that would ensure confidentiality.

Three participants had just begun their medical training as first year students at the time of interview. Two students were in their second year of training. The two remaining students were in the midst of their clerkship. Three out of seven students were females and four were males. Four students were in their early to mid 30s and three in their early 20s. See Table 1 below.

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<sup>3</sup> The definition of disability by Ontario Human Rights Code is used for the entire thesis.

**Table 1. Participant Demographic Summary**

<b>Profile</b>		<b>N</b>	<b>%</b>
Percentage of participants from Year 1-3 in three Ontario medical schools	Year 1	3	43
	Year 2	2	29
	Year 3	2	28
	Year 4	0	0
Participant gender distribution from three Ontario medical schools	Female	3	43
	Male	4	57
	Other	0	0
Participant Age *Some participants chose not to provide age information	20-24 Years old	2	28
	30-34 Years old	3	43
	No response	2	29
Types of disabilities/chronic health conditions represented in the study *Some participants had more than one condition	Learning disability	2	29
	Physical disability	1	14
	Chronic health condition	4	58
	Mental health condition	2	29
Participants' time of diagnosis represented in the study	Childhood	1	14
	High school	3	43
	Undergrad	3	43

**Table 1. Participant Demographic Summary**

Profile		N	%	
Participants' method of diagnosis	Psychologist/physician assessment	3	43	
	Trauma	2	29	
	Emergency Department	1	14	
	Medical Imaging Test	1	14	
Participants' Leave of Absence History	Duration (months)	0	3	43
		1-5	2	29
		6-12	2	29
		More than 12	1	14
	Frequency	0	3	43
		Once	1	14
		Twice	1	14
		Three times	2	29
Participants who received accommodations prior to starting medical school	Yes	7	100	
	No	0	0	
Participants who received accommodations in medical school	Yes	5	71	
	No	2	29	

**Table 2. Accommodations used during medical school and prior to starting medical school**

a. The Undergraduate Medical Education Program Accommodations  
\*Arranged by the program manager or the Student  
Accessibility/Disability Services

b. Types of accommodations received during elementary,  
secondary and/or post-secondary education  
\*Not all participants received accommodations prior to starting  
medical school

	N	%		N	%
Extra time on exams	3	43	Extra time on exams	4	57
Private room for exams	1	14	Quiet place for exams	4	57
Pre-approved procedure modifications when performing physical exams on observed clinical exams (e.g. OSCEs)	1	14	Private living arrangements in residence	1	14
Living arrangements in residence	1	14	Extra time on assignments	4	57
Bathroom breaks during exams and location preference	1	14	Sleeping accommodations in residence	1	14
Time away for medical appointments	1	14			

Participants had one or more learning, physical, mental health and/or chronic health conditions. Four participants were diagnosed with chronic health conditions. Two participants had learning disabilities. One participant had a mental health condition, coupled with a number of chronic health conditions. One participant had a physical disability.

#### *Time of Diagnosis*

All except one of the participants were diagnosed with their disability/chronic health condition during adolescence or in young adulthood (during later years of high school, n=3; or during undergraduate years, n=3; childhood n=1).

#### *Diagnosis Method*

Table 2 (p.50) also highlights how participants became diagnosed with their disability and/or chronic health conditions. Different methods of diagnosis ranged from relying on medical imaging (n=1), accessing emergency services (n=1), experiencing trauma (n=2) and being referred for psychological assessment (n=3).

#### *Leave of Absence History*

The history of leaves of absence was obtained for four of the participants. These leaves occurred either during secondary or post-secondary years (before or during high school, undergraduate, graduate school years). No one reported taking leaves of absence during medical school and not everyone took a leave of absence because of their condition(s).

#### *Types of Accommodations*

Responses related to the specific types of accommodations arranged by the Undergraduate Medical Education program (in partnership with the Student Accessibility Services) were requested in the survey. See Table 2 for the detailed list of accommodations

and the number of participants who requested each accommodation. The majority of participants had received at least one accommodation at the time of interview.

Participants were asked whether they received accommodations prior to starting medical school. Five out of seven participants received at least 3 different types of accommodations during elementary, secondary and/or post-secondary education. See Table 2 for the list of specific types of accommodations received prior to starting medical school.

### **Themes**

The resulting themes will be presented with respect to the research question proposed (see below).

Research Question:

*“How do medical students with disabilities identify their learning needs and negotiate necessary accommodations with the Undergraduate MD program and/ the Accessibility services?”*

The first Category (creating a dialogue and devising action plans towards learner-centered accommodations) identified focused on practical recommendations for enhancing program accessibility are discussed as the secondary outcomes of this study. The second Category (examining available extrinsic and intrinsic resources) focused on how participants *identified* their learning needs. The third Category (optimizing available extrinsic and intrinsic resources) explored how participants negotiated with their respective programs (and accessibility services) to receive necessary accommodations that would facilitate their training. Finally, the development of emerged theory capturing the major concept and relationships between identified categories is explained throughout. Direct quotations from participants served as empirical evidence that document the evolution of the developed

categories. This process resulted in the generation of a minor theory grounded in the collected data. This research process is also summarized through the Category Tables (see Table 3-6, p.78-81). In addition, Table 6 captures how this grounded theory was generated throughout the research process. Detailed explanations of the diagram summarizing the developed theory will be provided in the Discussion chapter. As stated previously, the definition of disability provided by the Ontario Human Rights Commission (2000) was used for the purpose of this thesis<sup>4</sup>.

### **Primary Outcomes**

#### **Category 1 Creating a dialogue and devising action plans towards learner-centered accommodations<sup>5</sup>**

Creating a dialogue between stakeholders and devising feasible action plans through learner-centered accommodations was the underlying Category identified in this particular set of results.

“...by making the situation open, by actually discussing things and you know, and then it being a possible topic for debate right? Than for example, talking with the surgeons. I needed to be open and comfortable with it before I can have a conversation with Doctor S about whether or not she could teach me. Right? If I was really defensive or secretive about it, then we never would have had that discussion and I never would’ve gotten to a point of being you know, okay, so let me really think about this and you know, can I be trained and would it be good for the patients?” (P3)

“I understand how important education can be and how important it is to have personalized education that can make a difference. For example, if I didn’t have particular professors, I would not have done so well. I could have just gone down hill.” (P1)

“They [the medical schools in US] are willing to give you more, I’d say, more personalized advice [on medical school admissions application accommodations and special consideration].” (P8)

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<sup>4</sup>See Appendix VI (p.168) for the full list of definitions.

<sup>5</sup> See Table 3 (p.79) for the summary of developed category, subcategories and codes.

The category table for Program Accessibility Implications consisted of interdependent extrinsic (the environment) and intrinsic (learner) components. Here, the learning environment includes both the program and educators who are part of the program (see Table 3).

### **Sub-category 1 Preparing for dynamic learning environment**

The medical schools seemed limited in their resources for figuring out how to help students with disabilities when they transition into the dynamic clinical learning environment. Nonetheless, some educators/preceptors played a critical navigator role within clerkship rotations as these students relied heavily on their expertise to devise clinically appropriate accommodations and accessibility strategies. As for learners, establishing support networks was crucial by recognizing who would provide them with appropriate resources, as well as modifying pre-existing systems of accommodations that are no longer effective in clinical contexts.

One particular code worth noting is the invincible professional culture of medicine highlighted by most of my participants. In fact, for many of the participants, recognizing this particular way of life allowed them to understand how potential stigma towards disability in medicine could occur.

“When we talk about the [program] requirements, students will say things that I could interpret as very hurtful... There’s an expectation in medicine of a certain kind of physical athleticism... If you think of what makes a really successful doctor, the visions people have, it’s someone who often has a certain amount of endurance, like physical endurance... That is a challenge to deal with emotionally, because you can have that bravado all you want, but if you have something going on, you still have to address it. The presence or lack of that bravado isn’t going to get you through anything when you have a chronic illness. In fact, pushing it away from your mind makes it worse. That’s something about chronic illness, you have to constantly be taking care of it, you can’t deny it, because as soon as you do, that’s when it flares up.” (P7)

“And there’s a kind of normative aspect to it. Another example is, when we were talking about self-care, an individual said, I feel like it’s not fair, people should know what they’re getting into when they apply to medicine and if they think they can’t do it, they shouldn’t be applying. That’s really interesting. The truth is, this stuff doesn’t bother me that much, because I have confidence that I’m actually right. I have a certain amount of confidence that we shouldn’t be pushing people this hard, that this kind of bravado of medicine is leftover, it’s a legacy issue...”

(P7)

“I think in the medical culture, there is a little bit of stigma. And there is also, how would I describe? There is the culture of everybody trying to be kind of like a super man. You know, not needing sleep, not needing to eat, and being able to study 24/7 hours a day. All that kind of stuff. There is definitely kind of macho thing going on.” (P3)

One challenging aspect of providing accessibility for students in dynamic learning environments was about developing effective yet feasible accommodation strategies during clinical skills evaluations and clerkship.

“You have no control. I think it's a bit difficult. Even getting accommodations like extra time, you know it's hard when its clinical setting. Especially when it's where you have patients you know...have 15 minutes after with each other. So, it's hard to...it's impractical to have that sort of accommodations no matter where I am. So I sort of do all my tests, clinical tests in an environment where I don't have accommodations. Just so that I can much be able to put myself in a situation that mimics real life.” (P1)

Moreover, understanding the importance of student wellness was coded because a number of participants emphasized its value not only for students with disabilities, but also for those without disabilities pursuing medicine.

“I think that one of my weaknesses is that I can get fairly exhausted in a way dealing with some of my own challenges to the point that it can affect things like my motivation or my drive or whatever. Like while I do have those things, I think when I am at work, probably people don’t see them, like if anything I am the opposite. But like when I am at home, like in my own self, they can kind of get to me.” (P3)

Numerous participants who struggled to discern what would be feasible accommodations during clerkship recommended **developing a clear protocol for clerkship**

**accommodations**. Some participants also shared that it would be beneficial to have available options for dealing with missed classes due to unforeseeable medical emergencies.

“...I don’t know if I would call it discrimination, but I would call it hardship. That because there’s no real protocol how to accommodate medical school learning environment, you kind of have to make it up.”

(P2)

“What I do actually wish is that I did think about clerkship. I did think about it. And, when I went to the accommodations I did think about it. And, then when I talked to the school, that was one of the grey areas where they didn’t really know what we would do about clerkship.”

(P6)

### **Sub-category 2 Establishing support network**

**The value behind** providing students with mentorship opportunities was affirmed by several participants who shared that one individual often made a difference in their lives.

“It only takes one person sometimes.” (P4)

“I do find mentors. Even if they don’t know they’re mentors. I find emotional mentors...And I disclose to them. My tutor right now is wonderful, and I’ve told her about what’s going on and she’s been really supportive. She’s told me about students who have to take a year off to do chemo. She’s shared stories, to let me know that I can find my own way through this.” (P7)

**Many participants also desired making social connections.** They valued having their experiences validated by those who are in similar circumstances.

“I’ve often wondered about like in terms of peer kind of counseling? Not counseling. I don’t mean that. But you know, just being, just being put in touch with like mentors for example. Like I know that there are people with challenges who have already gone through the system, there are people with challenges in the system, and I can’t even recall if this happened. I can’t even recall somebody asking if I would be willing to talk to anybody coming behind me. I think I said yes.” (P3)

“I guess it would be nice to talk to someone else in the program who had medical issues. That would be nice but I don’t know if that’s something, because it involves so many logistical barriers...I’d love it if that were to happen. I’d be even happy to set it up. I just don’t know how, logistically, to get their names if they want to be a part of this.” (P8)

Sub-category 3 Normalizing disability experience by raising awareness about student diversity

**Raising awareness** about the importance of accessibility and inclusion was emphasized across participants with the focus of normalizing disability in greater student population beyond those with disabilities.

“...accessibility services is kind of, like slightly unknown. At least within the medical school, like, I think everybody knows that it exists on campus but I think in medicine, or also in any other faculty, I could imagine like you know how in the first day of class, they go through all the policies right? So if you miss exam, they go through all that, there could be one sentence in every course, this could be just a mandate, like if you have any needs that aren't being met, you know, then, these are people, you should contact. It would be, it would take 10 seconds, and that, by continuously reinforcing that point, it might get people to the point where they are more willing to talk then. And it could be even stated more explicitly you know? Previously in this exact program, this exact class have required you know or they've had challenges which they may or may not wanted to discuss, so, you know, if you have one of those, then these are the kind of people you can contact.” (P3)

The program accessibility challenge stemmed from the unintended gap where available resources and medical school's willingness to accommodate students with disabilities and/or chronic health conditions are not communicated explicitly enough for students to fully utilize what is available. Many participants re-iterated that the program should aim to normalize disability experience. One participant shared this comment regarding the purpose behind promoting program accessibility in medical education:

“The final message around program accessibility would be this idea that accessibility should not be viewed as a thing that needs to be accommodated, but it's an opportunity for self-reflection for the program. To say, how good are we at being a program that everyone can be part of?” (P7)

Numerous participants echoed the value of promoting cultural competency and student diversity within the medical student population. They emphasized its implications on medical school admission, as well as the benefits of a diverse student population on patient care.

“Medicine needs to take a serious look at itself and say, who are we treating and who are we? If you look at the Republican Party in the U.S., there's like a handful of Republicans who are not anti gay marriage, or same sex marriage, those are the ones who have family members

who are LGBTQ. It's when you have your own personal relationships built with people who have certain sets of experiences, that's the only time, I think, you really get something. It doesn't make any sense for the medical body to be a mono- culture, or even bicultural. We need to represent all the diversity that we're actually treating in our society. I think...some of the best PBL groups are the ones where there is diversity. [Medical schools] actually could make a huge case for diversity in admissions, just based on studying PBL groups." (P7)

"First of all I think it's that being younger and maybe rightfully so, you do have a more self-centered approach, which I certainly did, especially in my first year of undergrad. The only thing that mattered on earth was my first year of undergrad and how well I did in school and competing for the career. And, as I got older what became more apparent is that there is more to life than that. And, so in recognizing that there's more to life than that for myself, again I feel that allows me to relate to my patients. Because, I realize that seeing the broader world and interacting with it, that people's values won't be the same as my own. The narrow focus that I might have in treating, okay, here's the disease, we need to treat it. That might not match my patient's values. And, I guess that also goes with instead of that only awareness of self, a greater awareness of the other person. Which I wouldn't say I had when I was younger. My awareness when I was younger was of myself, of my needs, of my wants, of my goals." (P6)

"I guess, an overreaching thought is to look at their statistics, look at who is being admitted and see if there's truly diversity in every aspect ...because the patients are diverse, when we see them and looking at only, sort of an academic perspective, to me, is a bit narrow-sighted. And going back to my, to the American stuff, they seem to like the concept, that their population, reflecting their medical school class, which doesn't seem that apparent to me here. So, I hope that diversity of their population is reflected in the diversity of the med school class. Because, naturally, you're going to get certain people who are intelligent into the program, versus you have to select for these factors but, they can't be the only ones. And I think, frankly, in the schools to which I have applied, they have been over-emphasized." (P8)

Other memorable recommendations include ensuring confidentiality while arranging for accommodations during clinical evaluations (e.g. disclosing to course director/preceptor) because they could not predict what potential repercussions of disclosure would be. At least three participants shared concerns regarding financial burden due to limited coverage for health benefits, as well as cost of transportation to remote placement locations. The biggest challenge was the lack of information on how to access available resources through the program and accessibility services. **Archiving previously implemented accommodation**

**strategies** was suggested by those who expressed interest to learn what other students with disabilities have tried in the past to make their training accessible.

“I think what is helpful is to have someone who can mention what's sort of resources are available. What sorts of stuff have people used in the past and have been quite successful. When I went to medical school, I didn't know what sorts of things were available. At my stage of learning, I guess it's a bit different from undergrad where it was purely lecture. So it's good to know what sorts of resources are available and what sorts of resources students use.” (P1)

However, one participant insightfully noted that accessibility services should be an avenue to promote individualized approaches to devising accessibility strategies by initiating dialogue between various stakeholders and enablers of inclusion.

“As an educator, I'm a little bit critical of the way in which there's a menu of accommodations, essentially, that occurs, and people pick from that menu. It's like, I need a note taker, I need this, I need that. When accommodations are turned into a science, it reduces the fact that everyone is very idiosyncratic and it reduces the dialogue between a system...I feel like having that menu prevents that dialogue, because then you have to just say, I need to not have overnight shifts, because that's an option. As opposed to saying, I am someone who has these kinds of difficulties and then your supervisor saying, okay, what does that mean for you? And then the person saying, here's what it looks like. When we are all kind of learners, that dialogue can happen. That's actually a really important conversation for everyone to grow. Instead of you going to an office and the office contacting your lecturer and saying, you need to provide notes.” (P7)

Rigid curriculum structure proved to be challenging for some. For instance, some institutions required students to repeat an entire year if one unit was missed due to hospitalization or leave of absence due to medical reasons. However, they also acknowledge that demanding professional programs, such as medicine, may not be able to offer much flexibility for students who may need to individualize their learning plans. Finally, numerous comments were made regarding the need to re-examine accessibility within the medical school admission process.

“Just having an open mind looking at a person's application holistically. So just as I said Saskatchewan had that special considerations program...where you read around the materials

of the disability or whatever happens to be and then make decision, whether the person's suitable." (P2)

"I found it interesting, actually, when I was applying for medical schools, because I was interested in U.S. schools, predominantly, at first, because I liked their research and their research rigor. They had, actually, an entire streamlined system for people with disabilities. They're more flexible with it. Then, when I was applying to Canadian schools, they have almost none. They're very objective, whereas the Americans had a more subjective point of view. You could describe your situation, they combine the two and see how your case ... and then try to get a better grounded perspective. When I was applying in Canada, they were more formulaic about how they approached things. So...I thought maybe I could express that point of view, maybe policies could change down the road." (P8)

Overall, participants expressed appreciation for the respective programs and the accessibility services on their willingness to provide accommodations for students with disabilities and/or chronic health conditions. Some also highlighted the importance of having a safe space (e.g. Student Affairs Office and the Accessibility Services) for disclosure without compromising confidentiality.

Additionally, each participant consistently identified potential challenges of devising accommodation strategies during clerkship and emphasized that more collaborative effort between student, respective programs, and accessibility services is needed on this matter. For instance, many participants requested that each student's case be treated with a person-centered approach. In other words, they pointed out that each story behind a person has its unique sets of challenges and may not always be amenable to pre-existing accommodation strategies. As a result, all participants focused on the need for a more individualized approach when devising strategies for inclusion. This was especially true in the midst of their complex learning environment.

For the primary outcomes of this thesis, potential implications for promoting student diversity within medical education were discussed. Many students argued for promoting a diverse student population in medical schools that would ideally represent patient

demographics. The “invincible culture of medicine” was mentioned by a number of participants to highlight its impact on student wellness and stigma towards any medical trainee requesting help.

### **Category 2 Navigating the new reality: Examining available extrinsic and intrinsic resources<sup>6</sup>**

The sensitizing concepts briefly discussed in the previous chapter (empowerment theory, self-determination theory and resilience theory) were used to explore Category 2. Here, the interest was in examining how medical students with disabilities and/or chronic health conditions were empowered to persevere despite facing potential institutional and attitudinal barriers. Furthermore, the source of this self-determination was explored by delineating specific properties of self-reflection (e.g. constantly asking, now what?) that fuelled resilience development. The three emergent themes that enabled navigation of new realities included:

1. Examining available extrinsic resources (e.g. Support from the Student Affairs office, the accessibility services, mentors)
2. Examining available intrinsic resources (e.g. personal motivation, strong interpersonal skills, commitment to hard work)
3. Developing resilience despite facing institutional and attitudinal barriers

Subsequently, the key notable ingredients that shaped participants’ resiliency were delineated with these emergent sub-categories:

- i. Exploring external support and resources (extrinsic resources)

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<sup>6</sup> See Table 4 (p.80) for the summary of developed category, sub-categories and codes.

- ii. Embracing vulnerability: being vulnerable with uncertainties (resilience development)
- iii. Reflecting on self: examining strengths as well as weaknesses (intrinsic resources)

Each sub-category will be explored further with its constituent codes.

### **Sub-category 1 Examining external support and resources (extrinsic resources)**

The medical students with disabilities or chronic health conditions in this study revealed that carefully examining available resources was imperative as they began their medical training. Most participants established their support system strategically by creating a safety net (Code 1). They actively sought after those who would be able to support them with negotiating and arranging potential accommodation strategies that would enable their training. Examples given by these participants included learning strategist, mentor, elder, preceptor/clinical instructor and health specialists who would offer medical consultation to devise different ways to study and perform clinical skills. The participants' support systems were not limited to individuals. They also included institutional advocacy organizations and respective policies that were designed systematically to promote inclusion and accessibility for medical students with disabilities and/ chronic health conditions. For many participants, the Student Affairs office together with Accessibility services provided avenues to request and receive accommodations. Learning to appreciate this established circle of trust (Code 2) was an important part of exploring available resources. Furthermore, these medical students actively sought professional assistance through the Student Accessibility Services, the Student Affairs office and external educational consultants (Code 3).

Receiving unconditional and non-judgmental support (Code 4) through mentors, family members and close friends was critical for participants to thrive despite facing potential institutional and attitudinal barriers. Many noted that this support was possible through long-term relationships that resulted in fruitful discussions about realistic and solution-oriented approaches to confront the challenges faced.

“They just kind of put one foot in front of the other and the goal was on my recovery. My mom left her job... actually, she took a leave of absence. The focus was on good food for me, opportunities to move, like doing exercises that were described. The idea that everyone wouldn’t be on board with that was unthinkable.” (P7)

**Sub-category 2 Embracing vulnerability: being vulnerable with uncertainties (resilience development)**

The process of creative resilience development began with being vulnerable and embracing the unknown:

“I think one thing I learned throughout this is that everybody has something under the surface, right? Whether it’s traumatic experience... everybody’s got something that they may not be disclosing and sometimes it’s big and sometimes it’s little. But to that person, it’s a big deal. Sorry, sometimes, it’s big on a grand scheme of things. It’s a small challenge, but everybody has, right? I think that each person [has to] practice the way they are with patients, the way they are affected by some of those experiences.” (P3)

In fact, accepting constant uncertainty (Code 1) was a recurring theme across all participants:

“...then going back to thinking how unpredictable my own course of life and disease process is, I guess part of me is now more accepting of that unpredictability. I accept that there’s this risk of clerkship not quite working out the way I might envision in my head.” (P6)

Moreover, the uncertainty surrounding disclosure revealed participants’ meticulous introspection on risks and benefits of making their disability/ chronic health condition known (Code 2):

“...I did [have difficulty disclosing]... may be the first year or two. But in my second and third year, it wasn’t a big of an issue... just because it was more important that I disclosed than to feel ashamed about it. So I thought that logically, it made sense to disclose it just

because I think my education is more important than fearing personal disability or anything like that.” (P1)

Notably, these students carefully discerned when would be an appropriate time, where would be an appropriate place and who would be an appropriate person to disclose (Code 3). Not surprisingly, some chose not to disclose all together:

“...what I’ve found, this might seem a bit strange, but, not disclosing gives you a certain amount of power, because you never have to be put into a category of any kind. There’s a certain amount of freedom to it.” (P7)

“I guess you learn to accept it as part of who you are, eventually you have to. I guess it’s allowed me to become more reserved and less sharing. But I don’t know again, see I’m doing that assessment phase, so I don’t know if I should divulge everything to my classmates all at once, make it a Facebook post but ... I would not, at any point ... because part of your personal comfort, your routine, your daily life and you either let it mentally affect you. And if you let it mentally affect you, it can actually take it over. Or you learn to just cope with it as one of the components in your life.” (P8)

If one chose to disclose, it was done strategically and only when necessary (Code 4):

“I think I came to terms with [my disability]...I was actually happy that I was diagnosed because I had a lot of challenges that I realized, oh you know, I am entitled to extra time and I can be on level. I can show what I have. So, I was...I am definitely in favour of disclosing. [Pause]. Disclosing to the right people. So, I don’t tell, like none of my classmates know.” (P2)

“It’s [disclosing is] very hard because it’s something that creeps into your personal and social life very easily. So, whether I disclose personally or disclose professionally, socially, there are always consequences that you cannot anticipate or foresee. So, you try to gather as much information as you can before any revelation. For me, that’s where I am at right now, to kind of assess the program, try to assess my situation here, try to assess how I fit, try to assess if I need more medical interventions in the future. How is that going to affect the timing of the program, how does that affect the dynamic my classmates have, how it affects the dynamic with the office. They seem very friendly, I don’t know if that looks like a big problem but that’s something I have to consider. The other things are, how does that affect the dynamic of me and my career in the future. So, do I reveal now or do I reveal later? Because the medical community is as small as any other community, so if I reveal to one doctor, is that going to reach my supervisor, the next doctor, that sort of thing? So, I’m still in the assessment phase.” (P8)

### **Sub-category 3 Reflecting on self: examining strengths as well as weaknesses**

The participants shared that careful examination on self meant discovering one's true passion and meaning in life (Code 1). They constantly asked whether this challenging path was worth pursuing, given the institutional barriers and stigma towards disability potentially present within this demanding and dynamic field of medicine.

"I sort of realized [that I] need to start paying more attention to what I want to do with my life." (P1)

"One thing, yeah, I will definitely say, but one thing is I do feel alone or isolated with this. Sometimes I even contemplate, should I even be going through this whole process? Cause it's a lot of work and there isn't a lot of support." (P2)

"I'm passionate about making room for creative solutions that are outside the box a little bit. I'm passionate about getting medicine, to think about what it's actually about, which is helping people live the lives they want to live. The body is a vehicle for a life, it's not the...when you're doing medicine, you're doing it for the goals that person has, not in order to follow a system. To me, the first step in a medical education should be, how do you understand what someone's personal goals are with their life? What are their dreams? ...When someone comes to see you, they're coming because something has gotten in the way of them doing something or being someone. What you're trying to do is get rid of the thing, or, you're trying to help them deal with an insolvable solution, often." (P7)

Discerning one's passion also meant realistically understanding one's limitations and weaknesses (Code 2):

"It was a good experience [surgical rotation during clerkship]. But at the end of it, it was clear that I was not going to be a surgeon and we [the participant and preceptor] should talk about that... I had that discussion a number of times now. It would be one thing to do for my own edification but in the end, the boss of the room is not the surgeon. It's the patient. Right? So I could do it. Like I could probably spend the time and you know jump over the hurdles or whatever and do it but who is, but to who's benefit would that be? Right? It would be for mine, not for the patient. And that's the thing I would be scared about. (P3)

Internally, most participants had to confront attitudinal barriers or stigma because of their disability and/ chronic health condition (Code 3):

"Some of the barriers I have faced so far have been the fact that whether or not people like me...whether or not this diagnosis actually exists." (P1)

"She was actually very happy that I came to her. And I remember, she said to me that a lot of medical students do actually face challenges but don't, either in denial, they don't want to

come forward. There's that stigma associated and then they suffer. Like they may not pass all their exams and they have to re-write exams when there is help available. So she thought it was remarkable that I came forward. And said that very few do. I think I am the only one in my class.." (P2)

However, they also learned to advocate for themselves by gaining confidence in their own abilities (Code 4):

"I think, so the typical situation where I would have to disclose is, it usually comes up because I know that something is going to come up. So for example, if I am about to go into the operating room with a new surgeon, I might explain in advance, you know, it's going to take me a moment to get into the gloves because, right? Then I will explain it. Or, for example, you know, I was doing ENT or Ophthalmology where you are doing a lot of things with your hands. I would say, you know, like they would say, okay, you are going to take your left hand, and you are going to do this with you right, and I would say, yeah okay, I understand that, I am going to be doing it with my right hand because, and I would explain." (P3)

In other words, some participants demonstrated strong self-advocacy by identifying their learning needs in advance (e.g. specific accommodations needed). They were competent in communicating those needs to the program effectively through strong interpersonal skills developed over years of negotiating for accessibility. As a result, the second Category was framed to understand how students with disabilities negotiate with their program and/or accessibility services to receive the accommodations that they need (the latter half of the research question).

### **Category 3 The Power of Creativity: optimizing available intrinsic and extrinsic resources<sup>7</sup>**

The process of resilience development did not end once the learning needs were identified. The turning point occurred when participants utilized their creativity actively to capitalize on their strengths. In other words, participants creatively optimized their assets'

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<sup>7</sup> See Table 5 (p.81) for the summary of developed category, sub-categories and codes.

full potential. Again, the key cognitive process underlying this creative process was self-reflection:

“I use that time [winding down at the end of the day] to do self-reflection type thing because that will calm me down. It will calm you down at least because you see what’s going well and what’s not going well.” (P4)

“Reflective practice. Being able to look at something that’s happened in a day or in a lifetime and say, okay, what the hell is this about?” (P7)

If Category 2 (examining extrinsic and intrinsic resources) were about accessing a toolbox to see what kinds of tools were available inside, Category 3 (optimizing available internal and external resources) would be about figuring out how to use those tools optimally to build something meaningful.

### **Sub-category 1 Letting go of Control**

An important element was raised while discussing creativity to integrate available support and resources: learning to let go of control. It encompassed codes such as being comfortable with ambiguity, expanding cognitive flexibility and appreciating life beyond oneself to help others.

- i. Being comfortable with ambiguity was critical for many participants as they learned to look at the bigger picture and embrace uncertainty prevalent in their lives due to disability and/ chronic health conditions.

“You learn to think. It’s not always the right answer. There are different options. And, now being in medicine I’ve seen in my peer group, a lot of them struggling with not knowing. So, with some of the diseases the path of physiology is unknown. And, they really struggle with the fact that there’s that gap. And, I feel that I don’t get stuck on that. I can look at the bigger picture and I can use information in a different way. Okay, here’s what it is and here’s how I can solve this issue.” (P6)

- ii. Expanding cognitive flexibility was observed across participants as they stretched themselves to think differently. Through this process of exercising cognitive

flexibility, they learned to appreciate multiple approaches to problem solving by embracing different perspectives.

“...there isn’t a sense of needing to project their views on other people.” (P7)

iii. Learning to be resilient meant using their personal experiences of overcoming barriers to help others in similar situations. They began to recognize life beyond oneself to help others.

“I have understanding of chronic disease and chronic management and some of the challenges that go along with that. I think I have understanding of what it’s like to be a patient because I’ve been that...or like to be in a hospital or you know, to have to go through surgery...I think I know a little bit about some of that stuff and may be that gives me, I am not going to say more insight but gives me an insight into what patients would sometimes be going through.” (P3)

“A passion for people who have been through similar experiences and who are going through similar experiences as me. So, the actual people that I want to work with in my job are people who are maybe having health challenges or distresses in that way. That does come from my own challenges. I want to be there for that group of people while not projecting onto them.” (P6)

### **Sub-category 2 Developing coping skills**

Furthermore, throughout this process of developing resilience, all participants were constantly devising coping strategies that would enable them to do what is meaningful for them. With the available tools, they engaged constantly in active yet reflective problem solving by figuring out solution-oriented approaches to confront barriers. This endeavor required anticipating potential challenges and constantly evaluating their learning needs in advance. It also meant anticipating barriers rather than responding to them in a reactive manner. Ultimately, all participants discovered a personal problem-solving model that would help assess progress. By reflecting on what was working well and what needed to be changed, this entire process was iterative with careful self-reflection exercised on a daily-basis.

### **Sub-category 3 Exercising creativity**

In the end, this process of developing resilience became a creative journey for them. Being creative meant being different at times to think outside of the box.

#### **i. Being creative**

“...at that time, my biggest I guess fear was basically being able to get into gloves. Cause when you are doing [clinical skill], you have to be able to be sterile. So there’s a whole song and dance that goes before an operation that involves like a particularly choreographed way of putting on the gloves....Anyway, I showed up to the appointment, you know the guy, he was an awesome guy, he was basically, you are worried about gloves, well, let me get some, he went around the corner, picked up some, and we actually devised a strategy as to how we can get into it. We discovered that yes, in fact I can. So then, he sort of went above and beyond. He actually invited me to shadow him, like to be with him for two weeks in the summer, get lots of experiences in the operating room before.” (P3)

“So, it was coming to the realization that just because I don’t do something on an exact schedule or the exact way that I think everybody else does it, doesn’t mean I won’t get it done and I won’t get it done well...So, I was starting to put all those things together that sure there is a certain traditional way and traditional student that exists. It was finally after all those years realizing that I’m not that student and I’m probably never going to be that student, but then nothing is happening. I’m still progressing in my career. I’m still progressing in my life.” (P6)

Developing resilience also meant becoming self-determined and meticulously purpose-driven to achieve what was seemingly challenging and inconceivable. The eventual outcome was creative resiliency demonstrated by all participants. Initially, heavy reliance on extrinsic resources was observed. Over time, this reliance gradually shifted towards intrinsic resources where each participant learned to develop an individualized working model of resilience that was personally most empowering.

#### **ii. Becoming self-determined**

“It’s frustrating but you know, you sort of realize that you are different and you have to do whatever you need to do...although things aren’t fair. You just have to sort of do it and see where things go. Sometimes you are successful and sometimes you are not.” (P1)

“Just persevere. It’s essentially just have a good attitude overall and be able to get up from falls and to sort of go through obstacles and barrier and keep at it.” (P1)

“I guess to prove to myself that it would never stop me... I just felt like you can throw all these terrible things at me but I don’t care, I’m still going to make it, and I still want to. I guess to prove to myself that I could do it.” (P6)

In the end, one participant was able to share this life lesson:

“The best challenges are the ones that never end.” (P4)

This section on primary outcome focused on how students with disabilities within the medical education context identified their learning needs and negotiated with the program to receive necessary accommodations that would enable their training. The *identifying learning needs* transformed into examining resources upon data analysis. Similarly, *negotiating with the program to arrange necessary accommodations* became collaborating with the program/accessibility services to integrate available resources. Hence this process of creative resilience development was conducive to individualized strengths, weaknesses as well as extrinsic support system and educational/training context that were highly dynamic in nature.

## Secondary outcomes

### The Process of Creative Resilience<sup>8</sup>

“...in life, you fight adversity and...have to make decisions with every single shot. Each shot has a number of variables going on, you have to sort of plan out the best way to approach it...” (P2)

The resilience development demonstrated by the participants resulted from careful planning that utilized all their available assets creatively and effectively. As the quotation from above suggests, the dynamic clinical environment presented them with constantly changing life variables from one learning context to another. For instance, one may have

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<sup>8</sup> See Table 6 (p. 82) for the summary of the Process of Creative Resilience Development and the Zone of Empowerment Theory.

devised strategies to overcome barriers in one clinical setting; however, those same strategies may not have been feasible to implement in other situations. The challenge for them was to figure out the optimal way to navigate those variables. Not surprisingly, many participants recalled that this continuous problem solving required a tremendous amount of self-regulation. One participant from an indigenous background shared a beautiful life lesson from the elder to demonstrate the importance of regulation of emotions:

### **Two Wolves**

“One evening, an old Cherokee told his grandson about a battle that goes on inside people. He said, ‘My son, the battle is between two “wolves” inside us all.

One is Evil. It is anger, envy, jealousy, sorrow, regret, greed, arrogance, self-pity, guilt, resentment, inferiority, lies, false pride, superiority, and ego.

The other is Good. It is joy, peace, love, hope, serenity, humility, kindness, benevolence, empathy, generosity, truth, compassion and faith.’

The grandson thought about it for a minute and then asked his grandfather: ‘Which wolf wins?’

The old Cherokee simply replied, ‘The one you feed.’ ” (P4)

As this story from the elder suggests, resilience development is about one’s deliberate choice to focus on assets (positives) rather than deficits (negatives). The metaphor of this battle that goes on inside one’s mind between assets and deficits highlights their co-existence at any given time and emphasizes the power of one’s creativity to optimize available resources within a specific context (see Table 6 and Figure 1).

### **The Zone of Empowerment**

This thesis argues that self-reflection allows careful introspection of this mental battle by enabling the individual to discern what are the most appropriate ways to capitalize on strengths and experience empowerment. The developed theory in this thesis, named as the

Zone of Empowerment Theory, explores this journey of empowerment by navigating through each participant's process of creative resilience development. Essentially, this journey investigated how students with disabilities become most empowered within the context of medical education. Before the major concept and subsequent categories are introduced, there are four characteristics of the development of creative resilience that important. These attributes emerged through the comments shared directly by all participants (see Table 6, p.82):

1. A creative process: optimizing on one's strengths and accessible resources
2. A dynamic process: requires cognitive flexibility within dynamic clinical learning context
3. A deliberate choice to be empowered: requires willingness from the individual to attain this ability to secure empowerment
4. Not an obvious process (even though it seems it is); this process is not an intuitive process; requires years of dedicated effort to attain empowerment

Within the scope of medical education, resilience development is a creative process that requires one to figure out how to integrate his or her strengths and available resources to produce a learning environment that is most empowering. One participant described this creative process using a metaphor of cards:

"...my way of looking at life is, if you get dealt a hand of cards, and it's not what you've got dealt necessarily. It's how you play it. Let's say you got dealt a very crappy hand. You gotta figure out ways to play it right. You look at the situations you are in. [look at] what can be fixed. What can be modified and how it can be [done]." (P4)

It is a dynamic process that requires a tremendous amount of cognitive flexibility within the clinical learning context. Many participants considered that available resources in one learning context did not necessarily transfer to another learning context. Instead, they constantly had to adapt to changing variables with respect to both extrinsic and intrinsic resources.

It is one's deliberate choice to become resilient. It cannot be forced upon someone, as it requires genuine willingness to want to be empowered through this process. And finally, it is not an intuitive process - even though it may seem obvious. In fact, as one student with disability shared, for him, it required years of dedicated effort to attain empowerment:

“They are not going to learn this [resilience development]. This isn't intrinsically in our brain...we are not born with it...like all this comes from years of me tripping...this takes like years of me tripping and falling down. Moving back up and dusting it off...like accessibility services, they can't give you that resilience. You develop [it] yourself. And you have to realize that.” (P4)

Thus, the major concept of this thesis was *Finding one's Zone of Empowerment*. In other words, participants discovered what gave them meaning in life and dedicated their lives pursuing it. The surprising irony was that this journey of empowerment began with a pause (see Figure 1).

One of the participants called this break, due to health-related hindrances, a life pause. For most of them being in their early 20s, life was slowing down because of newly diagnosed/discovered disability and/or chronic health conditions. As a result, most participants experienced some cognitive dissonance initially in an attempt to reconcile between their invincible life-stage as 20-something year olds and their realities of living with disability/chronic illness:

“When I was in high school and then first year undergrad and life is good, why should I ever question anything about myself because everything I was doing was leading me to success in a way? Do you know what I mean?...Why mess with success? And, also no time and not giving myself time to think, right? Ah, I'm just moving from one thing to the other and it's going great. Why am I ever going to think or question about how that's happening to me or for me? And, then this really, really, really bad thing happened, right, and you want to find a reason, the why me and all that. Ah, why me? Everything was so great. But, in that really negative moment, especially with the hospitalization, it was the first time I had time and the first time I paused. So, that was my first I guess life pause.” (P6)

Moreover, there were variations observed in how participants responded to trauma or newly diagnosed health conditions/disability. Some simply denied while some embraced this new reality. Essentially, there were two different types of responses consistent with the two systems of thinking documented in the cognitive science literature (e.g. Evans, 2003; Kahneman, 2011). The System 1 response was denial, in an attempt to resist change and regain normalcy. It occurred quickly and instinctively for many participants. Whereas the System 2 response was more slow and effortful, as Kahneman has suggested in his book, *Thinking, Fast and Slow* (2011). It was about accepting change and embracing new reality.

*System 1: resisting change (an automatic and instinctive process)*

Initially, one participant shared that he relied heavily on substance abuse to cope with challenges of life living with chronic health conditions:

“We still have a lot of substance abuse and that and cycles of violence that don’t get stopped. Parents don’t know how to parent. Just keeps on getting perpetuating. So in my family, there were lots of substance abuse and I started too when I was young because you don’t really know better...you do it to numb a pain or something” (P4)

Two additional participants experienced health-related emergency because they chose to ignore and neglect their health conditions:

“It took time though. It took a lot of time. Sometimes when I look back, I can’t believe how long it took, but I think part of that [was] denial. I think sometimes I was pretending, like if I just ignore this and push through, then it’s not really happening. But, it is, and then I would really feel the consequences after.” (P6)

Eventually, most participants realized that denying disability and/or chronic health conditions would be detrimental to their wellbeing:

“I think that having another major attack and another major pause was the first big realization that denial is not going to work, that dramatic things are going to happen. And then, the second pause in terms of even thinking about these things, what if you change them?...rather than just charging through as I normally would. But, yeah, it’s really strange to look back on all that change.” (P6)

“You come to a point where you get fed up with it [substance abuse]. And you decide to stop but nobody pressured me back into it I guess.” (P4)

“You look at what happened to the other members of your family. You are like, ‘I don’t want to be like that.’ It’s a lot more vivid when you see it.”  
(P4)

This realization was a transition point for many as System 1 thinking was no longer effective in their dynamic and demanding learning environment. Gradually, most began to resort to System 2 thinking:

“It was like the realization that, okay, I can do this career [medicine] because I don’t always have to be a patient, but because I do have this condition, I have to respect what my body is telling me. Because, if I don’t take care of myself, there is more long-term damage.” (P6)

For the purpose of this thesis, the consequences of this System 1 thinking were not explored further.

*System 2: Accepting change (a slow and effortful process)*

In the long run, all participants embraced their new reality of living with a chronic health condition/disability. There was a temporal element to this realization. While some participants were quick to accept change, others took years to do the same:

“Overcoming my own denial, accepting my own limitations, trusting in my support system. But, I don’t know if it boils down to one thing. It seems like it’s been such a long and slow process. I don’t know. But, may be the final thing of it all is accepting change.” (P6)

“Accept change. And, on top of that, accepting change isn’t the end of the world. That if you embrace the fact that there’s something different in your life now and that something about your life has changed, if you embrace that change, it’s not necessarily going to be a negative consequence. So, I guess like at that age I thought having this chronic illness weighing over me is going to mean I’m never going to be able to do the things that I want to do, so I have to kind of like push it to the back and not acknowledge that part of myself to succeed. But, now I realize in embracing that this is who I am, this is what I’m dealing with, I’m able to do most of the things I want to do, maybe a little bit differently. And, actually by embracing the fact that this is happening to me, I’m able to protect myself by having the accommodations and stuff. So, I would tell the 20-year old me to embrace the change and also just don’t worry so much.” (P6)

“So we had a sense of acceptance about it [the accident]. That’s what it was, acceptance. Even though I felt loss, I didn’t wonder, why did this happen to me?”

(P7)

“I guess you learn to accept it [chronic health condition] as part of who you are.” (P8)

Slowing down in life and accepting change provided them with a new insight on overcoming challenges and becoming resilient. Most surprisingly, self-reflection was observed as the key underlying mechanism driving this process of resilience development.

### **Summary**

In this chapter, the major concept of this thesis (finding the zone of empowerment) was introduced along with its identified categories, sub-categories and codes. The Zone of Empowerment Theory explained two major categories for the creative resilience development: 1) creating a dialogue and devising action plans towards learner-centered accommodations, 2) examining available extrinsic and intrinsic resources fully and 3) optimizing available extrinsic and intrinsic resources in a manner that would optimize their maximum potential. Most surprisingly, many participants shared that exercising careful examination of one’s assets and deficits through *self-reflection* was the underlying mechanism that enabled them to develop self-resiliency. Additionally, *slowing down* through System 2 thinking emerged as another important element that enabled the identification of challenges, carefully examining resources and effectively integrating those resources creatively to achieve empowerment. The process of creative resilience was a product of extraordinary commitment towards hard work, willingness to adapt to dynamic realities of life. This also meant embracing failures and mistakes. The outcome of this journey for many participants was a realization that resilience development can never be accomplished alone. Instead, it required an integrative and collaborative approach through their respective programs, the accessibility services and the students themselves.

The notable category related to practical implications towards enhancing program accessibility was creating a dialogue and devising feasible action plans towards learner-centered accommodations (Category 1). Importantly, participants suggested that programs should anticipate accessibility challenges proactively to promote inclusion, instead of responding when students experience barriers. Potential solutions to promote this proactive accessibility strategy include archiving existing accommodation strategies systematically that have been implemented successfully in the past. However, one participant rightfully noted that archiving strategies should not prevent taking individualized approaches to devising accommodations. Programs and accessibility services should make resources readily available and conveniently accessible by normalizing disability within medical education and raising awareness among faculty and students about disability in medicine. Finally, students with disabilities should be able to disclose their conditions to appropriate individuals and arrange accommodations without the fear of experiencing stigma or discrimination. Broader discussion about the impact of student diversity within medical education can invite conversations that would inform the greater student body in appreciating the implications of promoting such inclusion.

**Table 3. Category 1: Creating a dialogue and devising learner-centered accommodations****Program Accessibility Implications**

Code 1	Recognizing the invincible culture of medicine
Code 2	Developing accommodation strategies for clerkship/clinical evaluations
Code 3	Understanding the importance of Student Wellness
Code 4	Making social connections
Code 5	Archiving existing strategies
Code 6	Raising awareness of accessibility and inclusion; normalizing disability
Other suggestions	<ul style="list-style-type: none"> <li>▪ Ensuring confidentiality during exam arrangement</li> <li>▪ Seeking resource accessibility (e.g. health benefit coverage; transportation);</li> <li>▪ Having flexibility in the curriculum</li> <li>▪ Examining medical school admission process accessibility (e.g. MMIs)</li> </ul>
Overall feedback on accessibility	<ul style="list-style-type: none"> <li>▪ Expressed appreciation for program and accessibility services' willingness to provide accommodations</li> <li>▪ Highlighted the importance of safe space for disclosure and having assurance of confidentiality</li> <li>▪ Discussed potential implications for promoting student diversity within medical education</li> <li>▪ Shared perspectives on the “invincible culture of medicine”</li> <li>▪ Emphasized the importance of social connection established with mentors, colleagues, family and friends</li> <li>▪ Developing clear protocol for clerkship accommodations</li> <li>▪ Identified challenges of devising accommodation strategies during clerkship (more collaborative effort needed)</li> </ul>

**Table 4. Category 2: Examining available extrinsic and intrinsic resources****The Process of Creative Resilience Development**

	Extrinsic	Self-reflection Resilience Development	Intrinsic
<i>Sub-categories</i>	<i>1. Exploring external support and resources</i>	<i>2. Embracing vulnerability: being vulnerable with uncertainties</i>	<i>3. Reflecting on self (strengths and weaknesses)</i>
Code1	i. Creating a safety net; Establishing support system; “my circle of safety”	i. Accepting constant uncertainty	i. Discovering passion;
Code2	ii. Appreciating support system and admitting needing help	ii. Introspecting one’s intrinsic motivation and uncertainties surrounding disclosure	ii. Understanding one’s limitations; accepting change and embracing the change
Code3	iii. Recognizing support system	iii. Choosing not disclosing disability/ chronic illness	iii. Confronting attitudinal barriers or stigma
Code4	iv. Receiving unconditional, non-judgmental support	iv. Disclosing strategically	iv. Advocating for self

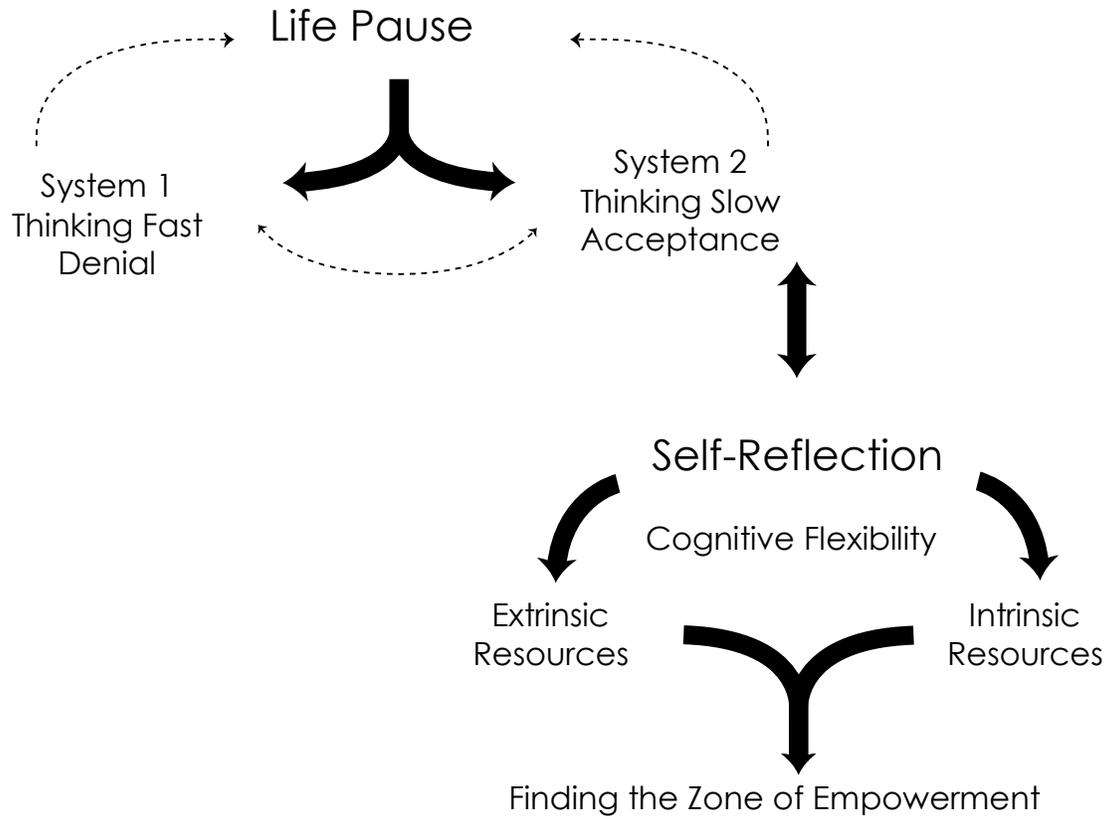
**Table 5. Category 3: Optimizing available extrinsic and intrinsic resources**

**The Power of Creativity**

	<b>Extrinsic</b>	<b>Resilience Development</b>	<b>Intrinsic</b>
<i>Sub-categories</i>	<i>1. Letting go of control</i>	<i>2. Developing coping skills</i>	<i>3. Exercising creativity</i>
Code 1	i. Being comfortable with ambiguity	i. Problem-solving	i. Being creative; different; learning to think in a different way
Code 2	ii. Expanding cognitive flexibility	ii. Anticipating potential challenges by being proactive	ii. Becoming self-determined; purpose-driven
Code 3	iii. Appreciating life beyond self/ wanting to help others and give back  * Optimism **Empathy demonstrated through personal lens	iii. Finding the problem-solving model that empowers you (P4)  *Assessing progress: reflecting on what is working well and what is not working **Constant, iterative process	

**Table 6. Finding the Zone of Empowerment**

<b>Major concept</b>	<b>Finding the zone of empowerment</b>
<b>How this process begins</b>	Involuntary <b>Life Pause</b>
<b>Reaction</b>	Resisting change as much as possible (attempting to regain normalcy); maintaining normalcy
<b>Two types of response</b>	<p>“System 1”: Resisting change (automatic)</p> <ul style="list-style-type: none"> <li>i. Relying on substance abuse to cope with challenges</li> <li>ii. Experiencing Health-related emergency crisis</li> <li>iii. Previously developed coping strategies no longer effective</li> </ul> <p>System 1 not explored further in this study *Transition point: System 1 is NOT working/effective</p> <p>“System 2”: Accepting change</p> <ul style="list-style-type: none"> <li>i. Temporal element: sometimes, took years to accept change</li> <li>ii. Intrinsic resources introspection</li> <li>iii. Extrinsic resources introspection</li> </ul>
<b>The Theory</b>	<p><b>The Zone of Empowerment Theory</b></p> <ol style="list-style-type: none"> <li>1. A creative process: optimizing on one’s strengths and accessible resources</li> <li>2. A dynamic process: requires cognitive flexibility within dynamic clinical learning context</li> <li>3. A deliberate choice to be empowered: requires willingness from the individual to attain this ability to secure empowerment</li> <li>4. Not an obvious process (even though it seems it is): this process is not an intuitive process; requires years of dedicated effort to attain empowerment</li> </ol> <p>*Self-reflection was the key underlying mechanism driving this process of resilience development</p>
<b>Outcome</b>	<i>The Process of Creative Resilience</i>



**Figure 1.** The Zone of Empowerment Theory

## Chapter 5

### Discussion

#### Overview

As highlighted in the previous chapter, the Zone of Empowerment theory may play a critical role to the process of creative resilience. Implications of this theory, and intersection with the experiences of the participants will be examined. Also, implications for enhancing program accessibility are discussed in light of current literature on student diversity and inclusion in medical education (e.g. Mercer et al., 2003; DeLisa & Lindenthal, 2012; Ouellette, 2013). The data analysis revealed three categories: 1) **creating a dialogue** between stakeholders and devising realistic and feasible learner-centered accommodations, 2) **examining** available extrinsic and intrinsic resources and 3) **optimizing** available extrinsic and intrinsic resources. The major concept **finding the zone of empowerment** emerged through the process of creative resilience development. Slowing down in life and accepting change through self-reflection were the most surprising elements that served as buildings blocks of the developed theory.

The goal of this chapter is to develop a greater understanding and appreciation for the study findings based on current literature in the context of medical education. First, three major categories are discussed to delineate practical program accessibility implications and the process of creative resilience development. Second, the discovery of underlying relationships between these major categories will be examined in order to understand how they influenced the generation of the Zone of Empowerment theory. In particular, human capacities such as self-reflection and resilience will be explored further to discern various elements that enabled this innovative process. These findings will be integrated towards practical implications on the benefits of enhancing program

accessibility and promoting student diversity in medical schools. The literature discussed in Chapter 2 (Literature Review) will be re-examined in conjunction with more studies retrieved with respect to the findings. Lastly, the study's strengths and areas of limitations are presented, along with future research directions and program development recommendations.

### **Interpretation**

The first half of the chapter will provide in-depth discussion about the practical implications for enhancing program accessibility. Then, Categories 2 and 3 underlying the process of creative resilience will be delineated.

### **Program Accessibility Implications**

#### **Category 1 Creating a dialogue and devising action plans towards learner-centered accommodations<sup>9</sup>**

A significant portion of each interview session was about understanding program accessibility in medical education. The goal was to discern areas of strengths and growth to enhance access to those who may have experienced potential institutional and/attitudinal barriers.

This Category was analyzed with two different sections. First, the environment representing extrinsic factors (e.g. inclusive learning environment, Student Affairs, Accessibility Services) that could enhance program accessibility was examined. It is further divided into programs and educators (see Table 3, p.79). Second, the learner that

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<sup>9</sup> See Table 3 Category 1 for the summary of the developed categories (p.79)

is representing intrinsic factors within each student that enabled successful negotiation of necessary accommodations was examined. In both sections, seven different codes emerged which encompass potential strategies that could be implemented to enhance program accessibility. These seven codes will be discussed by weaving together how program implementation ideas can be executed effectively by collaboration between educators, learners and accessibility services. Specifically, the argument is offered that both extrinsic (programs and educators) and intrinsic (learners) parties have the responsibility to participate in creating accessible learning environment.

Recognizing the invincible culture of medicine served as one of the major themes that provided possible explanations as to why some students with disabilities and/ chronic health conditions may not feel comfortable disclosing. Some participants feared this hidden curriculum as they felt that they would be looked down upon for requesting accommodations. In the field where learners are constantly expected to demonstrate excellence one's wellness can be compromised. By stepping back through honest self-reflection, participants learned to realize unique strengths and limitations of their own bodies.

Developing accommodation strategies for clerkship or clinical evaluations was reported to be quite a new phenomenon in medical education. There has not been any systematically documented and published incidence of accommodating medical students or health professional students with disabilities in Canada. For many participants, negotiating accommodations for clerkship was done on a reactive basis and contributed to significant sources of emotional stress and physical exhaustion. Absence of a clear protocol for clerkship accommodations often caused delays in receiving requested

accommodations in a timely manner. It also resulted in unintended misunderstandings between educators and students while developing accommodations. Some participants reported experiencing unexplained discrepancies between accommodations that were accepted by one faculty and rejected by another.

On the contrary, some students had extremely positive experience with their programs while requesting and arranging special consideration and accommodations for their training. These successful cases shared a number of elements in common. First, the students openly disclosed to their program about their disability and/ chronic health conditions and clearly explained their learning needs/challenges. Second, the program provided an inclusive, respectful and safe environment for these students to disclose their sensitive information by ensuring confidentiality. Third, preceptors did not discriminate against students who requested accommodations. In fact, those who empowered these study participants went above and beyond to ensure that students were appropriately and promptly accommodated. They did not perceive accommodating a student who has accessibility needs as bothersome. Many participants shared that systematically archiving existing strategies and sharing them across institutions would be useful for future planning. Disseminating successfully implemented accommodations in the past would require that information remains anonymous in order to respect confidentiality unless there was a shared commitment to enhance levels of transparency for the greater good.

Apart from support system and resource evaluation, establishing genuine connections emerged as an important aspect of resilience development. Consistent with protective factors reported by Masten (2001) and basic psychological needs proposed by Ryan and Deci (2008), establishing connection through mentorship opportunities was

frequently desired by participants. They perceived it as a facilitating factor that enabled them to persevere despite facing challenges and barriers. One participant shared that his mentor taught him to slow down and reflect. He received culturally sensitive guidance on ways to tackle obstacles in a manner that was personally meaningful and empowering. Making social connections with friends and colleagues was another notable element of self-resiliency. This observation was not surprising as strong interpersonal skills boosted one's ability to successfully negotiate for necessary accommodations. Moral support received from close family and friends played crucial role in enhancing students' self-esteem. Also, many participants in this study desired to connect with those who may be in similar circumstances in order that they could affirm each other's experiences, share strategies and resources that would be applicable to their training.

Raising awareness of accessibility and the purpose behind inclusive higher education should not only be emphasized among those who are aware of disability issues. Instead, this conversation should include the greater student body and more faculty members in order for disability experiences to be normalized. Moreover, the responsibility for raising disability awareness is not only a task for the programs. Students with disabilities should also advocate for themselves in a manner that would promote productive discussions on student diversity issues.

Other areas for special consideration include ensuring students' confidentiality while arranging for exam accommodations. One participant noted that she feared disclosing to her course directors while requesting exam accommodations, as she perceived that it could affect her clinical skills evaluations during clerkship. Some participants expressed concerns regarding resource accessibility. For instance, the health

benefits package available through their student association lacked comprehensive coverage. Participants could not access many of the extended health care that they need in order to remain healthy. Transportation was another issue mentioned as some participants had difficulty affording a vehicle to be able to travel to different clinical placements. Programs could provide clearly outlined accessible resources to offset some of these costs of living. The students with disabilities could also advocate for their needs to respective student bodies that would be able to endorse greater health benefit coverage for the students in need of extended health care. Accessibility services can play a crucial role actively mediating between students' needs and what programs can feasibly offer. Participants commented that these sources are available (e.g. funding for extended health care). However, they are not always readily available and sometimes, students are not aware of where to access those resources. Again, accessibility services can provide personalized guidance to students with disabilities and/ chronic health conditions to access necessary resources more efficiently.

Many participants desired having some flexibility within the curriculum through competency-based education so that they could complete the competencies required for graduation at their own pace. Currently in medical education, some educators proposed moving gradually moving away from time-based education to a more individualized and learner-centered approach to training (e.g. Hodges, 2010). This trend towards competency-based education is encouraging, as it would provide greater accessibility and cater towards students with different learning needs.

Lastly, many participants voiced the importance of examining the medical school admission process to assess whether it is truly accessible for students who are coming

from diverse backgrounds. At McMaster University, both CASPer<sup>10</sup> and MMI<sup>11</sup> have been implemented in order to assess strengths of students with diverse educational and professional experiences. As suggested by all participants, research and development towards an accessible applicant selection tool is recommended. An accessible application process with the option for students with disabilities to explain leaves of absence, partial course loads and inconsistent academic records can be considered. However, this idea may not be feasible given the resource implications. Many programs have firm admission criteria students must meet before their application is even reviewed. As a result, many participants in this study shared that they could only apply to certain medical schools that would provide them with a special consideration application opportunity. It is imperative that Canadian medical schools continue to adopt positive working models of accessibility within their institutions.

In short, this Category emphasized the importance of creating a dialogue between stakeholders (e.g. students, educators and program administrators) and devising appropriate strategies towards ensuring learner-centered accommodations. Accessibility services should not expect students to be always accommodated with traditionally accepted methods of accommodations (e.g. extra time, private room for examinations). Rather, it is imperative that new accommodation strategies are devised, approved and implemented iteratively in order that students in complex and dynamic learning environments are accommodated appropriately. More importantly, these proposed strategies should be documented systematically, regardless of their effectiveness, so that

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<sup>10</sup> Computer-based Assessment for Sampling Personal Characteristics (CASPer) uses multiple short independent case problem-solving done on computer to assess each applicant's qualitative skills.

<sup>11</sup> Multiple Mini Interview (MMI) uses multiple short independent assessments done in-person to gather an aggregate score of each applicant's qualitative skills (Eva, Rosenfeld, Reiter, & Norman, 2004).

others who are seeking similar accommodations can learn and adapt from what was implemented previously.

In the context of providing accessibility for students with disabilities and/chronic health conditions in medical programs, establishing solid support network (e.g. mentors and inclusive preceptors and colleagues) early in their training could provide autonomously driven vitality to students' lives. Many participants initially learned to assess progress and figure out solutions to challenges and barriers in their training because of the guidance provided by their support network. This process was autonomously driven, based on their learning objectives and goals that were personal to them. Notably, participants' need for connection and relatedness (one of the three psychological needs of self-determination theory) was observed through their sincere desire to help those who are in similar situations. Their greatest motive for participating in this study was to enhance program accessibility in order that those who will follow in their footsteps could potentially benefit from their experiences.

## **Category 2 Navigating the new reality: examining available extrinsic and intrinsic resources**

### **Extrinsic Resources**

Participants often shared that receiving unconditional, non-judgmental support from family members, friends and mentors was critical. Over the years, they established extensive support systems by creating a safety net. They commented on the specific qualities and properties of the kinds of support received during and after becoming diagnosed with their disability and/ chronic health condition. One participant fondly

described the unconditional support that she received from her mother:

“...when I was sick my mom actually stayed with me the whole time in the hospital. So, even though I was 20, she didn’t leave. She slept on the chair for the five months and she stuck by me, and my dad came to visit every day. So, they just always tried to bring a little bit more normalcy by maintaining like our family unit there. Everything just felt so out of control. But, then having some familiar supports. And, also, I needed that too. Like when you’re trapped in and it’s all about you and I’m in the hospital and there’s no escape, it was nice to have my mom sometimes to bring in bigger picture perspective.” (P6)

More specifically, participants received pragmatic and solution-oriented guidance. In other words, the type of support that they received was realistic and was available consistently throughout their lives from various individuals within the network. Examples include, having a mother who left her job to provide care for her son/daughter during hospitalization, meeting a partner who was loyal and stood by her during the crisis, and building a relationship with a mentor who shared a similar cultural background and traumatic experiences.

One important lesson shared across participants was first and foremost, recognizing their support system. Many of them deliberately and proactively sought different organizations and agencies that would provide them with appropriate help to navigate their new realities of living with disability and/ chronic illness. These students accessed the Student Affairs office voluntarily and utilized professional consultations through the accessibility services. It meant admitting humbly that they needed help. In the process of doing so, they learned to appreciate the unique support system that was available for them.

Ultimately, one of the three sub-categories under Category 2 was labeled as, *exploring external support and resources*. In the words of Virginia Wolf, this process was about “arranging [effectively] whatever pieces come your way.” Adopting solution-

oriented and strength-focused support boosted their confidence and enabled them to establish a new sense of self. Their unconditional support network encouraged them to focus on the progress of their rehabilitation by facilitating reflection on what was working well and what needed to improve.

### **Resilience Development**

Accepting constant uncertainty emerged as an integral part of living with disability and/ chronic illness. All participants, across different types of disabilities and chronic health conditions, simply learned to accept that their future would naturally involve more uncertainties and unpredictable outcomes. Immersion in clinical learning environments proved that not all necessary accommodations could be implemented in hospital settings. Embracing uncertainty also meant taking a leave of absence due to sudden health-related emergencies, without knowing whether one would be able to return to training.

Each participant shared how he or she coped with uncertainties surrounding disclosure. The experience of disclosure varied across participants. Some highly endorsed disclosing as an act of self-advocacy as long as confidentiality was maintained. They wanted to establish trust with those who would be aware of their condition and develop a sufficient amount of confidence to confront potential social stigma. Some chose not to disclose all together. For them, not having to disclose was a source of freedom and empowerment that granted them more control by not having to “label” themselves with a category of disability and/ chronic health condition. Some disclosed strategically with an approach, only when necessary. An example of strategic disclosure was a student with disability disclosing his or her condition to a preceptor before or during clinical

evaluation by explaining why he or she would perform certain procedures differently. Ideally, the student and preceptor would negotiate what would be acceptable prior to examination, often with mediation from the accessibility services.

Notably, different types of disabilities and/ chronic health conditions influenced how one dealt with disclosure. Not surprisingly, participants with visible/physical conditions were more likely to disclose than those who had invisible or mental health conditions. Assurance of confidentiality was important for all participants as many shared doubts and fears of being discriminated against in the health care sector. Consistent with Brown's research on vulnerability and shame (Brown, 2006), their resilience development required a willingness to be comfortable with the unpredictable dynamics of clinical environments.

### **Intrinsic Resources**

Cognitive flexibility is positively correlated to resiliency (Genet & Siemer, 2011). Being flexible and adaptable helped many participants to advocate for themselves by establishing strong support networks through trust and long-term relationships. Internally, the process of navigating through their support system enabled them to understand their own strengths and limitations. It helped them to recognize that denying weaknesses would be dysfunctional. Careful introspection through reflection was an opportunity for them to understand the sources of their motivation and what gave them meaning in life. In fact, as Ryan and Deci discovered (2003), the students' internally oriented, autonomous drive propelled them to persevere despite facing fatigue, discrimination and/ institutional barriers.

As a result, reflecting on self emerged as another sub-category that underpinned the Category of examining available extrinsic and intrinsic support systems and resources. Again, it was not an intuitive process. This deliberate reflection required slowing down to willingly engage in cognitively demanding System 2 thinking process. Only then, integration of available assets became possible.

### **Category 3 The Power of Creativity: integrating available internal and external resources**

Self-reflection emerged as one potential underlying mechanism driving the process of creative resilience development. Under the same headings mentioned previously (extrinsic, resilience development and intrinsic), codes and sub-categories that form the building blocks of this Category will be discussed.

#### **Extrinsic**

Externally, medical students with disabilities shared the experience of learning to become comfortable with ambiguity. Quite often, accommodation strategies developed in one context had to be modified for a different context in a program as dynamic as medicine. Sometimes, much needed accommodations were simply not feasible to implement. For instance, one participant with a learning disability shared that having an extra time for clinical skills evaluation would be impractical because that extra time would not reflect the reality of his work environment. Especially when considering patient safety, one had to decide whether to alter accommodation strategies or pursue a different specialty all together. One participant with physical disability shared his previous interest in pursuing surgery. However, due to his limitations, he realized that it

would be very difficult and laborious for him to learn and perform sophisticated skills later on in residency. As a result, this individual decided not to pursue this particular specialty. For him, the decision factor was quite simple. At the end of the day, he wanted to heal patients - not put anybody at potential risk because he needed to alter how the procedures are performed.

This exercise of becoming comfortable with ambiguity expanded and refined participants' cognitive flexibility. Over time, they learned to appreciate different approaches and perspectives towards devising accommodation strategies. In addition, they also learned to refrain from projecting their values and views on other people. Through this openness towards ambiguity developed while navigating through the uncertainties of their lives, they became empathetic and compassionate for those who were in similar circumstances. And this realization often motivated them to give back in whatever way they could. Some students became mentors for students who come from similar ethnic and/ socio-economic backgrounds. Some students began to grow an interest in specific marginalized groups of patients. Some students started leading workshops for parents who have children with disabilities and/ chronic health conditions. There was a genuine sense of optimism and empathy demonstrated by these students, as they were broadening their personal lens looking at the world while grappling with their own uncertainties and ambiguities of life. As a result, handling an uncertain and highly dynamic external environment led to the sub-category of *letting go of control* and embracing what is unknown.

**Resilience Development**

Problem solving emerged as one of the active ingredients of resilience development. Devising strategies to make improvements by asking *why* and figuring out *how* was crucial. Anticipating potential challenges by being proactive about learning needs in advance was important as these students transitioned into highly dynamic clinical learning environments. Ideally, this transition was beneficial if it was prepared for early in advance, while taking appropriate steps to ensure that necessary accommodations would be feasible.

Moreover, this process of identifying and recognizing learning needs was at times coupled with active collaboration between learner, program and student accessibility services. Anticipating and recognizing barriers was critical in developing a problem-solving model that was most empowering for a particular individual. Often, this collaboration was hindered due to institutional barriers such as a lack of communication between the student, accessibility services and the program, as well as attitudinal barriers such as social stigma towards students with disabilities pursuing medicine. Nonetheless, once this active partnership was established with open disclosure of disability, coupled with inclusive environment and assurance of confidentiality by the program, some participants with disabilities thrived in their dynamic learning environment. Some became creative and began to develop, together with their preceptors and program administrators, a unique set of strategies and approaches that would enable their training. Some participants shared being surprised by the overwhelming amount of support and guidance provided by their preceptors, other health professionals in the team, as well as colleagues. On the other hand, some participants shared experiences of becoming

discriminated against because they openly disclosed their experiences to those around them. They ended up becoming more reserved as a result of this encounter.

Nonetheless, these varying experiences of problem solving formed the sub-category of *developing coping skills* by patiently assessing progress in achieving accessibility. Careful reflection on what was working effectively and what needed to change was an iterative and highly context-dependent process.

### **Intrinsic**

Individual interviews revealed that strategic integration of both intrinsic and extrinsic resources required creativity and individuality. Many of these students were forced to think differently. In fact, they became comfortable deviating from the norm. Devising unconventional approaches to learning seemed exhausting yet an extremely rewarding experience for them. Various cultural influences affected how accommodation strategies were developed. Some embraced making connections with those around them while negotiating for accessibility, while others felt most empowered by staying independent and reserved without disclosing disability. Whichever approach was selected, he or she discovered the parameters of empowerment that was most satisfying for them. One's interpretation of optimal integration of available assets (extrinsic and intrinsic resources) to maximize potential was highly personal. Essentially, each person constructed what he or she perceived as most empowering.

Becoming self-determined and purpose-driven emerged as another code addressing how participants managed to integrate available resources most creatively. Successful integration required more than just creativity. Particularly, it required

discipline and commitment to be able to execute those creative ideas and implement them appropriately.

Lastly, monitoring self through reflection enabled development of *creative* resilience. Many participants shared that they were able to devise strategies most effectively when they first reflected and thought about their learning needs. As a result, the third sub-category was labeled as *exercising creativity*. Ultimately, it enabled self-actualization and fuelled self-resiliency. Also, exercising creativity ensured that the process of creative resilience was a sustainable working model of empowerment. The ability to utilize fully one's gift of creativity enabled participants to transfer this skill across multiple clinical contexts as they frequently faced new challenges in regards to accessibility. Through creativity, they learned to integrate available resources effectively in a manner that would maximize potential.

### **Finding the Zone of Empowerment**

Many participants experienced what one participant described as a life pause upon receiving their diagnosis. This occurred either at the point of initial diagnosis or intermittently throughout their lives due to co-morbid conditions. These students shared experiencing a state of cognitive dissonance, as their physical and/ psychological differences seem to be slowing them down when other young adults were eagerly pursuing life at the time. In the rehabilitation science literature, Schwartz and Drotar (2006) discussed the concept of health-related hindrance (e.g. "the impact of health on goal pursuit") (Schwartz & Drotar, 2005 cited in Schwartz & Drotar, 2006, p.397) stating that the presence of a disability and/ chronic health condition may interfere with goal-setting processes and goal-directed behaviours. This phenomenon (health-related

hindrance) was observed through the narratives of participants with chronic health conditions as they described initially feeling angry and disappointed towards their diagnosis. One participant labeled this period, an involuntary life pause. The following excerpts demonstrate their initial reaction towards their diagnosis:

“Just thinking back to some of those times in the hospital room there, I would look out the window and I would see people going about doing just daily things, just even taking a walk. And, for me, even taking a walk, it’s a challenge. Is it going to hurt to get up after surgery because of the pain? Do I have all my machines? Is something beeping? Do I have to be in the room on a certain schedule to make sure the nurse can give me my medication? Just because it was so long and so intense and so many bad things happened there, like I had so many complications, I just couldn’t imagine saying in that moment I’ll come back and work here.” (P6)

“On the days that I felt really bad, I would reflect on if I would ever get out...how will I deal with the aftermath of my condition when I’m free to do so? And, then I thought about just do I even go back to undergrad?” (P6)

For others, receiving a diagnosis was a relief and huge validation towards what they had been experiencing unwittingly all those years. In fact, the initial reaction towards newly diagnosed disability and/ chronic health condition varied across individuals. Some embraced change while others adopted immediate coping strategies to regain normalcy (e.g. ignoring invisible chronic condition or resorting to drugs and other substance abuse to cope with co-morbid symptoms). The spectrum of responses seemed to be influenced by the type of disability and/chronic condition, age and cultural background of each participant. Those who were diagnosed with visible conditions were more likely to accept the change in their lives. Those with invisible conditions seemed to have a more difficult time legitimizing their disability and also shared experiencing more stigma and discrimination. Older participants were observed to reflect more often on their experience living with chronic illness and struggled to understand what brought meaning in their lives. Each participant’s cultural background and ethnicity influenced how he or

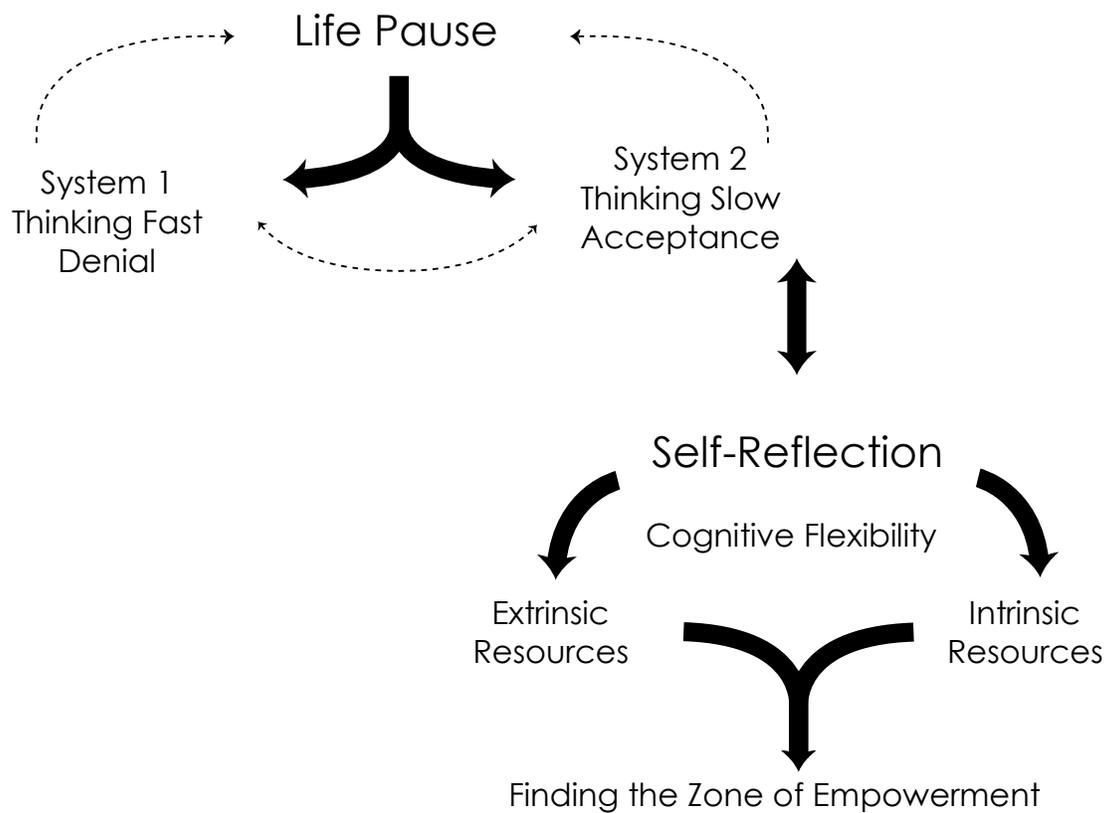
she viewed and accepted disability (e.g. collective vs. individualistic society). It also influenced the types of available support resources he or she accessed and coping strategies generated.

The participants' response towards change reflected Daniel Kahneman's work on the dual processing theory (Kahneman, 2011). Kahneman proposed that System 1 Thinking is an automatic and instinctive cognitive process. During the analysis of the study results, denying one's diagnosis was proposed as the typical response (System 1 thinking) elicited by the majority of participants upon initially encountering change that slowed down the pace of their lives.

Life pause was long for some and short for others. Some endured intermittent pauses throughout their lives because of their disability and/ chronic health condition. However, slowing down enabled participants to reflect carefully on their disability and how it will impact their present lives and future going forward. Many of the participants were in their early 20s at the time of diagnosis and experienced difficulty accepting physical and/ psychological vulnerabilities. Unfortunately for some participants, denying their condition (System 1 thinking) led to health-related emergencies that resulted in subsequent hospitalization. Others engaged in dysfunctional coping strategies such as substance abuse. Zautra, Hall & Murray (2010) articulated that, "Denial can turn ordinary experiences into nightmares, a dynamic that influences our emotional lives in unpredictable ways, sometimes leaving us more troubles than the original experience." (p.35).

Denying a difficult diagnosis in an attempt to regain normalcy has been documented in the literature on breaking bad news (Rabinowitz & Peirson, 2006; Druss & Douglas, 1988). In fact, some participants shared that they pressed on despite

compromising health because they wanted to prove to others that their disability would not pose limitations on what they can do. Figure 1 below outlines this specific response from the Zone of Empowerment Theory. *Denial* was labeled under a System 1 thinking process to a newly diagnosed condition (upper left). System 1 thinking, also known as automatic intuition, is Kahneman’s interpretation of the Dual Process Theory (Kahneman, 2003). He proposed that there are two types of cognitive processing that occur simultaneously in our minds: 1) intuition (system 1) and 2) reasoning (system 2). System 1 is immediate and instinctive, typically accompanied by a strong visceral component. On the other hand, System 2 is more slow and effortful, requiring logical and conscious reasoning.



**Figure 1.** The Zone of Empowerment Theory

Moreover, there were individuals who took a slightly different approach upon receiving their diagnosis. For instance, one student shared that, despite experiencing trauma, she wanted to *live through* the experience of suffering without numbing any of it. In other words, there was no denial of her would-be chronic health condition. Instead, she simply accepted her unpredictable reality. This acceptance came upon slowing down and reflecting carefully on what had happened. As a result, in Figure 1 provided above (upper right), accepting change was interpreted and labeled as a System 2 way of responding to a newly diagnosed condition.

One participant (P6) who learned to let go of her dream of becoming a doctor after hospitalization fully embraced change in her life and accepted it (System 2 thinking). After the initial hospital stay, she was traumatized by the experience and started to associate hospital with her being sick. As a result, she let go of her high school dream of becoming a doctor. Furthermore, she began to reconcile with letting go. This letting go took a considerable level of maturity in realizing different career options that were more feasible and acceptable at the time for her. I found it interesting that she did not abandon the thought of pursuing medicine completely and it was somehow always at the back of her mind. She took up volunteering in hospitals to test whether she could disassociate hospital from her painful experience. At the same time, struggles of dealing with chronic illness taught her something. Although it was overwhelming at times, her volunteering experience at the hospitals helped her to accept that humans are vulnerable to accidents, sickness and illness. While processing her own traumatic experience, she learned to overcome her fear of uncertainty surrounding her condition.

Overtime, all participants learned to accept disability and/ the chronic health condition as a part of their identity. Importantly, System 1 and System 2 thinking did not occur independently. Instead, one deliberately chose to focus on System 2 (reasoning) by overcoming the natural tendency to rely typically on System 1 (intuition). Eventually, through slowing down and accepting change, they began to rely more on System 2 reasoning in order to seek accessibility in their training and overcome potential barriers.

Accepting change was possible through slowing down. One noteworthy observation was made on how participants journeyed through this life pause. Instead of being discouraged because of health-related hindrance, they asked what could be learned from their experience and how they would confront uncertainty surrounding their disability. They deliberately chose to participate in this introspective exercise through active self-reflection. For them, accepting change meant accepting their own vulnerabilities. It also meant carefully navigating through their support system and available resources. Finally, participants learned to recognize their strengths and limitations through honest introspection.

Each participant's creativity in finding strategies that were most empowering in terms of restoring a sense of self emerged as an intriguing aspect of resilience development. Deliberately optimizing one's situation was a rare quality. This skill was not always demonstrated by those who experience challenges and barriers due to disability and/ chronic health condition. Only through hope of renewed self and future, this innovative exercise that they embodied within themselves allowed them (Deegan, 1988).

**Revisiting sensitizing concepts****Resilience framework**

Howe, Smajdor & Stockl (2012) discussed the concept of resilience and its potential relevance in medicine. They outlined dimensions of resilience (e.g. self-efficacy, self-control, ability to engage support and help, learning from difficulties and persistence despite experiencing obstacles) along with implications for medical education. Resilience was defined as, “a dynamic capability, which can allow people to thrive on challenges, given appropriate social and personal contexts (Howe et al., 2012, p.349.” They further suggested that more research is needed on how resilience can be identified, fostered and promoted for trainees more broadly than medical schools.

From the developmental psychology literature, Masten (2001) explored the concept of resilience by studying children who demonstrated “positive patterns of adaptation in the context of past or present adversity” (Masten, 2005, p. 227). She observed children who thrived despite living in impoverished environments and identified protective factors that enabled them to develop resilience. According to Masten, these factors include: 1) good intellectual and attention skills, 2) agreeable personality in childhood, 3) achievement motivation and conscientiousness, 4) lower stress reactivity, 5) parenting quality in childhood and adolescence and 6) positive self concept. Encouraging conclusions from her study state that these protective ingredients are ordinary elements of life that can be fostered universally across children with different backgrounds (p.233). Furthermore, Masten suggested that resilience is not some special ability reserved only for gifted and talented students. Instead, she argued that anybody could develop resilience with willingness, a strong work ethic and appropriate

support networks.

The literature review on resilience research by Fletcher & Sarkar (2013) suggested that medical students may be more independent learners and for this particular group of students, their resilience development may not be strongly environment-dependent (e.g. relying heavily on external support). They discussed Dunn, Iglewicz and Moutier's study (2008) on promoting medical students' resilience development and preventing burnout in the context of medical education. Dunn et al. presented the conceptual model of medical student wellbeing (the "Coping Reservoir") and emphasized that individual personality and temperament are critical ingredients for resilience development. The medical students who participated in this study have also developed tremendous resilience throughout their lives while confronting institutional and attitudinal barriers. The programs and educators can help further to foster their already-developed resilience. Otherwise-qualified students with disabilities could potentially thrive with highly individualized accommodations, coupled with learner-centered approaches to accessibility.

### **Empowerment theory**

One definition of empowerment is "a process by which people, organizations, and communities gain mastery over issues of concern to them" (Rappaport, 1987, cited and rephrased in Zimmerman, 1995, p.581). This theory served as one of the three initial sensitizing concepts discussed in the literature review chapter, along with self-determination theory and resilience theory. The subsequent data analysis with the concept of empowerment revealed that it could serve as an outcome of resilience development.

Through the process of becoming resilient, participants discovered occupational activities that truly brought meaning to them.

External support systems included affirmation and encouragement received from family members. Some without a strong family network received guidance from close mentors. Friends and colleagues also provided social connections for participants as they struggled at times to maintain normalcy. The sense of belonging and acceptance was important as it boosted participants' determination to persevere in spite of experiencing institutional and attitudinal barriers.

External resources included available tools utilized by participants to ensure accessibility. Examples include seeking the help of professional educational consultants to devise learning strategies and enhance advocacy skills for negotiating necessary accommodations. Almost all participants accessed Student Affairs and/ accessibility services to receive a wealth of resources that would help them to navigate their new learning environment.

### **Self-determination theory (Ryan and Deci, 2000)**

Self-determination theory (SDT) is a macro-theory of human motivation. It focuses on basic human development issues such as universal psychological needs, one's life goals and aspiration, sources of motivation, cultural influences on different types of motivation and the role of social environments on motivation. Since mid 1980s, this theory has been applied across multiple domains of life from education, sports, work, to interpersonal relationships.

The main hypothesis of this theory is that the type or quality –rather than the amount- of one's motivation is a critical predictor of many behavioural outcomes. The

examples of these outcomes include psychological and physical wellbeing, effective performance, creative problem solving, and conceptual (deep) learning (Ryan & Deci, 2008). It also addresses basic psychological needs (autonomy, competency and relatedness) of humans that are universal across different cultures. Williams, Saizow and Ryan (1999) explored the importance of self-determination theory for medical education. They explained self-determination theory as a theory of intrinsic motivation that was distinct from motivation driven by external rewards (e.g. grades and promotion). Accordingly to Williams et al. (1999), two types of motivators lead to different outcomes: 1) controlled motivation typically endorsed by others, and 2) autonomous motivation typically endorsed by self. This article focused specifically on the impact of autonomy and aimed to define supportive the medical education context that would genuinely motivate students and enhance health care delivery.

Various motivating factors were examined to determine their impact on students' resilience to adversity. The distinct feature of SDT that sets it apart from other motivation theories is the comparison of two major types of motivation mentioned previously by Williams et al. (1999): autonomous and controlled motivation. Autonomous motivation consists of both intrinsic motivation (motivation that comes from within the individual), as well as internalized extrinsic motivation (e.g. appreciating an activity for the experience rather than its rewards). Autonomously motivated individuals voluntarily self-endorse their actions. On the other hand, controlled motivation is driven by external regulation. For instance, one's behavior would be dependent on external reward or punishment.

With intrinsic motivation, all participants in this study voluntarily sought to discover optimal ways to maximize their psychological empowerment. Thus, the major concept emerged in this study was *finding the zone of empowerment*. Each participant shared their own stories of journeying through different education systems to discern what brought them meaningful purpose in life. This process led them to experience psychological empowerment as they were motivated by factors that were not contingent upon extrinsic rewards (e.g. grade and status quo). Instead, these students carefully examined resources that would enable their training and optimize those assets in a manner that was personally empowering for them. Therefore, the theory that emerged through this set of data was named the zone of empowerment theory.

The definition of zone is, “an area or stretch of land having a particular characteristic, purpose, or use, or subject to particular restrictions” (Dictionary, O. E., 1989). Each person established his or her zone of empowerment every time different challenges arose and the availability of resources changed from one context to another. This process was iterative as the availability of both extrinsic and intrinsic assets varied throughout their lives. However, their working model of discerning resources and maximizing their potential was refined and strengthened over time.

The original research question was:

*How do medical students with disabilities communicate their learning needs and negotiate necessary accommodations with the Student Accessibility Services and/or the MD program?*

In order to reflect whether the emerged theory answers this research question, three major categories discussed in this chapter are re-emphasized. First, successful

implementation of accommodations required collaborative dialogue between stakeholders (e.g. programs, accessibility services, educators and students) to devise feasible action plans for promoting access with a learner-centered focus. Second, students carefully examined their strengths and weaknesses in order to discern available resources and support networks that would enable access to their training. Third, students continuously used creativity in order to integrate those available resources by maximizing their potential. Slowing down and mindfulness self-reflection were the key ingredients driving this process of creative resilience development. Through these human capacities, students were able to develop appropriate accommodation strategies and negotiate for an accessible learning environment.

In terms of the overall feedback about accessibility, the participants genuinely expressed appreciation for their program and accessibility services' willingness to provide accommodations for students with disabilities pursuing medicine. They also emphasized the importance of having a safe space for disclosure that would ensure confidentiality. Challenges of devising accommodation strategies during clerkship were noted by all participants as they were rarely documented for future reference. Typically, they were devised on a case-by-case basis. There were no known archived accommodation strategies for health professional students in clinical learning environments in Canadian medical schools and other health professional programs that could be located. Having a diverse student population in medical schools would benefit not just those from marginalized groups. Instead, it would ideally enhance cultural competency for the entire student body so that they can become culturally sensitive to various patient groups.

## **Study Strengths and Areas of Limitation**

### **Strengths**

Surprisingly, there was no Canadian study conducted on this topic, with the exception of the descriptive quantitative study done by Young et al., (2012) examining broader student diversity issues within medical education.

Furthermore, there was no qualitative study examining personal narratives of undergraduate medical students with disabilities and/chronic health condition in the literature. Previously published articles on program accessibility in medical education were predominantly quantitative, with the majority of studies being surveys (e.g. Miller et al., 2009; Young et al., 2012; Moustakis et al., 2010). Although this body of research provided an excellent snap shot of the kinds of issues currently faced by medical school administrators and students with disabilities, the stories behind the lived experiences of these students were not explored. In response to this limitation, the thesis aimed to understand in-depth narratives of students with disabilities pursuing medicine and how they confronted potential institutional and attitudinal barriers as they learned to negotiate accommodations that would enable access to their training. Based on the resilience framework, this study adopted a strength-focused approach rather than a deficit-focused model that typically accompanied studies aiming to discern areas for improvement related to accessibility. It essentially aimed to answer, what are the strengths of students with disabilities pursuing medicine and what can we learn from them?

The zone of empowerment theory incorporates an individualized approach to empowerment by acknowledging that everyone's definition and experience of empowerment varies. Specifically, person-centered narratives served as the focus of this

thesis by aiming to understand how each participant discovered coping strategies that were personally meaningful to them. This journey of developing resilience by finding one's zone of empowerment was highly dependent upon contextual factors such as type of disability, age, socio-economic background, ethnicity, individual temperament and personality, as well as attitude towards disclosure and self-advocacy.

Careful attention was paid towards ensuring trustworthiness of data through iterative member checking and being transparent about the research process. Almost all participants played an active role in ensuring the accuracy of data collection and subsequent analysis. Upon initial thematic analysis of raw data, all participants were invited to provide feedback on emerged codes. Opportunities to review transcripts and make appropriate amendments were provided. Furthermore, transparency of the research process was maintained through reflexivity. After the initial set of interviews, preliminary analysis revealed that at times, I was projecting my beliefs onto participants' stories because of my own experience living with disability. For the subsequent interviews, extensive bracketing was exercised by continuously asking, "am I forcing what I believe is right onto my participants' voice?"; "are my questions leading?"; "am I interrupting their responses?" As I carefully examined how the interviews were facilitated, some of the leading questions in the conversations were noted. Additionally, transparency was established with all participants as I revealed to them about my own disability and the personal motive behind this study with my interest in program accessibility research. I personally believe that disclosing to participants about my disability helped me to build rapport with them quickly. It helped identify a shared experience to which both could relate in the limited timeframe together.

**Limitations**

The sample size posed limitation on transferability of the research findings in different contexts. A convenience sampling strategy was used to recruit participants for this study. The recruitment was possible from only certain schools in Ontario, with representation of limited number of conditions. Nonetheless, the rationale behind this approach was based upon the limited number of medical students with disabilities and/chronic health conditions. Member checking de-contextualized some elements of personal narratives shared by participants. Moreover, intriguing details of their stories were removed to maintain strict participant confidentiality. One transcript was amended in this study. This study was a cross-sectional, qualitative analysis of the lived experiences of medical students with disabilities. Although the narratives shared by participants spanned the course of their lifetime, the analysis was limited to retrospective memories of participants at the time of interview.

Due to the scope of this study (master level thesis), stories were limited to those shared by undergraduate medical students. There was no opportunity to triangulate the data through interviews with other secondary participants. More specifically, no faculty, program administrators, residents, physicians' perspectives were explored. Also, the viewpoints on program accessibility of medical students without disabilities were not explored in this study. Finally, one researcher conducted the analysis of data. Therefore, primary interpretations of the data were limited to a one-person point of view.

**Future research directions**

The zone of empowerment theory provides a working model of resilience that could be explored further across multiple contexts and time. However, further research is

needed to delineate how one specifically integrates available extrinsic and intrinsic resources. In other words, understanding detailed mechanisms behind optimizing resources could provide additional insights on fostering empowerment for learners. Additionally, empowerment as a construct of process and/ outcome should be defined more clearly. Specifically, its impact on students' resilience development must be measured both qualitatively and quantitatively for trustworthiness, reliability and validity. In other words, the properties of different outcomes and processes of empowerment should be delineated.

### *Implications and Recommendations*

#### i. Archive of existing accommodation strategies

One of the most tangible implications of this study would be to systematically archive existing accommodation strategies in health professions education contexts. However, it should be done without compromising learner-centered approaches to accessibility. As one participant emphasized, a set of previously implemented accommodations should never become a menu of strategies that would promote a cookie-cutter method where individual strengths and limitations, as well as his or her unique circumstances are not fully taken into consideration.

#### ii. Anonymous information sharing

Experiences of accommodating medical students with disabilities should be shared anonymously across institutions and educational programs, regardless whether the accommodations were implemented successfully, in order that ineffective strategies are avoided and redundant effort for developing previously utilized accommodations are minimized. Traditional accommodation strategies in academic classroom settings may no

longer be feasible in clinical learning environments. Both educators in health professional programs (including medicine) and accessibility services should be aware of this discrepancy and prepare students with disabilities for clinical transition early in their training. Proactive anticipation of potential barriers and challenges is one of the most critical elements of a smooth transition.

iii. Building relationships and partnerships

One of the common themes that emerged from the interviews was the need for a closer partnership between the medical program and accessibility services. Some students experienced discrepancy between different expectations and experienced confusion as to which accommodations were deemed acceptable. Program deans could mediate between the two services so that consistent support is given to students.

iv. Cultural shifts

More globally, there is a strong impetus for a cultural shift in medical education. Systematic and operational ways, of ensuring accessibility, merit more discussions towards raising disability awareness within the medical culture. By normalizing disability experience amongst faculty and students through cultural competency trainings within the curriculum, social stigma towards health professionals with disabilities may be minimized. Both programs, as well as students with disabilities have the responsibility to advocate for accessibility by clearly articulating its importance, especially for those who may not be familiar with the issue. Perhaps over time, the invincible culture of medicine may slowly dissipate and requesting accommodations can be made without the fear of discrimination. Potential areas for future studies similar in design include providing broad definitions of disability, such as clearly stating that the term disability can encompass all

physical, developmental, learning as well as mental and chronic health conditions in accordance with the definition provided by the Accessibility for Ontarians with Disabilities Act (2005). Those with mental health or chronic health conditions do not necessarily consider themselves as having a disability and may perceive accessibility differently from those with physical or learning disabilities. Consulting the MD program administrators and the Student Accessibility Services Director during the initial stages of this study was critical for successful recruitment because they were the gatekeepers who provided access to potential participants. Preserving participants' narratives without impinging personal experience living with disability on their voices was important. Staying connected with participants during data analysis was critical to ensure trustworthiness of data by asking them to validate collected data and the subsequent interpretation. The disclosure of my own experiences seemed to resonate closely with my participants and it built rapport and trust with them quickly in the limited amount of direct encounter time

v. Accessible admissions processes and criteria

The goal of Accessibility for Ontarians with Disabilities Act is to make Ontario accessible by 2025. Medical schools within Ontario and across Canada should ensure that their admission criteria are accessible to potential applicants from marginalized groups. Special consideration option for application process has been incorporated in some institutions and those schools without this policy are invited to consider introducing it. Technical standard requirements to practice medicine should be reviewed to ensure that the terms and conditions of these documents are not placing unnecessary barriers to otherwise-qualified applicants with disabilities.

Accessibility for medical trainees and health professionals with disabilities is necessary as the health care field consists of qualified and dedicated individuals from diverse backgrounds. This observation emphasizes that the student diversity present in medical schools merits further research. Most importantly, diminishing social stigma towards health professionals with disabilities is imperative. Endorsement of cross-departmental and institutional collaboration that enables dissemination of cost-effective and comprehensive accommodation strategies is recommended.

### **Summary**

The journey of establishing the zone of empowerment began with an acceptance of one's reality through a life pause. Slowing down upon receiving medical diagnosis, as well as experiencing a series of hospitalizations eventually enabled all participants to embrace their vulnerabilities and live fully with their chronic health conditions. Accepting change was a deliberate choice that was possible because of mindfulness self-reflection exercised on a regular basis. They used this careful introspection to examine and integrate available extrinsic and intrinsic resources in a manner that would maximize their potential. Participants demonstrated a sense of maturity and appreciation over time about their experience as medical trainees with disabilities and/ chronic health conditions pursuing one of the most demanding professional careers. In short, they seem to be content with where they are now and who they have become as a result of this understanding of self-empowerment.

The field of medical education provided a unique context for exploring a number of intriguing domains. First, the invincible culture of medicine was discussed in light of a current cultural shift towards valuing medical trainee and physician wellness, in spite of

discriminating attitudes towards health professionals who seek any form of accommodations or assistance. Second, this study aimed to understand highly motivated students and how they reconciled with cognitive dissonance upon experiencing forced life pause because of disability and/ chronic health condition. Third, careful examination of available extrinsic support and resources were explored along with each participant's intrinsic motivation, positive temperament and strong interpersonal skills that enabled successful negotiation for various accommodations. Their experience dealing with constant challenges and uncertainty led them to develop strong empathy and remarkable compassion for those who are vulnerable and marginalized in our society. Finally, their adaptability in responding to dynamic learning contexts and knowing how to best utilize available resources is worth noting. This creative process became strengthened and solidified across individuals as they focused on discerning what personally empowers them the most.

## **Chapter 6**

### **Conclusion**

The beginning of this thesis provided the foundation for a fascinating and multifaceted examination of students with disabilities within the Canadian medical education context focusing upon the construct of resilience. The research question was presented with person-centered narratives of students with disabilities pursuing medicine. By moving away from deficit-focused approaches of tackling program accessibility challenges, the strengths and determination of students with disabilities pursuing medicine were examined. Specifically, undergraduate medical students with disabilities who demonstrated notable resilience to pursue one of the most demanding professional careers were selected and factors were delineated that enabled them to persevere despite experiencing many barriers. Empowerment theory (Zimmerman, 1995), as well as self-determination theory (Ryan & Deci, 2000) and resilience theory (Masten, 2001) served as critical sensitizing concepts to inform and enhance understanding of specific properties of the students' support systems and intrinsic motivation.

The increased number of students with disabilities matriculating into higher education was discussed in the light of Accessibility for Ontarians with Disabilities Act (AODA, 2005). There was a paucity of literature on this topic with limited evidence-based empirical studies exploring program accessibility, inclusion and student diversity in medical education context.

The initial literature review revealed program accessibility challenges on how to accommodate students with disabilities in clinical learning environments. The process behind the students' development of resilience was explored in spite of being prepared to face multiple potential barriers. The source of motivation and the particular properties of

this drive and tenacity were examined in conjunction with their adaptive creativity.

Social constructivism was introduced as the underlying philosophical worldview behind Charmaz's Constructivist grounded theory methodology. The methodological assumption was that all shared narratives are actively shaped and constructed by participants' beliefs, values, cultural backgrounds and life experiences. Furthermore, it was acknowledged that the researcher is not free from his or her biases while interpreting collected data. Being transparent about these influences was critical to ensuring trustworthiness of data. Challenges and limitations of maintaining transparency while ensuring participant confidentiality were also shared. Establishing trust and member checking with the students was shown to be crucial while tackling these key ethical dilemmas related to conducting qualitative research.

Participants' demographic information was presented with close attention paid to the need for confidentiality. The Zone of Empowerment theory was outlined by employing a table of categories and supported by direct quotations from participants. Major emergent categories included: 1) creating a dialogue and devising feasible learner-centered accommodation strategies, 2) examining available extrinsic and intrinsic resources and 3) optimizing available extrinsic and intrinsic resources. The delineated major concept was *finding the zone of empowerment*: each participant integrated and utilized available resources in a manner that was most empowering for him or her. Most surprising elements were: 1) the value of slowing down during life pause because it fostered self-reflection across participants and 2) self-reflection because it was the most important underlying mechanism driving the development of creative resilience. Accepting change instead of denying it initiated this journey of intrapersonal

empowerment. Importantly, one's particular zone of empowerment was always changing, depending upon circumstance, different clinical contexts, individual personalities and available extrinsic and intrinsic resources. Over time, participants became better at and more comfortable with establishing the boundaries of this zone by figuring out their own working models of empowerment.

The perspectives of medical students with disabilities about program accessibility and the development of resilience to challenge barriers were explored in this thesis. Their stories traversed a path of triumphs and failures confronting obstacles and hardship. They also shared unexpected moments of empowerment and encouragement. Simply put, tackling complex questions surrounding program accessibility in medical education needs to be informed by an exploration of the personal narratives of students with disabilities pursuing medicine. Their resilience, self-determination and grit developed through years of hard work needs to be studied carefully to understand the deliberate choices these students made to create meaning out of their experiences. By focusing on personhood, an understanding may be reached, from a learner-centered perspective, of what enables and hinders students with disabilities from experiencing equal access to medical education.

The essence of the zone of empowerment theory lies within the creative process of capitalizing on available assets. In the context of medical education, it is a highly dynamic endeavour requiring a tremendous amount of cognitive flexibility and adaptability. This journey of discovering one's working model of self-empowerment is reserved exclusively for those who are committed to developing and fine-tuning resiliency. It is not an intuitive process and requires a strong work ethic, as well as genuine courage and determination to think and act beyond what is expected.

Discovering one's zone of empowerment is a deeply personal and transforming experience. The most surprising element in this thesis was the power of self-reflection that was possible through deliberate attention being paid to slowing-down one's life. For many of the participants, self-actualization was accomplished through such a commitment to a deliberate experience.

Potential implications for program accessibility emerged including: 1) recommendations for devising clerkship accommodation strategies, 2) the need for *accessible* resources for accessibility, 3) disability awareness training and 4) the impact of invincible culture of medicine on medical trainees with disabilities requesting accommodations. Participants' feedback on accessibility within the realm of the medical school admissions process was shared. The strengths and limitations of this thesis were discussed together with future areas of research that will ensure the enhancement of student diversity and inclusion within medical education.

### **My story**

The impetus for this ambitious yet curious inquiry started with my own disability. Accepting change meant re-establishing goals and priorities, as well as redefining my professional identity to make meaning out of my life again.

And this thesis served as a part of my journey, trying to envision what that renewed purpose would be. I share my story here because I hope that my own experience that was brought into this research living with disability along with many associated barriers will contribute towards grappling with the question of accessibility in health professions education settings and push towards promoting inclusion for otherwise-qualified, differently-abled students striving to become health care providers.

Many administrators agree that providing accommodations for medical students with disabilities can be challenging in clinical learning environments - as demonstrated through the paucity of literature on program accessibility in medical education.

Therefore, this issue was explored using the narratives of students with disabilities who are enrolled currently in medical programs. Charmaz's interpretation of grounded theory methodology was applied in this study, taking into account its philosophical worldview of social constructivism. The process of how participants developed resilience through their own creativity was studied to understand the driving mechanisms behind this process.

### **Reflection**

My personal reflections on this study include three important lessons. First, the value of slowing down was realized through the dual process theory (Kahneman, 2003). It appears that most people are uncomfortable with life pauses. Perhaps, engaging in System 2 thinking is cognitively demanding, significantly slower and more effortful. Perhaps, one must fight against his or her usual tendency to seek the fastest and most efficient pathways to life. However, many participants shared their own insights that through slowing down and accepting change in their lives, they were able to devise creative approaches to ensuring accessibility. Second, mindfulness and self-reflection were crucial ingredients underlying their creative outlook on life that enabled development of resilience. This research journey comes to an end with the picture of a turtle on a fence post (see Figure 6 provided below). American writer Alex Haley once said, "Anytime you see a turtle up on top of a fence post, you know he had some help." The process of creative resilience is an individualized and personalized approach to self-

empowerment. However, one can never accomplish this alone. The extraordinary individuals in this study shared ordinary stories of their lives being transformed by those who simply listened and cared for them with respect and kindness. All of us potentially have this privilege and capacity to empower and be empowered by others.



**Figure 2. Turtle on a fence**

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**Appendixes**



**APPENDIX I**

***LETTER OF INFORMATION / CONSENT***

**A Study of/about:**

**The Process of Creative Resilience:  
*Experiences of Medical Students with Disabilities and Accessibility in Medical  
Education***

\*Part of the study titled: An Analysis of the Diversity of McMaster University Medical Students

**Investigators: Hee-Jin Kim, Dr. Kelly Dore & Dr. Bonny Jung**

**Student Investigator:**

Hee-Jin Kim (Master's candidate)  
Health Science Education Program  
McMaster University  
Hamilton, Ontario, Canada  
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**Faculty Co-Supervisors:**

Dr. Kelly Dore  
Program for Research and Educational Development (PERD)  
Michael G.DeGroot Centre for Learning (MDCL)  
McMaster University  
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Dr. Bonny Jung

School of Rehabilitation Science  
Institute for Applied Health Science (IAHS)  
McMaster University  
Phone: (905) 525-9140 ext. 27807 Fax: (905) 524-0069 Office: Rm.446, IAHS  
Email: jungb@mcmaster.ca

**Purpose of the Study**

As part of a graduate student's thesis from M.Sc. in Health Science Education program, we are exploring program accessibility through the lens of medical students with disabilities in the Undergraduate MD program from any affiliated Canadian universities. My co-supervisors are Dr. Bonny Jung (School of Rehabilitation Science) and Dr. Kelly

Dore (Program for Educational Research and Development). This research is being conducted with the approval of Hamilton Integrated Research Ethics Board.

The purpose of this study is to understand the process of resilience development in the health professions education setting through the experiences of medical students with disabilities. Using in-depth personal interviews capturing the students' insights, narratives, and stories of success and failures surrounding inclusion issues in medical education, we plan to identify effective strategies for promoting student diversity in medicine. Potential areas for implication include accessible admissions policy development, greater program accessibility awareness, and recommendations for cross-departmental and institutional collaborative partnerships striving towards inclusive health professions education. Through this project, we plan to raise awareness of the culture surrounding issues of discrimination.

### **Procedures involved in the Research**

You will be invited to share your experience as a student with disability going through the MD program as well as your perceptions of the accessibility of teaching and learning in medical education. You will be taking part in a single one-on-one interview of approximately 60 minutes in length. Additionally, before the interview, you will be asked to fill out a short demographics survey asking general information about you and your condition before the interview. You will complete the survey before the interview and submit it to the graduate student conducting the interview. The information you provide will remain strictly confidential and no one from the MD program will know who you are. Prior to analysis, your identity will be replaced with 4 random digit numbers.

This conversation can take place over the phone, via Skype, or face-to-face personal interview (\*In case of phone/Skype interview, you can complete the survey on your computer and email it to the graduate student: kimh65@mcmaster.ca). You can notify the investigator which method you would prefer and we will accommodate your preference. For the purpose of data analysis, the interview session will be audio-recorded using an electronic device. The recording will be transcribed immediately after the interview (within 5 business days) and we will have you review the transcription to make sure what we are analyzing is accurate representation of what you shared with us. Only authorized members will have access to the collected information, which will be kept locked in the graduate student's supervisor's office. All electronic documents will be password protected and stored in the password-protected computer.

### **Potential Harms, Risks or Discomforts:**

The psychological risks will be minimal and are expected to be no more than what would be experienced by the participants in relevant aspects of their daily life. However, some participants may become uncomfortable while reflecting on program accessibility, particularly if they experienced discrimination and stigma because of their disability in the past. Additionally, participants may feel vulnerable sharing personal

details of their experiences, especially if they do not want to disclose the details of their condition.

You can choose not to answer questions or discuss about topics that you do not feel comfortable sharing with the investigator. You have the right to refuse to participate or to withdraw in the study at any point without consequences.

### **Potential Benefits**

This study will contribute to a growing body of research about program accessibility in higher education. Participants may raise disability awareness from this opportunity to share their experiences and have their voices heard. The study may also benefit participants and the quality of medical education in Canada recognizing the importance of accessible professional programs that may inform policy development and practice on campus. The ultimate goal of this research is to recognize the student diversity in medicine and end stigma towards health professionals with disabilities.

### **Confidentiality**

Upon agreeing to partake in our study, you are reminded that your identity will remain strictly confidential and the only investigator who has access to your information is the master student. When analyzing the interview script, a unique ID, consisting of 4 random digit numbers, will replace your identity.

### **Participation and Withdrawal**

Your participation in this study is voluntary. It is your choice to be part of the study or not. If you decide to be part of the study, you can withdraw from the study for whatever reason, even after signing the consent form or partway throughout the study. If you decide to withdraw, there will be no consequences to you. You simply have to notify the investigator of your decision to withdraw.

### **Information about the Study Results**

I expect to have this study completed by approximately August 2014. If you would like a brief summary of the results, you can let me know how you would like it sent to you in the consent form below.

### **Questions about the Study**

If you have questions or need more information about the study itself, please contact me at:

[kimh65@mcmaster.ca](mailto:kimh65@mcmaster.ca)

This study has been reviewed by the Hamilton Integrated Research Ethics Board (HIREB). The HIREB is responsible for ensuring that participants are informed of the risks associated with the research, and that participants are free to decide if participation is right for them. If you have any questions about your rights as a research participant, please call the Office of the Chair, HIREB at 905.521.2100 x 42013.

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**CONSENT**

- I have read the information presented in the information letter about a study being conducted by Hee-Jin Kim of McMaster University.
- I have been given the researcher’s contact information to ask further questions.
- I understand that if I agree to participate in this study, I may withdraw from the study at any time.
- I have been given a copy of this form (electronic or hard copy)
- I agree to participate in the study.

1. I agree that the interview can be audio/video recorded. Yes No

2. I would like to receive a summary of the study’s results. Yes No

If yes, where would you like the results sent:

Email: \_\_\_\_\_

Mailing address: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

3. I agree to be contacted about future research and I understand that I can always decline the request. Yes No

Please contact me at: \_\_\_\_\_



\_\_\_\_\_  
Name of Participant (Printed)

\_\_\_\_\_  
Signature

Date

Consent form explained in person by:

---

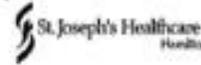
Name and Role (Printed)

Signature

Date

APPENDIX IIA

**ETHICS APPROVAL FROM HAMILTON INTEGRATED RESEARCH ETHICS BOARD**



**Hamilton Integrated Research Ethics Board  
AMENDMENT REQUEST**

REB Project #: 11-177

Principal Investigator: Ms. Kelly Dore

Project Title: An Analysis of the Diversity of University Medical Students

Document(s) Amended with version # and date:

- Questionnaire - Appendix A: Diversity Survey Question Changes in the Activity-Limitation Section - March 2014

**Research Ethics Board Review**  
*(this box to be completed by HIREB Chair only)*

- Amendment approved as submitted
- Amendment approved conditional on changes noted in "Conditions" section below
- New enrolment suspended
- Study suspended pending further review

Level of Review:

- Full Research Ethics Board
- Research Ethics Board Executive

The Hamilton Integrated Research Ethics Board operates in compliance with and is constituted in accordance with the requirements of: The Tri-Council Policy Statement on Ethical Conduct of Research Involving Humans; The International Conference on Harmonization of Good Clinical Practices; Part C Division 5 of the Food and Drug Regulations of Health Canada, and the provisions of the Ontario Personal Health Information Protection Act 2004 and its applicable Regulations; For studies conducted at St. Joseph's Hospital, HIREB complies with the health ethics guide of the Catholic Alliance of Canada

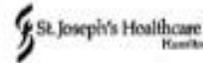
*S. Salama*

Suzette Salama PhD., Chair  
Raelene Rathbone, MB, BS, MD, PhD, Chair

3/5/2014  
Date

All correspondence should be addressed to the HIREB Chair(s) and forwarded to:  
HIREB Coordinator  
293 Wellington St. N, Suite 102, Hamilton ON L8L 5E7  
Tel: 905-521-2100 Ext. 42013 Fax: 905-577-8378

## APPENDIX IIB

***ETHICS APPROVAL FROM HAMILTON INTEGRATED RESEARCH ETHICS BOARD***

**Hamilton Integrated Research Ethics Board  
AMENDMENT REQUEST**

REB Project #: 11-177

Principal Investigator: Ms. Kelly Dore

Project Title: An Analysis of the Diversity of University Medical Students

Document(s) Amended with version # and date:

- > Recruitment Material Other - Email 1 - Participant Invitation Email  
Dated: 28 February, 2014
- > Recruitment Material Other - Email 2 - Participant Invitation Reminder Email  
Dated: 28 February, 2014
- > Recruitment Material Other - Email 3: Participant Survey Completion Email  
Dated: 28 February, 2014
- > Questionnaire - Appendix A: A Diversity Survey Questions Dated: February 2014
- > Consent Form (Main) - Appendix D: Letter of Information/Consent Ver: 1  
Dated: Jan 2014
- > Other - Email dated February 25, 2014 clarifying the amendment

**Research Ethics Board Review**  
*(this box to be completed by HIREB Chair only)*

- Amendment approved as submitted
- Amendment approved conditional on changes noted in "Conditions" section below
- New enrolment suspended
- Study suspended pending further review

Level of Review:

- Full Research Ethics Board
- Research Ethics Board Executive

The Hamilton Integrated Research Ethics Board operates in compliance with and is constituted in accordance with the requirements of: The Tri-Council Policy Statement on Ethical Conduct of Research Involving Humans; The International Conference on Harmonization of Good Clinical Practices; Part C Division 5 of the Food and Drug Regulations of Health Canada, and the provisions of the Ontario Personal Health Information Protection Act 2004 and its applicable Regulations; For studies conducted at St. Joseph's Hospital, HIREB complies with the health ethics guide of the Catholic Alliance of Canada

*S. Salama*

Suzette Salama PhD., Chair  
Raeline Rathbone, MB, BS, MD, PhD, Chair

3/3/2014  
Date

All Correspondence should be addressed to the HIREB Chair(s) and forwarded to:  
HIREB Coordinator  
200 Wellington St. N. Suite 102, Hamilton ON L8L 9E7

**APPENDIX III*****PARTICIPANT EMAIL RECRUITMENT SCRIPT***

Participant Invitation email  
DIVERSITY SURVEY FOR STUDENTS WITH DISABILITIES IN CANADIAN  
MEDICAL SCHOOLS

In accordance with Accessibility for Ontarians with Disabilities Act (AODA, 2005), we plan to ensure that Canadian medical schools are accessible to individuals with disabilities. Thus, we invite students with disabilities who are willing to share their experiences and perceptions on the MD program accessibility at McMaster University. This conversation will occur over an in-depth, private interview arranged with a graduate student conducting research on enhancing access to medical education. Your participation is voluntary and confidential.

We will also ask you to fill out a short survey about who you are before the interview. The information collected in our study will be used to represent demographics of students with disabilities in Canadian medical schools. This will help to ensure that the Faculty monitor that student diversity is promoted and take necessary steps to adjust its recruitment policies if appropriate. In addition, we are undertaking this survey in collaboration with other Canadian medical schools and survey results across participating schools will be examined. Again, your participation is voluntary and confidential. Only authorized members will have access to the collected information, which will be kept locked in the graduate student's supervisor's office. All electronic documents will be password protected and stored in the password-protected computer.

The Michael G. DeGroote School of Medicine at McMaster University is committed to its mission of social accountability, including the social diversity of its student body. This invitation has been designed with this purpose in mind, and the data collected will be strictly confidential and not linked or linkable to your file in medical school. In fact, this data will be kept completely separate from any medical school data. We realize the sensitive nature of this type of data collection, and hope that you will understand that, in order to determine our success in meeting our equity goals with respect to our mission, it is necessary to collect this data.

If you would like to participate in this study, please contact Hee-Jin Kim (Graduate student at Program for Educational Research and Development, McMaster University, [Kimh65@mcmaster.ca](mailto:Kimh65@mcmaster.ca)). Your identity and condition will remain strictly confidential and the only person who has access to this information would be the graduate student conducting the interviews. Finally, the survey and interview data will be stored in the Program for Educational Research and Development at McMaster University, completely separate from your MD program.

Please be assured that you will not be identified in any academic publications, conference presentations and/or reports resulting from this project. We recognize that the survey includes questions about sensitive issues that you may feel are personal and may not want

to answer. If you do not wish to answer a specific question, you are welcome to skip it and move to the next one. If you choose to participate in the study, you will be asked to sign a consent form detailing the outline of the study. You may choose to withdraw at any time throughout the study.

As part of the project protocol you will receive reminder emails and if you choose to participate you will receive a survey completion email. Please be assured that if you choose not to participate in this project, there will be no negative repercussions with respect to your medical school record.

We have done our best to present questions in a fair and reasonable manner. If you feel that the questions are not articulated well, please suggest alternatives in the comments sections at the end of the survey. Your feedback is welcome.

Should you have any questions, please do not hesitate to contact Dr. Kelly Dore (Assistant Professor in the Program for Educational Research and Development, [dore@mcmaster.ca](mailto:dore@mcmaster.ca) 905 525-9140 x 22956) and/or Hee-Jin Kim (Graduate student at Program for Educational Research and Development, [Kimh65@mcmaster.ca](mailto:Kimh65@mcmaster.ca)). All enquiries will be confidential.

Thanks for considering this request,

Hee-Jin Kim & Dr. Kelly Dore

Program for Research and Educational Development (PERD)

Michael G.DeGroote Centre for Learning (MDCL)

McMaster University

Phone: 905-525-9140 ext. 22956. Fax: (905) 572-7099. Office: Rm. 3520, MDCL

Email: [dore@mcmaster.ca](mailto:dore@mcmaster.ca) and/or [Kimh65@mcmaster.ca](mailto:Kimh65@mcmaster.ca)

**APPENDIX IV*****QUALITATIVE INTERVIEW GUIDE*****Tentative qualitative interview questions:****Barriers:**

1. Why did you choose medicine as a career?
  - Prompt 1: Why health professional program?
2. What, if any, institutional and attitudinal barriers did you experience in the higher education setting, specifically in the MD program? If yes, how did you cope with it?
  - Prompt 1: While requesting accommodations?
  - Prompt 2: While disclosing disability?
  - Prompt 3: Have you experienced any social stigma because of your disability?
  - Prompt 4: How did you work with your classmates during clerkship? What about with preceptors and other health professionals on your rotation?
  - Prompt 5: How did you work with patients while being accommodated?

**Student Support System:**

3. What was your support system thus far?
  - Prompt 1: Who do you “turn to” when you need help/advice?
  - Prompt 2: Do you know about Student Accessibility Services? Who is responsible for arranging accommodations in the MD program?
  - Prompt 2: MD Program support administration coordinating accommodation needs? How do you work with them to come up with effective accommodation strategies?
  - Prompt 3: Do you have a mentor that you have a trusting relationship with? If yes, please describe your relationship. Describe what is he or she like?
  - Prompt 4: Health care providers (E.g. your family doctor or counselor) you receive support from?
  - Prompt 5: Family and friends support?

**Motivation:**

4. What experiences or perspectives do you bring to the MD program that are unique from other students?
  - Prompt 1: What makes you no different than any other student who is not disabled?
  - Prompt 2: What are your strengths? When do you thrive the most?
  - Prompt 3: What are your weaknesses? What prevents you from demonstrating your full potential?
  - Prompt 4: What is your passion?

**Program Development:**

5. How can we as an institution enhance accessibility in the MD program?

- Prompt 1: How can we bring more awareness towards increasing accessibility in the MD program? (For non-disabled classmates, preceptors, program directors)
- Prompt 2: How can we extend that awareness and increased accessibility in the health care practice environment? (For other Health professionals as well as patients)
- Prompt 3: How can we educate our patients and health care providers about workplace accommodations? (For general public awareness)

**Summary:**

6. Is there any thing that I did not ask that you think is important for me to be informed about your experience and perspective on accessibility in the MD program?

**APPENDIX V**

***PARTICIPANT DEMOGRAPHIC SURVEY***

**What is your gender?**

Please choose only one of the following:

- Female
- Male
- Other

**What is your age?**

\_\_\_\_\_

**What year are you in the MD program?**

Please choose only one of the following:

- 1<sup>st</sup>
- 2<sup>nd</sup>
- 3<sup>rd</sup>
- 4<sup>th</sup>
- Other

If other, please specify: \_\_\_\_\_

**Do you have an activity-limitation that has an impact on your day-to-day life as a medical trainee (whether or not you have formally disclosed it)?**

Please choose only one of the following:

- Yes
- No

How would you describe your activity limitation/disability?

\_\_\_\_\_

**At what point in your schooling did you get diagnosed with your condition (eg. grade or level of post-secondary training)?**

\_\_\_\_\_

**How did you become diagnosed?**

\_\_\_\_\_

**Have you ever taken a leave of absence during post-secondary education because of your condition?**

Please choose only one of the following:

- Yes

If yes,

How many times?

How long?

No

**Have you requested accommodations for any of your condition(s) while in the MD program?**

Please choose only one of the following:

Yes

No

**What accommodations, if any, did you request to the Student Accessibility Services or the MD program?**

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**Did you request accommodations for any condition(s) in any previous academic environments (eg. during undergraduate studies or in high school)?**

Please choose only one of the following:

Yes

If yes,

What accommodations did you request?

No

I did not have this condition while in any other academic environment

**Comments:**

**APPENDIX VI*****DEFINITIONS******Disability***

The Accessibility for Ontarians with Disabilities Act (AODA, 2005) adopted the definition of disability stated under Section 10 (1) of the Ontario Human Rights Code (Ontario Human Rights Commission, 2000), which defines “disability” as follows: “because of disability” means for the reason that the person has or has had, or is believed to have or have had,

5. any degree of physical disability, infirmity, malformation or disfigurement that is caused by bodily injury, birth defect or illness and, without limiting the generality of the foregoing, includes diabetes mellitus, epilepsy, a brain injury, any degree of paralysis, amputation, lack of physical co-ordination, blindness or visual impediment, deafness or hearing impediment, muteness or speech impediment, or physical reliance on a guide dog or other animal or on a wheelchair or other remedial appliance or device,
6. a condition of mental impairment or a developmental disability,
7. a learning disability, or a dysfunction in one or more of the processes involved in understanding or using symbols or spoken language,
8. a mental disorder, or an injury or disability for which benefits were claimed or received under the insurance plan established under the Workplace Safety and Insurance Act, 1997 (Ontario Human Rights Commission, 1962).

***Barrier***

“Barrier” means anything that prevents a person with a disability from fully participating in all aspects of society because of his or her disability, including a physical

barrier, an architectural barrier, an information or communications barrier, an attitudinal barrier, a technological barrier, a policy or a practice (AODA Accessibility For Ontarians with Disabilities Act, 2009).

### ***Accessibility***

“Accessibility” refers to the ability to be reached, entered, or used by people who have a disability (Dictionary, O. E., 1989).

***Reasonable Accommodation*** (will be referred to as accommodation throughout this thesis).

“Reasonable accommodation” means necessary and appropriate modification and adjustments not imposing a disproportionate or undue burden, where needed in a particular case, to ensure to persons with disabilities the enjoyment or exercise on an equal basis with others of all human rights and fundamental freedoms (United Nations Enable, n.d.).

### ***Qualified individual (otherwise-qualified)***

An individual who, with or without reasonable accommodation, can perform the essential functions of the employment position that such individual holds or desires. For the purposes of this subchapter, consideration shall be given to the employer's judgment as to what functions of a job are essential, and if an employer has prepared a written description before advertising or interviewing applicants for the job, this description shall be considered evidence of the essential functions of the job (U.S. Equal Employment Opportunity Commission, 1990)<sup>12</sup>.

### ***Undue hardship***

(A) In general, the term "undue hardship" means an action requiring significant

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<sup>12</sup> The precise language of the original documents has been preserved to ensure accuracy in reporting.

difficulty or expense, when considered in light of the factors set forth in subparagraph (B).

(B) Factors to be considered. In determining whether an accommodation would impose an undue hardship on a covered entity, factors to be considered include:

1. the nature and cost of the accommodation needed under this chapter;
2. the overall financial resources of the facility or facilities involved in the provision of the reasonable accommodation; the number of persons employed at such facility; the effect on expenses and resources, or the impact otherwise of such accommodation upon the operation of the facility;
3. the overall financial resources of the covered entity; the overall size of the business of a covered entity with respect to the number of its employees; the number, type, and location of its facilities; and
4. the type of operation or operations of the covered entity, including the composition, structure, and functions of the workforce of such entity; the geographic separateness, administrative, or fiscal relationship of the facility or facilities in question to the covered entity (U.S. Equal Employment Opportunity Commission, 1990)<sup>13</sup>.

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<sup>13</sup> The precise language of the original documents has been preserved to ensure accuracy in reporting.