Financial Barriers for Students with Non-apparent Disabilities within Canadian Postsecondary Education

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Abstract

This study examined the education-related debt, sources of debt, and the process of acquiring accommodations for students with non-apparent (such as learning disabilities and mental health disabilities) and apparent disabilities in Canadian postsecondary education. A third group emerged during analyses, students with medical disabilities, which appeared unique from both apparent and non-apparent disabilities. This study involved a survey of 1,026 students with disabilities from across Canada. Students with apparent disabilities received significantly greater amounts of funding from government student grants and bursary programs. Students with medical disabilities received greater social assistance, had significantly higher projected education-related debt loads, and expressed greater concern regarding financial barriers and debt repayment. The findings regarding education-related debt and financial barriers for students with non-apparent disabilities and medical disabilities suggest a need for further investigation and potential policy implications for these specific cohorts of students.

Keywords: Disability, postsecondary students, financial barriers, Canada

Promoting fully accessible and inclusive postsecondary education (PSE) has gained momentum as a national initiative. Within Canada, distribution of funding allocated to postsecondary education is the responsibility of the provincial government, which distributes operating grants to postsecondary institutions. Consequently, access programming for students with disabilities varies significantly across provincial jurisdictions (Chambers & Deller, 2011). This creates gaps in policy and resources, leading to unequal pools of resources for students with disabilities (Dunn & Dougherty, 2005).

Written policy and guidelines regarding the accommodation of students with disabilities in Canadian higher education are divergent across provincial and institutional settings, too. Student accommodations, such as interpreters, structural modifications, exam supervision and diagnostic assessments, are largely contingent upon institutional operating budgets and policy (Cox & Walsh, 1998). Institutional policy regarding cost of accommodation varies; some institutions accommodate to the extent of "undue hardship" while other institutions base accommodation upon "reasonable cost" and still others have "no limits" with regard to providing accommodations and services to students with disabilities (Cox & Walsh, 1998). For institutions that do not subsume the total accommodation cost, students must cover the expenses through services such as Provincial government programs, the Canada student loans program, and personal contributions (Cox & Walsh, 1998). The degree of personal responsibility for accommodation cost is dependent upon whether one meets the eligibility criteria for funding, disability definition, and the institutional policy on accommodation.

Disconnects between service delivery models across provincial legislation and the individual institutions have facilitated the evolution of disjointed and conflicting definitions of what constitutes a disability. "Disability" is a subjective social construct, which is dependent upon the operational measures by which it is defined (Albrecht 1992; Jung, 2002; Oliver & Barnes, 1998; Wendell 1996). Many have raised concerns about the problematic nature of not having a unified definition. As policy makers are free to determine disability criteria, accessibility becomes contingent upon set conditions rather than individual assessment (Dunn et al., 2005; Educational Policy Institute, 2008; Jung, 2002). Across Canada, the definition of disability leads to different terminologies (e.g., "special needs," "disability," "otherwise"), as well as variation in "general" and "specific" eligibility criteria (Cox & Walsh, 1998). Some categories will identify specific types of disabilities to decide who qualifies for service provision whereas others will include a wider scope of disabling conditions (Cox & Walsh, 1998). Thus, depending upon the disability definition, access to funding for PSE may pose a significant barrier for students with disabilities. While the U.S. has national legislation, the Americans with Disabilities Act (ADA), that defines what constitutes a disability and provides guidance on issues related to persons with disabilities, it needs to be noted that Canada does not have a dedicated federal law that develops standards for addressing issues specific to persons with disabilities. Of the ten Canadian provinces, only Ontario has legislation that directly addresses issues of persons with disabilities. According to the Accessibility for Ontarians with Disabilities Act (2005), "disability" refers to:

a. 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,
b. a condition of mental impairment or a developmental disability,
c. a learning disability, or a dysfunction in one or more of the processes involved in understanding or using symbols or spoken language,
d. a mental disorder, or
e. an injury or disability for which benefits were claimed or received under the insurance plan established under the Workplace Safety and Insurance Act, 1997; ("handicap")

The Council of Canadians with Disabilities (2009) recognizes that there is a class of disabling conditions that differ from traditional definitions of disability. Coined "invisible disabilities," these represent a class of disabilities that cannot be detected visually and, therefore, require disclosure to be apparent to others. According to the Federation of Invisible Disabilities (n.d.), this umbrella term (invisible disabilities) includes but is not limited to brain injuries, fetal alcohol spectrum disorders, attention deficit disorders, pervasive developmental disorders, brain injuries, learning disabilities, obsessive compulsive disorder and tourette syndrome. According to the United Nations, individuals with non-apparent disabilities are often faced with unique barriers, misunderstanding and prejudice (Cameron, Patenaude & Troniak, 2008).

Non-apparent Disabilities

Mental health disabilities. The manifestation of many mental health disabilities first emerges in young adulthood when many students undertake postsecondary education (Sharpe, Bruiniks, Blacklock, Benson, & Johnson, 2004; Statistics Canada, 2006; Unger, 1992). Although traditionally underrepresented in PSE, over the past decade there has been a significant increase in the prevalence and recognition of students with mental health disabilities (Blackorby & Wagner, 1996; Eudaly, 2002; Megivern, Pellerito, & Mobray, 2003; Sharpe et al., 2004).

To register with disability service providers at a postsecondary institution, students are required to provide documentation from a medical or mental health professional outlining a formal diagnosis. Since mental health disabilities may go undiagnosed during high school, it is not always possible to transfer documentation from the high school service provider to the postsecondary disability services office. In cases where documentation exists, transferability may not be permissible, depending on how up-to-date the diagnosis is. Based upon anecdotal evidence, practice in this area often varies based on institutional and provincial ministry requirements.

Given the shortage of family physicians, a frequent lack of interdisciplinary mental health collaboration and wait lists, accessing these services in a timely manner may prove challenging (Kates, 2002). These financial considerations may create a barrier to accessing services within higher education, particularly for students who are already coping with the impact of a mental illness.

Parallel to higher education funding models, coverage for mental health services varies significantly by province/territory (Romanow & Marchildon, 2003). Drug therapies are not fully covered by provincial programming and private insurance and up to 22% of the costs must be paid out of pocket (Romanow & Marchildon, 2003). Research has suggested that the costs of these medications are on the rise. Prescription and non-prescription drugs are the fastest-growing health care expense in Canada. According to the Canadian Centre on Health Information (2012), prescription drug purchases cost about $27 billion per year. Mental health drugs make up a good part of that. Recently, total spending on prescription anti-depressant and anti-psychotic medicines in Canada amounted to $1.791 billion for one year. That is 9.4% of total prescription drug spending. By contrast, 26.2% of total drug expenses went to cardiovascular drugs. Just over five percent went to pain medications. Spending on anti-depressant and anti-psychotic drugs varies across Canada. According to recent figures for provinces spending on anti-depressant, British Columbia is five percent below the national average for spending, and Nova Scotia is 29% above the national average. For anti-psychotic medications, British Columbia is six percent below the national average and Quebec is 30% above it (Morgan, Colette, Mooney, & Martin, 2008). These figures are age-standardized, which means they account for age differences across the provinces.

In addition, psychological treatment is not covered under the current *Canadian Health Act* (Arnett, Nicholson, & Breault, 2004; Dwight-Johnson, Sherbourne, Liao, & Wells 2000; Romanow & Marchildon, 2003). Consequently, access to psychological services within private sectors is often reserved for those who can afford to pay out of pocket (Arnett et al., 2004). Overall, students with mental health disabilities can face considerable financial cost of treatment associated with their disability.

Learning disabilities. Students with learning disabilities (LD) are the most represented of any disability type (e.g., Fitchen et al., 2003; Roessler & Kirk, 1998;), with approximately 631,000 Canadians having an LD (Statistics Canada, 2006). This student group faces unique financial considerations in the documentation, assessment, and accommodation of their disability.

When registering with disability services in post-secondary institutions, students must provide documentation demonstrating permanent disability status. For those with LD, this requires current documentation in the form of a psycho-educational assessment where the "shelf life" and expiration date of such assessments may vary depending on jurisdiction and/or institution. In some cases, acquiring this documentation can prove to be an overwhelming task. As with mental health disabilities, the use of prior documentation may not be permissible, given the need for current information about the impact of that student's disability. Within the Canadian education system there has been a decrease in the number of psychologists in the school system, leaving students with suspected LD and their family to seek psycho-educational evaluations from the private sector that requires them to finance the assessments out of their own pocket (The Roeher Institute, 2000). Depending upon the institution, the level of specific requirements documented within the assessment will vary. Often a diagnosis alone will not be sufficient to receive accommodations; additional information that may be required includes the type of learning disability, required accommodations from the postsecondary institution, and strategies to treat (Cox & Walsh, 1998). There are also considerable costs associated with learning disability assessments, with fees oftentimes exceeding $3000 in some jurisdictions. Given the demand for this service, there are considerable wait times that vary from several weeks to several months before completion of testing. Providing documentation to validate one's disability can prove burdensome to this student group and their families.

Medical disabilities. Medical disabilities are often marked by symptoms of pain, inflammation, mobility limitations, fatigue, and impediments upon daily living. Having a disability with symptoms that are frequently changing in visibility and complexity often provides accommodation challenges for students with medical disabilities (Jung, 2002). Like LD and mental health disabilities, the unidentifiable nature of medical disabilities factors into whether it is readily defined as a disability to be accommodated.

Accommodation for students with all forms of non-apparent disabilities typically requires modifications

to teaching practices and evaluation. Due to financial constraints, university and college policy regarding accommodation is created to balance the ethical duty to accommodate while at the same time protecting the academic integrity of the educational process. As with the other non-apparent disabilities, students with a medical disability must provide medical documentation, negotiate procedural modifications and accommodations with their professors, and identify themselves as a student with a disability. However, students with medical disabilities often pose challenges to accommodation practice, as disease severity may fluctuate unpredictably during the course of a semester and the academic year. These unpredictable fluctuations in students' conditions may require accommodations to also change on short notice. Additionally, some faculty who are skeptical of the fluctuating nature of accommodation requirements may add to the complications of providing academic accommodations for students with medical disabilities.

Researchers have suggested that apparent disabilities are legitimized because the visible nature of the disability provides "incontrovertible proof" of existence (Jung, 2002). For those whose disabilities require disclosure in order to be evident, there are unique challenges in an effort to legitimize the disability. Individuals with non-apparent disabilities, such as those with chronic illness, constantly have to re-validate their disability to funding agencies, disability services, and faculty members prior to receiving accommodations (Jung, 2002).

The Present Study

It is estimated that 6-7% of the students in Canadian postsecondary education report having a disability (Canadian University Survey Consortium [CUSC], 2002; Prarie Research Associates, 2003), leaving roughly 94% of students without disabilities. The 6-7% of students with disabilities reflects roughly half of the total percentage of the Canadian general population designated as having a disability (12%) (Statistics Canada, 2001; Statistics Canada, 2006), whereas the 94% of students in PSE who do not have a disability reflects 106% of the Canadian general population who does not have a disability (88%).

The sizable difference between 50% and 106% suggests an underrepresentation of students with disabilities in PSE relative to people with disabilities in the general Canadian population and in relation to students in PSE and in the general Canadian population who do not have a disability.

While, based on our estimates, students with disabilities in Canadian PSE are underrepresented; the factors that contribute to the discrepancy in PSE participation between students with disabilities and those without disabilities continue to be largely unexplored.

Students with disabilities often face greater financial barriers due to accommodation considerations compared to students without disabilities. Little is known, however, about the debt load, sources of funding, and the cost of assistive technology that are unique to this student group. Given the unique issues faced by students with medical disabilities, we chose to assess the differences among these factors for three groups of students with disabilities: those with apparent disabilities, those with non-apparent disabilities (learning and mental health disabilities), and those with medical disabilities as a distinct third population.

This study aimed to explore whether students with medical and non-apparent disabilities encounter greater financial barriers or debt in comparison to those with apparent disabilities. First, we evaluated whether those with medical and non-apparent disabilities receive less funding from a variety of financial aid services than those with apparent disabilities. Secondly, we evaluated whether one's present debt load and projected debt load differ based upon whether one has a apparent, medical, or non-apparent disability. Finally, we evaluated the impact that education-related debt plays in present and future education decision-making.

Methods

Recruitment

Disability services professionals who were members of the Canadian Association of Disability Service Providers in Postsecondary Education (CADSPPE) recruited participants at each participating institution. The leadership of CADSPPE was enlisted by the principal researchers to request that each member campus inform students about participating in the survey research by connecting to a dedicated online link. Only students with disabilities who were registered with campus Disability Services Offices (DSOs) were recruited since these are the only students with disabilities who can be contacted by campus DSOs. All recruitment materials and online surveys were offered in both French and English. Many students with

disabilities, particularly those with print disabilities (i.e., visual impairment/blindness and/or LD) who use screen reader/screen magnification software are not able to access most online survey tools, or follow linear time parameters. Thus, extensive universally accessible programming of the online survey was undertaken to enable all students who wanted to participate had the opportunity to do so without technical or process barriers. Our specific response was to have the entire online survey coded to be accessible to screen reader/screen magnification software (including ZoomText, JAWS, and Kurzweil) and to be compliant with W3C guidelines for web-based accessibility.

Research Participants

There were 1,026 students with disabilities from Canadian postsecondary institutions who participated in this study. While it would be highly preferred and appropriate to present a response rate for the study (number responding out of those invited to respond), it is difficult to estimate a response rate for the study given the method for recruiting students, which was to invite DSO directors and staff to communicate information about the study to students who were registered as students with disabilities with their respective offices. We do not know who and how many students were informed about the study at each institution. Forty-seven postsecondary institutions from across the country participated in the study, representing seven out of the ten provinces. There was a greater representation of females (*n*=652; 64%) than males (*n*=374; 36%). Participants ranged from 18 to 66 years of age, with the majority between the ages of 18-25 years old (*n*=482; 47%), and indicating full Canadian citizenship (*n*=1012; 99%). Approximately one-fifth of the study population indicated being a member of a visible minority[1] (*n*=199; 19%), with few identified aboriginal or native ancestry (*n*=38; 4%). The majority of respondents were single (including divorced, separated from spouse, or widowed) (*n* = 706; 69%), with no primary care-giving responsibility for dependents (*n*=897; 88%). Participants residing in Ontario were most greatly represented (*n*=583; 57%), followed by Alberta (*n*=121; 12%), and Quebec (*n*=119; 12%).

Full-time registration was defined by a 40% or greater course load. The majority of students reported full time status (*n*=850; 83%), with 13% studying part time (*n*=136; 13%); 40 students chose not to answer this question. The types of educational degrees pursued included bachelor's degree (*n*=587; 57%), certificate or diploma program (*n*=268; 26%), master's degree (*n*=82; 8%), doctorate (*n*=29; 3%), and professional degree (*n*=33; 3%).

Participants most commonly indicated the presence of one disability (*n*=689; 67%), with approximately one-third indicating more than one disability (*n*=336; 33%). Of the types of disabilities reported, students with LD were most greatly represented (*n*=466; 45%), followed by mental health disability (*n*=253; 25%), medical disability (*n*=160; 16%), chronic disability (*n*=163; 16%), mobility impaired (*n*=114; 11%), neurological disability (*n*=103; 10%), deaf/hard of hearing (*n*=105; 10%), "other" disability (*n*=53; 5%), chemical/immune system sensitivity (*n*=43; 4%), and speech impairment (*n*=13; 1%).

For the purposes of this research, disability types were further categorized by visibility. Those with an apparent disability were those with physical/sensory disabilities. Within this cohort were students with blindness or visual impairments, mobility impairments, and those who are deaf/hard of hearing (*n*=298; 29%). A second category of students was categorized as having non-apparent disabilities. Encompassed within this cohort were students who had a learning disability, speech impairment, mental health disability, and chemical sensitivity/immune system sensitivity (*n*=515; 50%). A third category emerged as a unique cohort that could not be adequately encompassed within the other fields. Due to the ambiguous nature of symptoms, participants with medical disabilities formed a unique category and included students with neurological disabilities, chronic illness, and medical disabilities (*n*=212; 21%).

Measures

The Centre for the Study of Students in Postsecondary Education (CSS) at the university of Toronto and the National Education Association of Disabled Students (NEADS) partnered with CADSPPE to design and administer a national survey of students with disabilities in Canadian postsecondary education. The survey was piloted two times with a representative sample of students with disabilities in postsecondary education

1 The Employment Equity Act defines visible minorities as "persons, other than Aboriginal peoples, who are non-Caucasian in race or non-white in colour". The visible minority population consists mainly of the following groups: Chinese, South Asian, Black, Arab, West Asian, Filipino, Southeast Asian, Latin American, Japanese and Korean.

in Canada and with professional staff who work with students with disabilities in Canadian postsecondary education. The survey consisted of 48 questions and took approximately 25 minutes to complete. There was a mix of response options across the different questions, from forced choice, Likert type responses, to short answer items. The survey questions were divided into seven distinct sections: participant demographics, information about participants' disability(ies), financial supports received and needed by participants, education and disability related expenditures incurred by participants, participants' educational and employment expectations, educational experiences of participants, educational and personal impact of debt load, and educational experience on participants. Examples of the type of items on the survey included:

Approximately how much in the way of education related expenses do you expect to accumulate, in total, by the time you graduate or complete your program of study?

a. None
b. Less than $5,000
c. $5,001 to $10,000
d. $10,001 to $15,000
e. $15,001 to $20,000
f. $20,001 to $30,000
g. Over $30,000
h. DK/Refused

How concerned are you about having sufficient funds to complete your postsecondary education?

a. Very concerned
b. Somewhat concerned
c. Not much concerned
d. Not concerned at all

Have you altered, or do you plan to alter, your postsecondary education pursuits because of concerns regarding educational debt or financial barriers?

a. Yes, have altered /plan to alter my postsecondary education pursuits due to financial barriers
b. No, have not altered my postsecondary education pursuits due to financial barriers but I am thinking about it
c. I will not alter any of my postsecondary education pursuits at all due to financial barriers.

Data Analysis

For the purposes of this study, commonly used statistical tests (one- and two-way analysis of variance, independent samples t test, cross tabulation, and descriptive statistics) were applied. In cases where the assumption of homogeneity was violated, Dunnett`s C post hoc analyses were used to account for this discrepancy. If the assumption was met, Bonferroni post hoc analyses were conducted. Of note, the participants were not forced to answer questions for which they would feel uncomfortable providing information; thus, each of our analyses reflected the number of respondents in each group for individual questions. This is a common practice when conducting research with vulnerable populations, in order to provide an opt-out from answering a question if the respondent believes that sensitive information may be disclosed.

Findings

Funding Sources

Students with disabilities utilized a number of funding sources, including government student loans, grants and bursaries, work income, and personal savings, to facilitate the costs of their PSE (see Table 1). There were significant differences in the amount of funding received based upon the classification of one's disability type (see Table 2).

There was a significant difference in the amount of funding received from training grants/scholarships. Students with medical disabilities received a significantly greater amount of money from training grants/scholarships ($F_{(2, 63)} = 4.57$, p=.01) and from social income assistance (welfare; $F_{(2, 47)} = 4.07$, p<.05) in comparison to those with apparent and non-apparent disabilities.

There were also significant differences between groups in the amount of money received from Government Student Grant/Bursary programs ($F_{(2, 278)}$ =5.94, p<.01). Students with apparent disabilities received a significantly greater amount (M=4569.16, SD=5548.64) than students with non-apparent disabilities (M=2938.48, SD=2942.48). Students with apparent disabilities also received a significantly greater

Table 1

Prevalence Rates of the Sources of Funding Utilized by Classification Of Disability

	Apparent Disability	Non-apparent Disability	Medical Disability
Government Student Loans	41% (n=123)	47% (n=240)	44% (n=93)
Work Income	43% (n=128)	49% (n=253	39% (n=83)
Personal Savings	45% (n=134)	47% (n=243)	39% (n=83)
Government Student Grants & Bursaries	40% (n=119)	35% (n=181)	39% (n=82)
Government Support for Students with Disabilities	36% (n=107)	28% (n=143)	33% (n=69)
Student Line of Credit	19% (n=58)	18% (n=89)	19% (n=41)

amount of money compared to students with medical disabilities (*M*=2752.96, *SD*=1976.40).

Debt Accumulation

There was a significant difference in the debt-load accumulated from the Canada Student Loans Program (F (2, 1022) =4.16, p=.02) depending on disability category. Those with medical disabilities had a significantly greater accumulated debt compared to participants with apparent and non-apparent disabilities. Further analysis revealed that 8% of student with medical disabilities reported debt between $5,000-10,000 (*n*=17), 7% reported between $10-20,000 in debt (*n*=15), and 15% reported having over $30,000 in accumulated debt from Canada Student Loan Program to date (*n*=32). By comparison, 12% of student with apparent disabilities and 13% of students with non-apparent disabilities reported debt between $5,000-10,000 (*n*=33 and 60 respectively), 12% of student with apparent disabilities and 14% of students with non-apparent disabilities reported between $10-20,000 in debt (*n*=32 and 68 respectively), and 10% of student with apparent disabilities and 12% of students with non-apparent disabilities reported having over $30,000 in accumulated debt from Canada Student Loan Program to date (*n*=26 and 56 respectively). There was also a significant difference in the debt-load accumulated from private banks (F (2, 1022) =3.54, p<.05). Students with medical disabilities had a greater accumulated debt compared to students with apparent disabilities. Further analysis revealed that, although half of the sample indicated having no debt from this funding source (*n*=121), 11% of student with medical disabilities reported debt between $5,000-10,000 (*n*=23), 6%

Table 2

Evaluating Difference Between Monetary Amounts Allotted by Disability Category

Source of Funding	MS	SS	DF	F
Work Income	5.67	1.13	365	.44
Training Grant /Scholarship	9.10	1.82	63	.01**
Social / Income Assistance	7.17	1.44	49	.02*
Government Student Loan	1.78	3.55	381	.713
Government Student Grant / Bursary	8.71	1.74	278	.00**
Student Line of Credit	1.63	3.30	139	0.19
Government Support for Persons with Disabilities	4.39	8.79	216	2.11
Personal Savings	2.16	4.32	308	0.84

Note: *$p<.05$ **$p<.001$

Table 3

Prevalence Rates of the Amount of Debt Accumulated Thus Far (Includes Tuition/Fees and Living Expenses) by Classification of Disability

	$0	<$5,000	$5,001-$10,000	$10,001-$15,000	$15,001-$20,000	$20,001-$30,000	>$30,000
Apparent Disability (*n*=266)	*n*=36 14%	*n*=34 13%	*n*=22 8%	*n*=30 11%	*n*=23 9%	*n*=38 14%	*n*=83 31%
Non-apparent Disability (*n*=463)	*n*=56 12%	*n*=40 9%	*n*=53 11%	*n*=42 9%	*n*=55 12%	*n*=72 16%	*n*=145 31%
Medical Disability (*n*=188)	*n*=25 13%	*n*=12 6%	*n*=10 5%	*n*=17 9%	*n*=19 10%	*n*=21 11%	*n*=84 45%

reported between $10-20,000 in debt (*n*=13), and 6% reported having over $30,000 in accumulated debt from private banks to date (*n*=13). By comparison, 7% of student with apparent disabilities and 6% of students with non-apparent disabilities reported debt between $5,000-10,000 (*n*=19 and 30 respectively), 7% of student with apparent disabilities and 5% of students with non-apparent disabilities reported between $10-20,000 in debt (*n*=19 and 25 respectively), and 2% of student with apparent disabilities and 2% of students with non-apparent disabilities reported having over $30,000 in accumulated debt from private banks to date (*n*=6 and 8 respectively).

Finally, there was a significant difference in the expected overall debt of students with disabilities, based upon the category of disability ($F_{(2, 917)}$ =3.22, p<.05). The majority of students with medical disabilities reported that they had projected at least $20,000 or greater of education related debt (see Table 3). This study did not ask year in school and thus academic year distinctions (i.e. first year, second year, third year, etc.) couldn't be reported. The reported figures represent a composite of all students with disabilities who participated in the survey.

Subjective Experience of Financial Barriers

There was no significant difference between students with disabilities with respect to the nature of their financial barriers ($F_{(2,661)}$ =1.780, p>.05), with the majority of students experiencing financial barriers within their educational pursuits (*n*=694). Students were also asked whether they presently attained sufficient amounts of money to complete their studies. The results revealed that there was not a significant difference between students based upon classification type ($F_{(2, 1022)}$ =2.725, p =.07), as only a quarter of students reported having sufficient funding to complete their education. There was a significant difference in concern regarding managing finances, whereby students with medical difficulties indicated greater concern ($F_{(2, 1022)}$ = 4.25, p<.05).

Impact

To understand the impact of financial barriers on their education, students were asked hypothetical questions regarding how finances could impact their educational decision-making. Students were asked what they would do if faced with an unexpected expense of $500. There was no significant difference between how one would respond to an unexpected expense of $500 by disability classification ($F_{(2, 1022)}$ =1.33, p >.05). Overall, nearly half of respondents indicated that they would borrow the money from their family (*n*=491) followed by finding a job or increasing work hours (*n*=226). Interestingly, nearly 10% of students indicated that they would be forced to quit their current program of studies (*n*=86).

Students were also asked what they would do if faced with an unexpected expense of $4000. In this scenario, there was a significant difference in how participants indicated they would react ($F_{(2,1022)}$= 7.39, p <.001). There was a significant increase in the prevalence of individuals stating that they would be required to quit their studies, with approximately 31% noting that they would have to drop out of PSE (*n*=317).

Discussion

While research about Canadian postsecondary students with disabilities has risen, less is known about the financial barriers experienced by these students. To our knowledge, this is the first Canadian study to examine the debt load and financial barriers for students with disabilities within PSE. Furthermore, previous studies about financial barriers to PSE typically have not differentiated students into cohorts by disability type. To date, there is limited published literature about the financial experiences of those with non-apparent disabilities. This study can assist policy development toward accessible programming within Canadian postsecondary education to better serve student populations with disabilities.

While the study did not attempt to compare the debt load dynamics of students with disabilities with students who do not report a disability, it is nonetheless important to briefly contextualize the debt circumstances of students with disabilities within the larger student context. While 42% of students with disabilities in our study noted having or anticipating over $20,000 of debt at the conclusion of their studies, recent data show that students in Canadian PSE had an average of $18,800 amount of debt upon completion of their undergraduate degrees (Statistics Canada, 2007). Comparing these two populations warrants extreme caution. First, the overall student debt amount includes those with and without disabilities. The importance of this point is that students with disabilities are counted twice (both in the overall debt figures and in the sepa-

rate debt figures for students with disabilities) and thus the figures for student overall debt is inflated by the debt of those with disabilities, rendering comparisons inaccurate. Granted, the percentage of those with disabilities is relatively low, however counting them in both groups (all students and those with disabilities) nonetheless renders the comparison and the reflection of relative student debt inaccurate. Second, type of debt may differ. The overall student debt figures are either largely or exclusively Canada Student Loan debt, whereas students with disabilities in this study noted debt from a broad range of sources, which presumably reflects differing complex application processes and repayment conditions (interest rates, repayment schedules, etc.) that may impact students with disabilities disproportionately to their non-disabled peers. Finally, the intended purposes of the debt for students with disabilities are difficult to disentangle between education-related and disability-related expenses.

A final note should be considered in this discussion. Claims of between 2.5 to 3.6% of students with disabilities actually register with disability services on Canadian campuses, with variance among the 10 provinces and three territories between ½% to 6% (Fichten, Asuncion, Barile, Robillard, Fossey & Lamb, 2003). The limited number of students who register with campus-based disability services offices leaves a substantial number of students who may have a disability and may not use campus-based resource to support their disability needs. There may be a higher debt load for undeclared students with a disability, since their resources have to be stretched to accommodate both the cost of their education and the costs associated with their disability that are not being funded by governmental sources. Put another way, just because a student with a disability does not register with the DSO does not mean he/she does not have a disability that needs accommodations to create equal access to the learning environment. Indeed, many students with disabilities do not register with disability services or self disclose that they have a disability. The students and their families often cover the cost of those needed accommodations. The reasons why some students with disabilities do not register with DSOs to receive institutional services and supports are many, including the previously mentioned concern that some students may not be able to afford the necessary documentation to qualify for disability supports and resources, as well as some students may want to avoid the stigmatization often associated with being labeled as having a disability (Burgstahler & Doe, 2006; Getzel & Briel, 2006; Getzel & McManus, 2005). Still others may not believe that their condition constitutes a disability (Wagner, Newman, Cameto, Garza, & Levine, 2005). For a more elaborate discussion of the challenges associated with the disclosure of a disability for students in postsecondary education, see J. Trammell (2009).

Findings According to Disability Type

Our results indicated that the number of educational aids/services required for postsecondary pursuits is influenced by the category of disability. Students with visible disabilities use significantly more aids/services compared to those with non-apparent or medical disabilities. However, this does not translate into a greater accumulated cost of assistive aids. As such, it is interpreted that students acquire these resources through funding or accommodation through their academic institution.

This study revealed that, for many students, accessibility to resources is not readily available. For these students, there is a great discrepancy in reasons for inaccessibility based upon the visibility of one's disability. Those with visible and medical disabilities were significantly more likely to state that the main barrier was due to the aids being too costly for personal purchase. For these students, there was a perception of personal responsibility for having to cover the cost of disability related accommodations. This may act as a factor as to why students with medical disabilities indicated a higher expected debt load. If medication were perceived to be a personal expense (regardless of the need to accommodate in order to navigate PSE) then this would inevitably lead to a higher accumulation of debt.

One major finding that emerged from this study was the uniqueness of students with medical disabilities as a cohort. Since these students could not be characterized based upon the visibility of their disability, they proved an independent population. The results indicate that those with identified medical disabilities perceive their debt load to be significantly higher in comparison to those with visible and invisible disabilities. It is hypothesized that perhaps students with chronic illness or coping with disease accrue higher debt due to medication. They reported an expected debt greater than $20,000. This also translated to significantly greater concern and worry about financial barriers. The results indicated that these students were significantly

more concerned about their debt load upon graduation and their ability to repay debts within a reasonable timeframe. Presently, the reasons for this discrepancy are unknown. However, this finding provides fertile grounds for future investigation.

Overall, this study illustrates that there are unique financial barriers for students with disabilities within Canadian postsecondary education. To date, funding models have failed to incorporate one's type of disability when allotting funding. The results of this study indicated that there are different financial barriers based upon the type of disability identified. Furthermore, there are unique considerations for those with non-apparent disabilities and medical disabilities. Since these categories do not typically fit into traditional notions of disability, there are different student perceptions regarding accessibility to resources and accessibility to disability related educational accommodations.

Policy Implications

Students with medical disabilities are a unique student population. The results indicated that there is a greater perception of personal responsibility among students with medical disabilities, compared to those with apparent and non-apparent disabilities in this study, towards attaining disability-related accommodations (e.g., medications). Furthermore, those with non-apparent disabilities were more likely, than the other two groups, to perceive the main barriers to accessibility were the lack or ambiguous nature of government programs to fund access. This study illustrated that students perceive that the nature of their disability fails to fit into the current definitions and funding molds of what constitutes a disability. This is important information for policy makers to ensure that equal opportunity and access to adequate financial resources are being appropriately met.

Therefore, funding policies for students with disabilities should aim toward more clarity in defining and describing the conditions for disability related supports, particularly for students with non-apparent disabilities. Further, where there are funding and accommodations policies and/or practices that restrict support to students with particular non-apparent disabilities, these policies and practices need to be revised to provide greater assistance to this significant student cohort.

Limitations of the Study

This study had several limitations. The secondary data that we used (the National Graduate Survey and the Participation and Activities Limitations Survey) to supplement our primary survey data were not complete sets of data. The secondary data were made available through the Statistics Canada "Data Liberation" initiative, which provides limited access to large-scale data sets. Although the analyses of secondary data were used as supplemental measures, a more complete set of data may have allowed for a wider variety of analyses.

Secondly, there was very limited access to students with disabilities in Canadian PSE. We only had access to those students who were registered with DSO's, which in and of themselves are limited in terms of the type of students they serve (i.e., students with approved documented disabilities and those who officially register with the DSO) and may vary by institution and/or province. Ideally, all students with disabilities, whether registered or not with DSOs, would have had the opportunity to complete the survey and participate in interviews. However there is virtually no way to identify all students with disabilities on a given campus since it is estimated that a small percentage (6 – 7%) actually register with DSOs (CUSC, 2002; Prarie Research Associates, 2003).

Finally, there is very limited research about students with disabilities in Canadian PSE regarding their experiences with educational debt and the impact of their experiences with debt on their PSE pursuits. This dearth of Canadian based literature left us with a limited national context from which to base our study.

Further Research

Further research activities need to examine the relative differences between students in Canadian PSE with disabilities and those without diagnosed disabilities relative to their educational debt load and its related impacts. According to recent figures (National Graduate Survey, 2007), the average debt Canadian PSE students owed to government loan sources was $16,600. When those with government loans borrowed from other sources are considered, the figure increased to $18,800. For students with disabilities in this study, the average noted total debt is closer to $20,000 with a sizable number of students from the study (42%) expecting their total educational debt to be well over $20,000. We agree that empirically demonstrating systematic differences in debt load between students

with disabilities and those without disabilities could strengthen claims of a disproportionate and unfair debt burden on students with disabilities. However, in conducting such analyses, other complex factors may be considered to provide a broader picture of the relative differences. If we were looking at the overall long-term debt dynamics for students with disabilities versus those without disabilities, a few of the key dynamics worth examining would be the relative length of time each population took to complete their degrees and the related employment options available to graduates with and without disabilities. The longer it takes to complete a degree, the greater the cost and presumably the greater the debt incurred.

Finally, this study did not examine the provincial–level experiences of students with different types of disabilities. This study utilized a national sample. Future work in this area should look closely at the distinctions and similarities among the 10 provinces and three territories in Canada since education and related matters are considered to be a provincial responsibility, not a federal one.

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