**Effects of Post-secondary Education on Daily Activity Patterns of Disabled Persons:**

 **A Measure of Social Inclusion**

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**Executive Summary**

**Introduction**

The aim of our project is to examine connections among public policy on access to post-secondary education, educational attainment, and integration of disabled persons into the wider Ontario society. For several decades, the stated objectives of policy and programming for disabled persons have been expansion of opportunity and integration into the wider society. However, there is no consensus on a measurable indicator of integration or expansion of opportunity.

We propose that daily activity routines of disabled persons and their changes over time be used as a macro-level indicator of policy success. The extent to which activities and their social contexts resemble those of non-disabled persons measures the similarity of the experience of daily life of disabled and non-disabled persons. The change in this resemblance over time measures the degree of convergence of these experiences and provides a macro-level answer to the question of policy success. Statistics Canada survey data on daily activity and time use allows us to investigate the relationship between post-secondary educational attainment levels of disabled persons and the similarity of their time use patterns to those of the Ontario population.

A limitation of our approach is that only recent survey data distinguishes the type and severity of disability but earlier surveys do not. Consequently, evidence on trends cannot distinguish among types of disabilities. Distinctions among disability types will likely become possible based on examination of future survey files.

Post-secondary education can promote the integration of disabled persons and improve opportunity by two paths. The most obvious is the attainment of labour force skills that improve employment success. The second is the prolonged socialization that goes with years of higher education. The latter provides friendships with other persons and experience in navigating institutional structures and participation in the academic routines (such as meeting deadlines, teamwork, and simple punctuality) that are positive preparation for work environments.

Our project addresses three specific questions about daily activity:

* have the daily routines of disabled students become more like the daily routines of non-disabled students over the course of time?
* do disabled persons with post-secondary education behave more like the general population than those without?
* is there a measureable economic benefit to disabled persons from post-secondary education?

The first addresses the impact of policies of accommodation on the experience of students. The second addresses integrative capacity of post-secondary experience, and the third assesses the value of investments in post-secondary education, particularly government programming for accommodation of disabled students. These empirical questions are examined in the context of evolving public policy on aid to and accommodation of disability of all types.

**Analysis**

Our project is designed to assess the role of post-secondary education in the expansion of opportunities available to disabled persons. Post-secondary education is becoming accessible to larger numbers of persons and disabled persons in particular. We hypothesize that a process of skills acquisition and socialization experienced in post-secondary institutions has over time contributed to integration of disabled persons into the wider society.

Integration for disabled students may be expressed in growing activity similarity with non-disabled students. Activity pattern similarity involves both time devoted to as set of activities and similarity in the scheduling of episodes, location of events, transitions among activities and accompaniment by other persons as the day unfolds. Part of the mechanism that promotes similarity may be accommodation policies of the Ministry as implemented by Ontario post-secondary colleges and universities. Integration for disabled adults who have some level of post-secondary training may be expressed in growing similarity of daily activity with non-disabled adults and by greater economic attachment.

We employ nationally published data on daily activity to see whether or not there is evidence of growing similarity or dissimilarity between activities of persons who identify as having a disability and those who do not. The data source is the series of survey datasets released by Statistics Canada in its General Social Survey program. The GSS has been conducted annually since 1986 focussing on a range of subjects, one of which is daily time use and activity. The GSS time use surveys (five since 1992) gather daily activity diaries from respondents in addition to a suite of demographic data. From these databases, we constructed time budgets or lists of times devoted to a set of 18 activities related to daily living, such as paid work, personal care, sleep, housework and leisure to name a few. These were aggregated from detailed activity descriptions from the diaries. We also transcribed activity diaries into letter sequences representing activity, location and accompaniment at 20 minute intervals during the day and calculated the similarities for all possible pairs of respondents. Mean time budgets and activity sequence similarities were then used as indicators of the degree of activity convergence of daily activity patterns from 1992 to 2010.

The impact of post-secondary education on economic activity was measured using multiple regression. Times spent in all activities were analyzed to estimate the influence of a number of socio-economic characteristics, including post-secondary education. The impact of post-secondary education on paid work and child care were then estimated and valued on the basis of published data on provincial earnings and other national accounts indicators. A number of Statistics Canada sources were employed in addition to the GSS.

**Activities of disabled students**

The national prevalence of disabled post-secondary students increased from 1992 to 2010 indicating that enrollment for disabled students is growing faster than for those without disabilities. Women were a slight majority of all students in 1992 but were over 54% by 2010. Women’s representation among disabled students grew from just over 50% in 1992 to 62% in 2010.

Time budget analysis indicates that students’ allocation of time to has changed by only about 1.8% over from 1992 to 2010. The difference between disabled and non-disabled students is larger, at just over 6% but has not changed much. This provides no support for the hypothesis that post-secondary experience tends to promote convergence of daily activity.

Activity sequence similarity for students as a whole has fallen by 1.8% indicating that daily behaviour was somewhat more complex in 2010 than in 1992. Similarity scores among disabled students declined by more than two percent indicating a slightly greater change than for non-disabled students. Similarity between disabled and non-disabled students declined by 1.4 percent. While the similarity trend is negative, it indicates that the dissimilarity between non-disabled and disabled students has increased less than for all students. We interpret this as a relative convergence which was not observed using time budget data.

**Activities of the disabled population**

GSS survey data is consistent with other Statistics Canada survey data on population and disability, such as Cansim and the 2012 Canadian Survey on Disability. The key Ontario demographic trends are population aging, rising retirement and dependency rates, increasing levels of post-secondary training and a convergence in disability rates for men and women. There is some evidence that the disability prevalence among elderly persons is declining.

The dissimilarity of time budgets for the Ontario population between 1992 and 2010 was 4.4% and showed less change than Canadian data for the same period. The dissimilarity between disabled and non-disabled persons was 10.2% in 1992 and 8.3% in 2010 indicating convergence of daily activity patterns. Disabled persons with only secondary education became considerably more similar to non-disabled persons with secondary schooling while disabled persons with post-secondary training became slightly less similar. On the basis of time budget data, the least well educated disabled persons are progressing most towards activity similarity with the general population. Activity sequence analysis indicates that the daily routines in Ontario have become on average more similar. Disabled people without post-secondary education are becoming more similar to the non-disabled population more quickly than disabled people with post-secondary education.

Disabled persons with secondary schooling were more different in 1992 from the non-disabled population than more highly educated persons. However, on both the time budget and sequence similarity measures those with only secondary schooling are progressing more rapidly.

It is possible that in the past disabled persons who received post-secondary training had less severe disabilities. This could create a “ceiling effect” which could account for their relative activity similarity with non-disabled persons. If post-secondary educational accommodation policies are now attracting students with greater degrees of disability, 2010 data would show more dissimilarity with non-disabled persons and would indicate less convergence. Details of type and extent of disability were introduced in the 2010 GSS so we cannot control for trends in type or severity from 1992 to 2010, although this will be possible after the release of the 2015 survey data. If severity of disability were controlled, it may be the case that post-secondary training will be found to be related to greater activity similarity for more severely disabled persons. In the data at hand, we are likely seeing that other factors, including disability programming, are helping less educated persons to do the same activities as the non-disabled.

**Impacts and economic analysis of post-secondary education**

Regression analyses were conducted for all activities identified in the time budgets. We report the six estimating equations for which the level of explanation was satisfactory, namely, paid work, education, light housework, screen time, social leisure and child care. A variety of characteristics are presumed to influence activity time allocation and such data are available from the GSS files. The impacts of gender, age, household size, day of the week, income, disability and post-secondary educational status were generally in the expected directions and most were highly significant.

Men were found to report more paid employment and screen time and less housework, socializing and child care than women. Couples and persons from larger households spent more time in housework and child care and less time with screens and socializing. Urban residence significantly affected only education time (positively). Weekdays affected all activities in predicted ways, increasing paid work, education, and child care, and reducing housework and leisure. Income was strongly positively associated with work time. Age was related to most activities in a complex way. For example work increases with age but decreases in old age. The reverse is the case for education. Post-secondary status was associated with increased paid work and child care time for both disabled and non-disabled persons.

Post-secondary education generated on average 30 extra minutes of work for not disabled persons and 42 minutes for disabled persons. It also positively influenced child care time. Estimates of the economic value of marginal work time for disabled persons were from $3.4 billion to $7.6 billion per year in 2010. The impact on non-disabled persons was from $16.2 billion to 25.9 billion. These totals amount to from 6 to 10 percent of Ontario’s household earnings as reported by Statistics Canada’s national accounts. The estimates may be up to 50% higher if wages for post-secondary graduates are used rather than the provincial average. Estimates of the impact of post-secondary education on child care were positive and nearly the same in minutes for disabled and non-disabled persons. Our estimate for the economic impact is just under $1.5 billion. .

With respect to evaluation of the outcomes of accommodation programs for disabled students, the economic impact of post-secondary training would have to be shared between Ministry policy and other factors. In particular, some estimate of the number of disabled students who would not have attended an institution without program support would have to be developed in order to attribute educational attainment to accommodation program activity. Such an estimate would allow one to estimate the costs and benefits of accommodation program spending.

**Ontario Policy on Accommodations for Disabled Post-Secondary Students**

The Ministry of Training Colleges and Universities of Ontario administers 11 statutes, none of which explicitly mention students with disabilities. Policy regarding services to students with disabilities are instead found in reports and guidelines issued periodically over the past 3 decades, in human rights case law, and in general accessibility legislation. We review 8 significant developments in policy in Ontario related to accommodations for disabled students in post-secondary education.

**The Wesley Report (1988)**

The period of consideration in this report officially begins with the Wesley Report (1988), entitled, Access for Disabled Persons to Ontario Universities. Commissioned by the Ministry of Colleges and Universities, Wesley and colleagues were charged with the task of reviewing access to university education by Ontarians with disabilities. The Report begins by acknowledging the importance of higher education for disabled people: “It is the key for many to an independent rather than a dependent lifestyle”. In the past, ad hoc responses to students with disabilities were the norm for post-secondary institutions, leading to inconsistencies in support services across the province, and inequities between students and between institutions. Wesley recommended that the Ministry fund the establishment of Centres for students with disabilities in all Ontario universities.

Universities clearly have an obligation to afford disabled students the “right to try”, by providing “reasonable accommodations” – that is, physical or operational changes to compensate for a disability or help a person to meaningfully participate in the university’s program’s and community life. Accommodations are not meant to violate the merit principle on which universities are based. Applied correctly, they compensate for a disadvantage faced by an otherwise qualified individual. Wesley is careful to point out that an accommodation should not lead to an easing of standards – universities should ensure that graduate quality is comparable.

Beyond funding and infrastructure problems, Wesley noted that attitudinal problems are also barrier to access, and recommends education and training. The Wesley Report has served as both a practical policy tool and an educative tool in combating the widespread lack of awareness regarding accessibility issues.

**The Accessibility Fund for Students with Disabilities (1989)**

In 1989, in response to the recommendations of the Wesley Report, the Accessibility Fund for Students with Disabilities (AFSD) was established to assist colleges and universities to meet their legal responsibilities to accommodate students with disabilities. AFSD is a cost-shared program between the Ontario and federal governments, and is part of a larger initiative to promote employment for persons with disabilities, called the Labour Market Agreement for Persons with Disabilities. The AFSD focuses exclusively on improving access to higher education. Funding is available to provide individualized accommodations, but only for students with medically documented disabilities. Described as “leveling the playing field”, these accommodations are expected to create more equitable access, increase the likelihood that students with disabilities will graduate, and improve their employability. One of the most significant outcomes of the AFSD is improved capacity to identify and accommodate students with disabilities in a consistent manner across Ontario universities.

**Human Rights legislation (1997 – 2001)**

In 1983, the *Charter of Rights and Freedoms* was enacted as part of the Constitution Act of Canada. The Charter explicitly names disabled people as one of five groups whose rights needed to be particularly addressed and protected (along with women, visible minorities, gay/lesbian/bisexual/ transgendered, Aboriginal people). In the intervening 30 years, four cases have been decided that have a significant bearing on the situation of disabled students.

* In 1997 (Eldridge vs. BC), the appellants case was upheld, stipulating that the BC hospital had the obligation to provide sign language interpretation to ensure equitable access to health care. This case established the requirement of government-funded institutions to take positive steps (to the point of undue hardship) to ensure reasonable accommodation so that disabled individuals can benefit from public services.
* In 1999 (Meiorin vs BC), a 3-part test was established to determine if a “standard” can be used to exclude an individual who is unable to perform a specific function. In Meiorin, the appellant was unable to fulfill a fitness requirement due to gender. The test for “bona-fide occupational requirement” (BFOR) demonstrated that the fitness requirement was discriminatory because it did not apply directly to the duties of the job. A similar case can be made regarding the “job” of being a student in post-secondary education. A student cannot be asked to meet a standard that is not specifically necessary for fulfillment of the requirements of the educational program.
* Also in 1999 (Grismer vs BC), the Meiorin test was applied to an individual seeking a driver’s license despite having a visual impairment. The court found in favour of Grismer, affirming the need for a high standard to claim “undue hardship” in accommodating the rights of citizens with disabilities. This case further consolidated the right to be free of exclusionary practices that are not justifiable based on the requirements of the job or activity.
* In 2000, The Eaton family petitioned the Supreme Court to overturn a ruling by Brant County Board of Education to place their severely disabled daughter, Emily, in special education. The Court noted that there was no presumption in favour of integration by the Court; rather the duty of the Court was to ensure that the best educational interests of the child should be served.

Taken together, these cases establish the rights of students to receive appropriate accommodations when interacting with publicly-funded institutions. Further, they establish the right to processes that are undertaken in good faith to prevent discrimination. They mitigate against exclusionary practices based on standards that are not directly related to the bona-fide occupational requirements (pertaining to the occupation of being a student). Finally, they underscore the right to special services where those are deemed to be in the best interests of the individual. For these reasons, these cases are often cited in appeals by post-secondary students with disabilities.

**The Opportunity to Succeed: Achieving Barrier Free Education for Students with Disabilities (2003)**

*The Opportunity to Succeed* is an Ontario Human Rights Commission’s (OHRC) report, summarizing its research and consultation on human rights at all levels of education in 2002-2003. The report concludes that “students with disabilities do not have equal access to educational opportunities in Ontario”. It notes that key barriers arise from inadequate funding, physical inaccessibility, attitudinal barriers and widespread lack of understanding of rights and obligations under the *Ontario Human Rights Code*. The report asserts that the definition of disability should be interpreted broadly to include past and present disabilities, “as well as perceived disabilities”.

With respect to postsecondary education, the Report called for amendments of the *Ontario Building Code,* noting many examples of physical barriers in postsecondary institutions, particularly with respect to student housing, lecture halls, and washrooms. The Report observed that all Ontario universities and colleges had offices mandated to support students with disabilities; however, it called for improved integration of accessibility features into the development and delivery of the academic processes.

Examining the individualized accommodation process in some detail, the Report noted that unlike elementary and secondary schools, where the goal is to achieve equity of outcomes (that is, education for all), in postsecondary institutions, the purpose of academic accommodations is to create an equitable opportunity to demonstrate academic achievement, while preserving defensible essential requirements of an academic task or program.

The Report also provides guiding commentary for institutions on matters related to confidentiality, undue hardship (the threshold that institutions are required to meet before denying accommodations) and dispute resolution. It distinguished between *academic freedom*, which relates mainly to freedom of research and expression and cannot be used to deny accommodations, and *academic integrity,* which refers to the essential requirements of an academic task, course or program.

**Guidelines on Accessible Education (2004)**

As a companion to the *Opportunity to Succeed*, this document is intended to guide institutions in interpreting their responsibilities under the Ontario Human Rights Code for accommodating students with disabilities. Institutions are responsible for creating an inclusive and welcoming environment for students with disabilities by:

* implementing anti-bullying and anti-harassment policies;
* delivering awareness training; and
* paying particular attention to students with non-evident disabilities including mental and learning disabilities.

A 3-step process is recommended to provide the greatest opportunity for full participation by students with disabilities: promoting inclusive design, removing existing barriers, and accommodating remaining needs.

According to the OHRC, three principles underpin the accommodation process: respect for a person’s dignity, individualized accommodations, and ensuring inclusion and full participation.

The policy outlines in detail key components of the accommodation process and provides substantial guidance to institutions in areas such as appropriate information sharing practices for implementing accommodations, timeliness and dispute resolution. It discusses at length disability-related information that students could be expected to provide in support of their request for accommodations, setting parameters for access to this information and stating unequivocally that such information ought not be communicated on academic-related documents such as transcripts or entrance test result forms. The policy discusses at length the concept of “undue hardship”, noting that only three elements may be considered in making such a claim: cost, outside sources of funding (if applicable) and health and safety requirements. The final analysis is that larger publically assisted organizations, like universities, must go to great lengths before successfully claiming undue hardship as a reason for refusing to accommodation a student with a disability. The policy statement concludes by listing the roles and responsibilities for each of the parties involved in the accommodation process, including the student, the education provider and unions and professional associations.

**Accessibility for Ontarians with Disabilities Act (2005)**

The *Accessibility for Ontarians with Disabilities Act* (AODA) legislates development, implementation and enforcement of accessibility standards in five areas: customer service, employment, transportation, information/communication, and design of public spaces. Universities, as major public institutions, are obligated under all of the regulations, although some have more bearing than others on the experiences of students with disabilities. The Customer Service standard requires that all university employees receive training on delivering service to persons with disabilities. The training must cover topics such as respectful language, asking how to be of assistance, responding to requests, welcoming service animals and/or support persons, allowing for and supporting the use of assistive devices, and communicating the disruption of services (e.g., elevator service disruptions).

The Information and Communications standard requires that all university websites and publications are made accessible, and all educators (faculty, teaching assistants, staff instructors) are trained in the development and delivery of accessible course design and instruction. University libraries are required to incorporate accessibility in their procurement processes and make existing materials accessible upon request.

**Policy on preventing discrimination based on mental health disabilities and addictions (2013)**

This report by the Ontario Human Rights Commission is “intended to provide clear, user-friendly guidance on how to assess, handle and resolve human rights matters related to mental health and/or addictions” ( p. 5). The report reaffirms that service providers, such as universities and colleges, have an obligation to accommodate people with mental health disabilities and addictions, echoing previous policy documents, specifically Guidelines on Accessible Education. It delves further into the concept of bona fide occupational requirements, noting the framework established in the Meieron decision.

This policy places responsibility on organizations to be alert to the possibly that a person may need an accommodation even if they have not made a specific request for it. This departs from the previous policy, where the person with a disability is expected to make known their need for accommodation. This policy requires postsecondary institutions to ensure that faculty and staff are trained in identifying and responding to people who may have mental health disabilities, and referring them to the appropriate supports.

This policy also restricts the type of information that institutions might request from a student about their disability. In effort to reduce stigma associated with labels, the policy states that in only rare circumstances would an institution need to have a medical diagnosis in order to provide disability-related services. It is not clear yet what implications this will have for postsecondary institutions in approving accommodations plans while preserving standards in a competitive academic context.

**Accessibility Fund for Students with Disabilities**

In 2014, the Ministry evaluated AFSD (Cathexis Consulting Inc. 2014). The evaluation highlighted the lack of information available in Ontario colleges and universities on graduation or employment outcomes for students with disabilities. It concluded by recommending that the Ministry work more closely with colleges and universities in identifying metrics and approaches that could be used to assess the AFSD’s value in relation to employability and labour market participation.

**Conclusion**

The only pieces of provincial legislation pertaining to access to post-secondary education are the Human Rights Act and the Accessibility for Ontarians with Disabilities Act. None of the legislation administered by the Ministry of Training, Colleges and Universities explicitly mentions the situation of disabled students or the obligations of institutions toward those students. Since 1983, there have been 8 significant developments in policy around supporting disabled students, beginning with the Wesley Report. This report highlighted the lack of coordination or consistency in the supports available for post-secondary students with disabilities. It brought the issue into focus of universities and colleges, and prompted the Ministry to ear-mark funding for accommodations. In response, most institutions opened offices to coordinate services to disabled students, and provincial organizations emerged to track issues arising across institutions.

By the 1990s, human rights case law had begun to emerge focusing on disability issues. In particular, several landmark cases were decided by the Supreme Court of Canada that had a significant impact on how public institutions interpreted their duty toward their clients or students. Up to this point, the focus remained on individual accommodations. In the early 2000s, the Ontario Human Rights Commission weighed in, issuing two documents explicitly stating expectations on colleges and universities regarding individual accommodations, and also starting to reference broader structural concepts, such as integration, barriers and overall accessibility.

In 2005, Ontario enacted the Accessibility for Ontarians with Disabilities Act (adding more definitive expectations to those expressed in the 2001 Ontarians with Disabilities Act). The AODA represented a shift in focus from individualized accommodation to improved accessibility for everyone. Universities continue to grapple with implications of AODA, and to implement programs and processes toward the goal for a fully accessible Ontario by 2025.

Despite enactment of accessibility legislation, the number of students with disabilities seeking academic accommodations continues to rise at a sharp pace at Ontario universities and colleges. In recent years, the Ontario Human Rights Commission strengthened its policies concerning the rights people with disabilities, in particular those with mental health disabilities, and reaffirmed obligations on the part of service providers to provide accommodations. Two additional reports have been issued in the past two years, further extending the obligations on universities and colleges, and placing emphasis not only on procedures but on outcomes (i.e., completion rates). The Ontario Human Rights Commission specifies that Institutions are required to identify and remove barriers across the board, while at the same time retaining capacity to provide individualized accommodations. Further, they are expected to do so with even less information about a student’s disability, making it more difficult to design accommodation plans that are appropriate and reasonable, while preserving academic integrity and the competitive nature of the university context.

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