

Employment Experience of Ontario's Postsecondary Graduates with Learning Disabilities

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Executive Summary

The overall goal of the present study was to examine the employment experience of postsecondary graduates with learning disabilities (LD) in the province of Ontario. More specifically, employment success, job satisfaction, impact of LD within a job setting and experience with employment transition services during postsecondary education were examined. Utilizing a uniform and current definition of LD (LDAO, 2001), this study surveyed graduates from 20 of Ontario's colleges and universities to capture their employment experiences. The research was conducted through Ontario's two Assessment and Resource Centres (ARCs), which collectively provide comprehensive psycho-educational assessments for students enrolled in Ontario's postsecondary institutions. The pool of participants for the study included graduates of postsecondary institutions who had received a diagnosis of LD from these centres between the years 2004/05 and 2007/08 and who had entered the labour market.

Key Findings from the Study

- Findings regarding the employment status of graduates with LD from Ontario's colleges and universities showed that since graduation, 69.1% of the sample reported being employed on either a full-time or a part-time basis, while 16.4% reported being unemployed. In addition, 10.9% indicated that they had returned to school, and 3.6% reported their occupational status as that of homemaker. The main findings regarding the impact of LD in the workplace centred on strategies to manage the impact of LD on these individuals, disclosure of their learning disabilities and the consequences of disclosure:
 1. Low-profile, low-technology strategies such as time management and support from friends and family were favoured over highly visible or high-technology strategies such as assistive technology and self-advocacy.
 2. The majority of respondents (71.9%) indicated that their LD impacted their performance in the workplace, yet the majority (62%) also chose not to disclose their LD in this setting.
 3. The reasons for not disclosing were cited as fear of being judged, embarrassment and a belief that the LD did not impact job duties.
 4. Gender, age, type of institution and job satisfaction were related with self-disclosure in the workplace, with females, older students, college students (relative to university) and those indicating lower levels of job satisfaction being more likely to disclose their disability.
- Regarding job satisfaction, the sample reported being satisfied with their current employment, as 70.8% of respondents either strongly agreed or agreed with eight different aspects of job satisfaction. Differences in salary level, strategies used on the job to reduce LD impact and self-disclosure of LD occurred relative to job satisfaction. Job satisfaction and salary levels were higher for individuals who used more strategies

on the job to reduce LD impact but not for those who engaged in more self-disclosure about their disability.

- Similar to the general Ontario college population, career services were not used to a great degree by this group of students. Work experiences such as co-op placements and job search training were accessed by approximately one-quarter of survey respondents.
- Focus interviews conducted post survey highlighted respondents' sensitivity to their information-processing-speed problems and the extra time required to complete tasks relative to the time taken by coworkers. Comments regarding self-disclosure in the workplace tended to be negative, while comments pertaining to job satisfaction were typically positive. The respondents emphasized the valuable role played by disability services offices on various college and university campuses.

Conclusions

- For the most part, students with LD graduating from Ontario's colleges and universities are obtaining employment that they find satisfying.
- LD continues its impact in the lives of these students, with the majority of them stating that such traits as slower speed of information processing, spelling and reading impede their performance on the job.
- LD graduates in the workplace often choose not to disclose their disability, primarily citing reasons of judgement and embarrassment as preventing them from making the disclosure.
- This group of graduates with LD accessed the career services offered on the campuses of Ontario's colleges and universities infrequently but at a rate similar to that of their non-disabled peers.
- The present study highlights areas very much in need of further exploration, including factors underlying the disconnect between stated LD impact on the job and unwillingness to disclose a disability in the workplace. The limited use of career services is a new and surprising finding. In addition, the preference for low-technology strategies over technological accommodations in the workplace is in need of further analysis.

Background

The number of students with learning disabilities (LD) accessing postsecondary education in Canada has increased steadily in the past two decades. Statistics from the Ontario Ministry of Training, Colleges and Universities (personal communication, December 13, 2010) for the 2008-2009 academic year indicate that of the 36,277 students registered at disability offices in Ontario colleges and universities, 13,627 or 37.5% of students were identified as having a learning disability as their principal disability.

While there is no one agreed-upon definition of a learning disability within North America, a recent review of this topic (Flanagan, Ortiz, & Alfonso, 2006) determined a set of core characteristics: (1) a history of academic difficulties; (2) academic deficits (i.e., functioning below average, typically below the 16th percentile); (3) processing deficits resulting in the noted academic deficits; (4) exclusionary factors; and (5) functional impairment. The Learning Disabilities Association of Canada (LDAC) and the Learning Disabilities Association of Ontario (LDAO) go further and add average thinking and reasoning ability to this list of distinguishing features (LDAO, 2001). In fact, the LDAO definition is presently one of the preferred definitions of LD, given its clinical meaningfulness, empirical support and ease of operationalization (Flanagan, 2010).

Within this context, it is apparent that individuals with LD may require coping strategies at a minimum and quite possibly accommodations to succeed within the academic domain. For a number of years, special education teachers and special education resource rooms have existed within elementary and secondary school settings to provide such supports to students with LD. However, until fairly recently, students with LD who successfully graduated from these systems and entered into postsecondary studies were typically left to manage their own learning needs. It was in 1998 that the Learning Opportunities Task Force (LOTF) was established with the goals of (1) improving the transition of students with specific learning disabilities from high school to postsecondary education and (2) enhancing the services and supports that students with learning disabilities received within the postsecondary educational sector, such that they could successfully complete their education. As a result of pilot projects run at a number of Ontario's colleges and universities between 1998 and 2002, it was determined that students with LD were as able to succeed in postsecondary education as their non-disabled peers *provided that* the following conditions were met: (1) their transition to postsecondary education was appropriately facilitated; (2) they received the necessary individualized supports, services, programs and/or accommodations; and (3) they used the individualized supports and services made available to them within the disability services offices on postsecondary campuses (LOTF, 2003).

Postsecondary education has a strong relationship with meaningful employment (Conyers & Szymanski, 1998; Wagner, Cameto, & Newman, 2003). The National Centre for Education Statistics (NCES, 2001) has noted that adults with higher levels of education are more likely to be employed than those with less education. This trend is also evident among adults with disabilities (National Organization on Disability, 2001a, 2001b). The successful transition of postsecondary graduates with learning disabilities into the workforce is an outcome of obvious interest to Ontario's colleges and universities. However, there is a dearth of research examining the employment outcomes of this body of students. To date, studies of employment experiences for individuals with LD have focused largely on high school graduates as compared to high school dropouts (e.g., Blackorby & Wagner, 1996, 1997; Goldstein, Murray, & Edgar, 1998; Levine & Nourse, 1998; Raskind, Goldberg, Higgins, & Herman, 1999). The findings from these studies are generally discouraging. For example, Blackorby & Wagner (1997) and Goldstein et al. (1998) found that individuals with LD who did not have a postsecondary diploma experienced lower rates of employment, higher rates of underemployment, lower earnings, and lower rates of independent living than age-equivalent, non-disabled peers. Levine & Nourse

(1998) determined that women with LD tended to have lower employment rates than men with LD. However, Raskind et al. (1999) identified several protective factors that served to predict employment success for individuals with LD and no high school diploma. This list of traits included resuming education and being in possession of success attributes such as self-awareness, perseverance and goal-setting skills, as well as having a social support system.

Research focusing specifically on employment outcomes for postsecondary graduates with learning disabilities is slowly emerging. These early studies have found outcomes for postsecondary graduates with LD to be comparable to those of their non-LD peers in terms of level of employment and salary, indicating that postsecondary experience may be essential to employment success (Adelman & Vogel, 1990; Horn, Berktold, & Bobbit, 1999; Madaus, Foley, McGuire, & Ruban, 2001). In particular, Madaus et al. (2001) surveyed a sample of college graduates with LD and found that 86.5% were employed on a full-time basis. However, findings around job satisfaction are mixed in that concerns regarding both self-disclosure of a LD and accessing accommodations within the workplace has been documented. Studies by Kakela & Witte (2000) and Madaus et al. (2001) both state disclosure rates as being in the neighbourhood of 30%, despite the fact that one of the same samples of respondents overwhelmingly indicated (90%) that their LD impacted their workplace performance (Madaus, Foley, McGuire, & Ruban, 2001). The hesitation to disclose an LD, coupled with the perceived impact of LD within the workforce, does not present as a likely formula for success.

These initial studies, while important for their role in opening up the field to investigation, contain methodological problems, such as small, homogeneous samples and data restricted to a single educational institution. This necessarily limits the reach of the generated conclusions, as the findings may be unique to the given institution or to the type of LD studied. As well, most of this work was completed during the mid- to late 1990s, during a period of national economic prosperity that waned in subsequent years. In addition, very few of the studies were conducted within Canada, making the application of such results to this country dubious or tenuous at best. A narrow focus is also evident in the early studies, with each tending to investigate a single aspect of employment. For these reasons, updated and expanded data in this area are important if the postsecondary work experience of graduates with LD is to be accurately depicted and more fully understood. In particular, research in this area must be expanded to examine samples from a broader range of institutions (e.g., colleges and universities of varying sizes), which, in turn, may provide insight into possible best practices in career and transition services for postsecondary students with LD who are attending college or university in either urban or rural centres.

The overall goal of the present study was to extend knowledge of the postsecondary employment experience of graduates with LD in the province of Ontario. More specifically, employment success, job satisfaction, impact of LD within a job setting and experience with employment transition services while engaged in postsecondary education were examined. Furthermore, this study sought to improve upon methodological limitations in past research by surveying graduates from all of Ontario's colleges and universities; by offering the survey in a variety of media; and by using a single, validated definition of LD to enhance the generalizability of the findings.

This research study was conducted through Ontario's two Assessment and Resource Centres (ARCs): the Northern Ontario Assessment and Resource Centre (NOARC), situated in Sudbury and servicing the 11 colleges and universities within northern Ontario, and the Regional Assessment and Resource Centre (RARC), situated in Kingston and offering services to students attending colleges and universities in southern Ontario. The mandate of these centres is to provide comprehensive psycho-educational assessments to students accepted to, or enrolled in, Ontario's postsecondary institutions and having a history of, or suspicion of, LD or Attention Deficit Hyperactivity Disorder (ADHD). The centres are thus well poised to conduct research with adult students with LD. A unique advantage of selecting participants through these centres is that the definition of LD used in the two centres is clinically and empirically sound and consistent, as both subscribe to the LDAO definition. Thus, the pool of participants is more clearly defined than in many studies, where researchers are often working with self-reported LD or diagnoses of LD arrived at using varying definitions of LD – or even with "identifications" of LD, which are determined using a less stringent set of criteria. Moreover, the ARCs actively service approximately 20 of Ontario's college and universities and thus garner a reasonably broad sampling of postsecondary students within the province who have learning disabilities.

Methodology

Ethical Review

The proposed study was submitted to the Research Ethics Board (REB) at the institutions hosting NOARC and RARC, respectively. Approval was received from the REB at both Cambrian College and Queen's University to proceed with the project.

Participants

The sample for this study was drawn from a pool of college and university graduates who received assessments at either the NOARC or the RARC and received a diagnosis of LD as defined using LDAO criteria. This pool of potential participants consisted of approximately 600 persons between the two centres. In order to be included in the study, participants had to have completed the assessment process between the 2004/05 and 2007/08 school years. Students were not excluded on the basis of race, gender or religion. The study was conducted from September 2009 to July 2010.

Materials

A copy of the recruitment invitation, letter of information and survey used within the study are provided in Appendix A. Consent was garnered within the letter of information accompanying the survey, whereby return of the survey was deemed to indicate consent to participate in the study. A schematic of the questions and processes used to conduct post-survey focus interviews is provided in Appendix B.

Design

A survey was designed based on a literature review of similar studies and appropriateness from an Ontario perspective. It was refined through consultation with a panel of disability office managers and then pilot-tested on a small group of adults with LD, currently in the workforce, who openly identified their LD and expressed a willingness to offer advice regarding such surveys. After receiving additional feedback from this group of stakeholders, the final version of the survey was made available to former clients of the two ARCs. The complete survey gathered information from the following areas: general demographics (e.g., respondent information), occupational demographics (educational/employment details), job satisfaction, self-disclosure of disability and impact of disability on job, as well as career transition service supports offered on postsecondary campuses. The survey was prepared in an electronic format that could be read using assistive technology and posted to Survey Monkey; it was also made available in a paper format that could be mailed to potential participants or completed by telephone with the aid of a research assistant trained in such phone interviews.

In addition, a set of focus questions was designed to explore the main research themes: current employment status, disability disclosure and career services offered at college or university. These focus questions were administered to students who completed the initial survey and provided consent for further contact; a trained member of the research team then conducted these interviews by phone and documented subject responses in written format.

Procedure

Databases at NOARC and RARC were combed to gather a listing of students assessed during the targeted years and diagnosed with an LD, and for whom contact information was still on file. Students were then invited to participate in the study, using a medium of their choosing: electronic, paper or phone. Those who opted for the electronic medium used a link to Survey Monkey, where the survey could be completed online using assistive technology if so desired. Paper surveys were completed independently by subjects and returned via postage-paid envelopes to the appropriate ARC. Research assistants affiliated with one or the other of the two ARCs conducted phone surveys as requested by respondents.

The method of soliciting participation for this survey followed an approach recommended by Dillman (1991), which purports a success rate of 75% and involves sending waves of invitations. Thus, one advance-notice e-mail and three waves of e-mail surveys were sent to potential participants. Non-respondents or those with invalid e-mail addresses were then sent one paper advance notice and three waves of paper surveys. Non-respondents or those whose paper surveys were returned unopened were then placed into the phone survey queue. Finally, focus question phone interviews were conducted with any participant who provided consent for such an interview within their returned survey.

Analysis

A number of descriptive analyses were conducted in relation to the survey itself, candidate response rate, participant characteristics and the stated research themes of employment

success (job satisfaction, impact of LD within a job setting and experience with employment transition services during postsecondary schooling). Results of the individual analyses are summarized below.

Results

Survey Properties

The internal consistency of scales was examined by Cronbach's alpha reliability estimate. The alpha reliability estimates for the Job Satisfaction Scale (question 23 on the survey), Impact of Learning Disabilities Scale (question 31) and Self-Regulatory Strategies Scale (question 32) were all .97. The Career Transition Services Scale (question 33) had an alpha reliability estimate of .90. These coefficients are above the minimum criterion of .70 suggested by Gable and Wolf (1993).

Response Rate

The response rates for both the NOARC (Cambrian College) and the RARC (Queen's University) was 20.8%, as 125 surveys were returned in total. The response rate was equivalent to or higher than, the rates found in past investigations of college graduates with LD in which similar methodology was used (i.e., 17%-40%) (Dickinson & Verbeek, 2002; Witte, 2001). E-mail surveys were the most effective method of data collection, with 60% of the returned surveys being completed in this format from both centres. Mail surveys were the second-most-frequent method of returned surveys, while telephone surveys were the least effective method of collecting data.

Participant Demographics

Throughout the course of this study, 125 completed surveys were returned in total. Of these, 15 were completed by respondents who had started postsecondary education but did not graduate. Inspection of individual surveys determined an additional 12 to be unsuitable for inclusion in all analyses, as they were completed by graduates who had, in fact, returned to school and thus were unable to accurately answer the questions, many of which referred to current employment environments. Thus, most analyses are based on 98 surveys, though in select analyses such as that of career services, all 110 surveys have been utilized. Also, because not all returned surveys were fully completed (due to skip logic and missed questions), the number of cases used in given analyses varies.

The gender split across respondents was fairly even; with 42.7% being male and 57.3% being female (see Table 1). The age range was relatively broad (19 to 59 years), with the average and median ages of participants being 27 and 24 years, respectively. The pool was fairly homogeneous with respect to ethnicity, as 91.8% were White, and 2.7% or less were Aboriginal, Other, Korean, South Asian, or Arabic/Iranian. The primary language of the respondents was English (87%), followed by French (11%) and then Arabic and German (1% each). Compared to

the Ontario population as a whole, this sample was more likely to be Caucasian and to speak French (Statistics Canada, 2006c).

Interestingly, the age at which LD was first diagnosed in these respondents showed a bimodal trend whereby 50% of students were initially provided with this diagnosis in elementary school and another 40% were diagnosed while enrolled in postsecondary study. Only 10% learned of their disability while attending high school. This reflects the predominant trend in school and educational psychology whereby early identification of LD, coupled with early intervention, is promoted as best practice (Harrison, 2005). The group of graduates with LD responding to this survey had fairly typical levels of comorbidity, with approximately 44.5% having an additional mental health or ADHD diagnosis (Wilcutt & Pennington, 2000).

Table 1
Summary of participant demographics (N = 110)

Characteristic	Categories	Percentage of Sample*	Number
Gender	Male	42.7	47
	Female	57.3	63
			N = 110
Age	Minimum		19 years
	Maximum		59 years
	Median		24 years
Ethnicity	White	91.8	101
	Aboriginal	2.7	3
	Other	2.7	3
	Korean	0.9	1
	South Asian	0.9	1
	Arabic/Iranian	0.9	1
			N= 110
Primary language in home	English	87.3	96
	French	10.9	12
	Arabic	0.9	1
	German	0.9	1
			N = 110
LD first diagnosed	Elementary school	50.0	55
	Secondary school	10.0	11
	Postsecondary institution	40.0	44
			N = 110
Additional diagnoses	ADHD	30.0	33
	Mental health	14.5	16
	Other	11.8	13
	None	43.6	48
			N = 110
Highest degree	College certificate/Diploma	47.3	52
	University bachelor degree	34.5	38
	Apprenticeship trade ticket	13.6	15
	University certificate/Diploma below bachelor level	2.7	3

Characteristic	Categories	Percentage of Sample*	Number
	Postgraduate degree	1.8	2 N = 110
Graduation year	2004	19.2	20
	2005	15.4	16
	2006	14.4	15
	2007	22.1	23
	2008	28.9	30
			N= 104

* Some percentages may not add to 100.0% due to rounding errors.

Survey respondents were compared to non-respondents on the demographic variables of age, gender and level of schooling. The two groups proved similar in these respects, with the median age of the non-respondents being only slightly higher than that of the respondents (25 vs. 24 years of age). The gender split was in favour of females in both groups (non-respondents 54.8% vs. 44.1% and respondents 57.3% vs. 42.7%). College graduates outnumbered university graduates in both the non-respondent (56.8% vs. 41.8%) and the respondent groups (60.9% vs. 39%).

Employment Status

Occupational Demographics

According to Statistics Canada, the employment rate for the general population was 62% in 2010, including individuals working in any capacity (Statistics Canada, 2010b). For the population aged 25 to 34, 80% of non-disabled people were employed relative to 60% for those with disabilities (Statistics Canada, 2006a). The level of current employment among the survey respondents was modestly higher, with 69.1% reporting part-time to full-time employment. Of these, the vast majority (96.3%) were working for employers, while only 3.7% indicated that they were self-employed. The longest period of reported employment was fairly evenly split across the categories of less than six months, one to two years and more than 2 years, with only 5.1% reporting never having been employed (see Table 2). The duration of employment reported by respondents varied in accordance with graduation date. The longer respondents had been out of school (the 2004/05 and 2005/06 cohort), the longer their reported period of employment. Conversely, as the time passed since graduation decreased (the 2006/07 and 2007/08 cohort), the duration of employment also decreased.

The average salary earned by this cohort of postsecondary graduates presents as relatively low, with 38.2% earning \$20,000 or less and another 40.8% earning between \$20,001 and \$40,000 (see Table 2). Cross-tabulation of salary level by part-time and full-time employment status showed a positive association between hours worked and salary. Graduates earning salaries in the \$20,001-\$40,000 and \$40,001-60,000 ranges more often reported working full-time hours as opposed to part-time hours (62.5% vs. 35%). Inversely, most graduates earning \$20,000 or less reported working more part-time hours than full-time hours (65% vs. 28.6%). In addition, recent entry into the job sector may translate into entry-level salaries, thus imposing a temporary

ceiling on salaries. The limited number of respondents receiving benefits through their work (42.5%) may again be related to part-time status or, possibly, job quality.

The unemployment rate for participants completing the survey was 16.4%, but unemployment duration among the survey respondents varied, with 43% claiming never to have been unemployed and 20.3% reporting having been unemployed for a period of less than 3 months. The top reason respondents gave for periods of unemployment was, by far, not being able to find work in their field of training/education. Thereafter, the cited reasons were widely distributed and not apparently influenced by disability status.

Table 2
Summary of employment status

Characteristic	Categories	Percentage of Sample*		Number		
Current employment	Full-time	50.9		56		
	Part-time (21-34 h)	10.9		12		
	Part-time (20 h or less)	7.3		8		
	Homemaker	3.6		4		
	Not employed	16.4		18		
	Returned to school	10.9		12		
				N = 110		
Current employment (University/College)	Full-time	University		College		
			75.0		50.9	
		Part-time (21-34 h)	13.9	12.3	5	7
		Part-time (20 h or less)	5.6	8.8	2	5
		Homemaker	0.0	7.0	0	4
		Not employed	5.6	21.1	2	12
				N = 36	N = 57	
Current salary	\$20,000 or less \$20,001—40,000 \$40,001-60,000 \$60,001-80,000 80,001-100,000 \$100,000+	Full-Time		Part-Time		
			28.6	65.0	16	13
			44.6	30.0	25	6
			17.9	5.0	10	1
			5.4	0.0	3	0
			0.0	0.0	0	0
	3.6	0.0	2	0		
			N = 56	N = 20		
Longest period of employment since graduation	< 6 months	22.5		22		
	6 months-1 year	27.6		27		
	1-2 years	19.4		19		
	2+ years	25.5		25		
	Never employed	5.1		5		
				N = 98		
Self-employed	No	96.3		78		

Characteristic	Categories	Percentage of Sample*	Number
	Yes	3.7	3 N = 81
Benefits (e.g., medical/dental insurance)	No Yes	57.5 42.5	46 34 N = 80
Longest period of unemployment since graduation	< 3 months 3-5 months 6+ months Never unemployed	20.3 11.4 25.3 43.0	16 9 20 34 N = 79
Reason for periods of unemployment	Company downsized Performance based Caring for children Caring for family No work in field Disability issues Medical reasons Not seeking work Other: Seasonal	11.4 2.9 5.7 5.7 45.7 5.7 5.7 14.3 2.9	4 1 2 2 16 2 2 5 1 N = 35

* Some percentages may not add to 100.0% due to rounding errors.

Employment status was further analyzed for gender differences. No differences presented with respect to unemployment, with 23.4% of male and 30.2% female respondents endorsing this status. The results showed male participants as obtaining more full-time employment (61.7%) than female respondents (42.9%). A reverse trend occurred for part-time work, with 14.9% of males and 21% of females being employed at this level. This finding is in line with that typically reported in the literature for the general population, which documents that fewer women than men are employed, and women work fewer hours than men (Lichtenstein, 1996).

Employment status was also considered separately for respondents in possession of college versus university level training. A trend was observed in favour of university students, as 75% of them reported obtaining full-time employment, whereas only 50.9% of college students were employed on a full-time basis. This is in line with research by Walters (2004), which found that university-educated citizens had a higher probability of obtaining full-time employment relative to those with college education. Regarding annual salary, the survey results show that university graduates outnumbered college students in all salary levels other than the category of \$20,000 or less and that college-educated students were not represented in the top earning categories (\$60,000 or more). This finding is commensurate with that for the general population, as Statistics Canada reported in 2006 that individuals with a university education were two times more likely to be in the highest earning category than individuals without such a degree (Statistics Canada, 2006b). More specifically, 31.7% of university-educated citizens fell into the highest earnings category compared to 14.1% of college-educated citizens.

The survey respondents reported being employed (N = 88) by a wide range of industries, with fields such as finance/insurance/real estate, retail/trade and public administration emerging as

infrequent employers (3% or less). Health care/social services and educational services, by contrast, employed a greater number of graduates (14.7%). This proportioning of employment fields is similar to that found in studies of postsecondary graduates with LD as reported by Madaus, Ruban, Foley, & McGuire (2003) and Madaus (2008). Furthermore, for the general population in Ontario, health care/social services and educational services are two of the top five employment industries (Statistics Canada, 2010a). Full response rates and job categories can be found in Appendix C.

Job Fit

Approximately 62.8% of employed postsecondary graduates with LD indicated that their current job required the level of education that they had obtained (see Table 3). When queried as to the possibility of their LD having a negative effect on advancement possibilities within the workforce, nearly half the respondents indicated that this was not the case (48.7%). Another 18% were undecided, while a third felt that their LD did, in fact, reduce their chances of advancement (33.4%).

Table 3
Summary of job fit

Characteristic	Categories	Percentage of Sample*	Number of Respondents
LD hampers advancement at current job	Strongly disagree	15.4	12
	Disagree	33.3	26
	Undecided	18.0	14
	Agree	27.0	21
	Strongly agree	6.4	5
			N = 78
Current level of education required by current job	No	32.1	25
	Yes	62.8	49
	Don't know	5.1	4
			N = 78

* Some percentages may not add to 100.0% due to rounding errors.

Key findings regarding employment status

- 69.1% of the sample that were not currently enrolled in school reported being employed on either a full-time or a part-time basis, with the majority being employed full-time.
- 78.9% of respondents were earning salaries of \$40,000 or less, which may reflect part-time work and entry-level salaries.
- Since graduating, 5% of survey respondents have never been employed, while 43% have been consistently employed.
- Fewer than 4% of the surveyed postsecondary graduates with LD were self-employed.
- Of this sample, 57.5% indicated not receiving benefits such as medical and dental insurance through their current jobs.
- The primary reason given by respondents for periods of unemployment was not being able to find work in their field of study (45.7%).

Impact of LD in Job Setting

Frequency of Strategies in the Workplace

Survey respondents were asked to rate their use of 13 different strategies and accommodations to minimize learning disability impact in the workplace. The top five ranked strategies hold in common a reliance on what may be loosely termed “low technology” (see Table 4). Traditional, low-key approaches such as arriving early, time management, goal setting and monitoring for errors, and support from family and friends were among the most frequently used strategies. Such approaches were described as being used either “very often” or “always.” Conversely, “high technology” and more overt strategies were among the five least common strategies used in the workplace by this cohort. Respondents rated these techniques as being used “seldom” or “never.” Thus, this group of employees chose assistive technology and self-advocacy as means of accommodation only infrequently. These findings substantiate those of Madaus et al. (2003), who found that their cohort of LD graduates in the workforce implemented self-initiated, low-technology strategies and also refrained from using more visible, technological strategies.

Table 4
Workplace accommodation strategies

Strategy	Ranking Out of 13	Percentage Utilizing Strategy	Number of Respondents
Arrive early for work	1	48.3	89
Set goals and priorities	2	35.6	87
Time management	3	33.7	89
Monitor for errors	4	32.9	
Support from family and friends	5	31.8	88
Stay late at work	6	27.0	89
Using time outside work	7	18.3	88
Problem-solve or brainstorm with coworkers	8	17.1	88
Assistive technology for reading, spelling or writing	9	15.7	89
Quiet work area	10	14.8	88
Delegation of difficult tasks	11	14.6	89
Self-advocate to meet specific vocational needs	12	11.4	87
Use of graphic organizers (e.g., mind maps)	13	10.2	88

Impact of LD on Employment since Graduation

In total, 71.9% of the respondents (N = 64) stated that their learning disability affected their work. This percentage reflects the composite of “sometimes,” “very often” and “always” responses to survey questions rating the frequency of LD impact on work. Respondents were provided with a set of descriptors and asked to check all areas in which their learning disability affected their work. Please refer to Table 5 for details around all areas of learning disability impact in the workplace. The most commonly selected areas were rate of information processing (49.4%), followed by spelling (44%), writing (37.4%) and reading in public (30%). These results mirror the findings in similar studies completed by Madaus et al. (2003) and Madaus et al. (2008). Responses were considered separately for college and university students, with the finding that college students reported experiencing more LD impact on the job than did university students (38.7% vs. 12.4%).

Table 5
Summary of learning disability impact on specific work domains

Area of Impact	Percentage in Agreement†	Number of Respondents
Rate of information processing	49.4	91
Spelling	44.0	91
Writing	37.4	91
Reading in public	30.0	90
Math computation	30.0	90
Short-term memory	28.6	91

† Percentage is a composite of responses endorsing “to a great extent” and “to a very great extent”.

Self-Disclosure of LD and Impact of LD in the Workforce

The majority of surveyed participants, 62%, did not disclose their LD to their employer. The most commonly cited reasons for not disclosing had to do with worry about the perceptions of others or perhaps image (see Table 6). Thus, not wanting to be judged was the top reason for not disclosing one’s LD within the workplace, and this rationale received a 75% endorsement level. This was followed by the belief that the LD had no impact on the job (55.6% endorsement) and embarrassment of one’s LD (42.2% endorsement level). Interestingly, concerns around disclosure affecting work relationships or promotions were less cited reasons for choosing not to disclose. The work of Madaus et al. (2003) and Vogel and Adelman (2000), produced similar findings.

Table 6
Summary of reasons for not disclosing disability in the workplace

Reason	Percentage Endorsing†	Number of Respondents
Did not want to be judged	75.0	44
No impact on job	55.6	45
Embarrassed of LD	42.2	45
Job security concerns	37.8	45
Negatively impact relationship with supervisor	26.7	45
Negatively impact relationship with coworkers	18.2	44
Would not have been promoted	8.9	45

† Percentage is a composite of “agree” and “strongly agree” responses.

Respondents who reported self-disclosing their LD within the work environment were a minority within this sample (38%). Of note, the point of disclosure was overwhelmingly stated as occurring after the point of hire (71.4%). Disclosure at the point of application and the point of interview was infrequent and reported by 14.3% in each instance. This likely bears some relation to the reasons cited for disclosing a LD within the workplace (see Table 7). If graduates are disclosing primarily to make their supervisors and peers aware and to explain difficulties with job duties, then disclosing after the point of hire makes sense. Disclosing a disability prior

to receiving an offer of employment may be seen as unnecessarily revealing personal information.

Table 7
Summary of rationales for disclosing disability in the workplace

Rationale	Percentage Endorsing†	Number of Respondents
Make supervisors aware	79.3	29
Make coworkers aware	64.3	28
Explanation for difficulties on the job	64.3	28
Need additional time to complete work	18.5	27
Need for assistive technology	11.5	26

†Percentage is composed of “agree” responses.

Cross-tabulation analyses were employed to examine the contributions of 10 selected variables on self-disclosure in the workplace. The variables examined were based on available literature related to workforce self-disclosure and included the following: age, gender, level of schooling, when the learning disability was initially diagnosed, career self-advocacy services in postsecondary education, level of employment, salary, job satisfaction, total impact of learning disability on work, and total strategies utilized in the workplace.

Cross-tabulation analyses indicated that four variables (i.e., gender, age, level of schooling and job satisfaction) held a relationship with self-disclosure in the workplace. When self-disclosure was considered by gender, results showed that females exhibited a greater tendency (51%) to reveal LD in the workplace than males (23%). Analysis of self-disclosure by age displayed that graduates under 21 years of age were less likely to disclose (18.2%) than graduates over 30 years of age (50%). Examining disclosure by level of schooling (i.e., college and university) showed that college students were more likely to disclose (50%) than university students (25%). When self-disclosure was examined by level of job satisfaction, those graduates who were the most satisfied rarely chose to self-disclose on the job (25.6%), while almost half of those with poor job satisfaction (47.6%) decided to self-disclose.

Those employees who disclosed their LD within the workplace setting answered questions exploring any negative consequences of this act. Survey responses (displayed in Table 8) show that little in the way of undesirable effects occurred, as fewer than 15% of respondents endorsed a given list of ramifications. (It should be noted, however, that if ramifications were carried out simply in response to an individual revealing a bona fide disability, this would have been in direct violation of the Ontario Human Rights Code.)

Table 8
Summary of ramifications of self-disclosure of LD in the workplace

Ramification	Percentage Endorsing†	Total Number of Respondents
Given Less Job Responsibilities	13.8	29
Exposed to Verbal Discrimination	13.8	29
Refused a job promotion	10.3	29
Fired from job	3.6	28
Paid less than Coworkers	3.4	29
Laid off from job	0	28

†Percentage is composed of “agree” and “strongly agree”.

Key findings regarding impact of LD within job setting

- Low-profile, low-technology strategies such as time management and support from friends and family are favoured over highly visible or high-technology strategies such as assistive technology and self-advocacy as means to decrease impact of LD in the work setting.
- 71.9% of respondents indicated that their LD impacts their performance in the workplace with the consequences being most evident in rate of information processing, spelling, writing and reading in public. This was more evident for college than university students (38.7% versus 12.4%).
- The majority of respondents reported not disclosing their LD in work settings primarily to avoid being judged (75%) but also as the LD did not impact job duties (55.6%) and because of embarrassment of their LD (42.2%).
- Self-disclosure in the workplace typically occurred after the point of hire (71.4%) and much less frequently at the point of application or interview (14.3% each).
- Top reasons for disclosing were as follows: to make supervisors and coworkers aware (79.3% and 64.3%, respectively) and as an explanation for difficulties on the job (64.3%).
- Age, gender, level of schooling and job satisfaction impacted whether or not individuals disclosed their LD at work.
- Few respondents reported negative consequences for disclosing LD at work, although 13.8% indicated that they were given less job responsibilities and that they were exposed to verbal discrimination.

Job Satisfaction

Overall, the job satisfaction of postsecondary graduates with LD regarding their current job presented as moderately good, with approximately 70.9% strongly agreeing or agreeing with eight different aspects of job satisfaction. Working well with colleagues and independence on the job were the most highly rated factors (83.3% and 80.8%, respectively), while match between skills and job, as well as opportunities for professional development, obtained the lowest rankings (57.7% and 58%, respectively) (see Table 9). Madaus et al. (2003) and Greenbaum et al. (1996) reported similar rates of job satisfaction in two separate studies of LD postsecondary graduates.

Table 9
Summary of job satisfaction (Number of respondents (N) = 78)

Category	Percentage of Satisfied Respondents
My coworkers and I work well together.	83.3
My job provides an appropriate amount of independence.	80.8
My work is valued by my employer.	75.6
My coworkers are supportive of my work.	75.6
My job provides a feeling of accomplishment.	67.1
My job allows me to learn new skills.	66.7
There is a match between my skills/abilities and my job.	59.0
My job provides opportunities for professional development.	57.7

A set of variables, based on past findings in the literature, was selected for cross-tabulation analyses to determine their pattern of interaction with job satisfaction. Age, gender, level of employment, salary range, self-disclosure, impact of LD on work and strategies utilized in the work setting were all examined. Results indicated that salary range, strategies utilized and self-disclosure were related to job satisfaction. When job satisfaction was examined by salary range, the portion of graduates in higher income brackets (\$40,000 to \$100,000) expressing satisfaction with their job was higher (81.3%) than that of graduates earning less than \$40,000 (41.9%).

Examining job satisfaction by the total number of strategies used in the workplace showed a positive association whereby the percentage of graduates experiencing job satisfaction grew as the number of strategies rose. Among graduates deploying six or more strategies to manage the effects of their LD in the workplace, 72.2% expressed job satisfaction, while only 43.1% of those using five or fewer strategies rated themselves as satisfied with their job.

As previously reported, an inverse relationship presented between disclosure of LD in the workplace and job satisfaction. That is, higher levels of job satisfaction were associated with lower numbers of graduates self-disclosing their LD in the workplace. (Those graduates who were the most satisfied rarely chose to self-disclose on the job (25.6%), while almost half of those (47.6%) with poor job satisfaction decided to self-disclose.)

Key findings regarding job satisfaction

- 70.9% of respondents either strongly agreed or agreed with eight different aspects of job satisfaction.
- Graduates were most satisfied with their collegial relationships (83.3%) and the independence within their jobs (80.8%).
- Skill set and job duty match were less highly rated (59%) as were professional development opportunities (57.7%).
- Salary range, strategies utilized on the job to reduce LD impact and self-disclosure of LD demonstrated relationships with job satisfaction.

Experience with Employment Services during Postsecondary Education

Career Services

Overall, career services were not highly utilized by students with LD completing their postsecondary programs of study (see Table 10). For the most part, fewer than one-quarter of respondents indicated “very often” or “always” utilizing any of the listed career services. These results are similar to those obtained through the Student Satisfaction Survey (2010), which indicated that only 14% of Ontario college students reported high use of career/employment services. The service most often accessed by postsecondary graduates with LD was work experiences such as internships and co-ops, opportunities that are typically provided as a result of program structure and requirements and perhaps more so than as a service offered through a career counselling centre on campus. Job search training skills, something typically offered through campus career centres, was the second-most-accessed service.

Table 10
Summary of most frequently accessed career services

Service	Percentage Accessing Service†	Number of Respondents
Work experiences (e.g., internships, co-ops)	26.7	105
Job search training (résumé prep, interview skills, Labour Market Information)	21.9	105
Career maintenance skills (e.g., problem solving on job)	16.2	105
Career support services (job coaches, job search clubs)	14.4	105
Career self-advocacy	14.3	105
Career assessment (interest testing, ability testing)	13.3	104
Career readiness support (e.g., career decision making, career values)	11.4	105

† Percentage is composed of “very often” and “always” responses.

Further analyses investigating utilization of career services by level of schooling indicated that in almost every case, a greater percentage of college graduates than university graduates chose to access career services (see Table 11). Specifically, more college than university graduates reported using career assessment, job search training, career maintenance and work experience services.

Table 11
College/University differences in utilization of career services

Service	Percentage Accessing Service†		Number of Respondents	
	University	College	University	College
Career readiness support (e.g., career decision making, career values)	University	College	University	College
	8.8	10.8	34	56
Career assessment (interest testing, ability testing)	University	College	University	College
	5.9	18.2	34	55
Career self-advocacy	University	College	University	College
	11.8	14.3	34	56
Job search training (résumé prep, interview skills, labour market information)	University	College	University	College
	17.6	23.2	34	56
Career maintenance skills (e.g., problem solving on the job)	University	College	University	College
	2.9	21.4	34	56
Work experiences (e.g., internships, co-ops)	University	College	University	College
	17.6	30.4	34	56
Career support services (job coaches, job search clubs)	University	College	University	College
	14.7	13.0	34	56

†Percentage is a composite of “very often” and “always” responses.

Key findings regarding utilization of career services

- Career services were not highly utilized by this group of students.
- Work experiences such as co-op placements and job search training were accessed by approximately one-quarter of survey respondents.
- More college than university graduates reported using career assessment, job search training, career maintenance and work experience services.

Post-Survey Focus Interviews

In total, 49 focus interviews were conducted with survey respondents who provided their consent to be contacted for elaboration of their survey responses. In descending order of frequency, the main themes extracted from the focus interviews were these: impact of LD in the workplace, disclosure of LD, job satisfaction and disability services on campus.

Impact of Learning Disability in the Workplace

The impact of a learning disability on employment garnered the most comments in the focus interviews and these comments centred on the extra time it took to complete tasks. The frequency of this elaboration corresponded with survey responses, which indicated that the most common impact of a learning disability in the workplace related to information-processing speed. Sample comments from the focus interviews on this topic included the following:

- “Non-LD coworkers can do the same work in less time.”
- “Having a disability in the workforce means it takes longer to learn different tasks and to perform the task itself takes longer than my coworkers.”
- “I am not able to do stuff fast enough.”
- “Takes longer for me to catch on to do things.”
- “My co-workers have to repeat things so I can process them.”
- “I have to try harder to do the things they do naturally.”
- “I have AD/HD. With my handwriting it takes longer to do a task.”
- “In the workplace I need much more time to achieve my goals and process information.”

Focus interviews also indicated that the strategies utilized to circumvent the impact of LD in the workplace were primarily low-technology methods. Interestingly, the most commonly used strategies are the most time-consuming methods in comparison to technological strategies. Comments on strategies use included the following:

- “Taking advantage of college workshops to aid in organizational skills and time management were beneficial during my postsecondary education and I continue to use them in the workforce.”
- “I have a great deal of memory issues so I am forced to constantly make lists.”

- “I have problems with listening abilities, especially for verbal instructions. I need to use notes and repetition.”
- “If it’s not on a big calendar or filed, all my paperwork disappears, even when it is critically important. My walls in my office look like they are made of post-it notes.”
- “Most times I need my co-workers or employer to repeat themselves to be able to understand and process the information before I can respond.”
- “I compensate with pen and paper for memory problems and nothing else.”
- “Dyslexia doesn’t really affect me in a job. If I am organized I can go around many of my problems.”

A majority of students during the focus interviews commented on the significant challenges (e.g., stress, comorbid mental health conditions) related to managing a learning disability in the labour market. Here are some sample comments on this topic:

- “I find it hard when people don’t give you a chance if you have a hard time with reading and writing, it brings your self-worth down and you start to think that you are not good at anything.”
- “My overall confidence is low when looking at job descriptions. I’ve worked as a clerical assistant and I know I can be successful in this field of work. In the back of my mind however is always my disabilities and how they affect my overall performance. I also suffer from a great deal of anxiety and depression issues that thankfully, medication helps. I just have to figure out quickly what I need to be a success.”
- “I wonder if I am able to work in the workforce without the aid of my medication. I would like to be drug free someday.”
- “My disability is stopping me to achieve the expectations expected of a non-disabled person. The stress and frustration is beyond belief.”
- “I would have been better off not knowing of my disability.”
- “There are not many places a person with a memory problem can work and have a decent wage to support a family by herself. It’s very sad but it seems easier to stay home and be there for the kids.”
- “It was very frustrating not being able to do the work and this caused me great anxiety and depression.”

- “The European Convention on Human Rights and the European Union (EU) Working Time Directive ensures employers take their responsibilities towards people with disabilities seriously by ensuring all their needs are catered for in mainstream employment. Until Canada implements a similar system I am afraid that people with disabilities will continue to struggle in Canadian society.”

Disclosure of Learning Disability

The second-most-frequent theme in the focus interviews centred on the negative ramifications, as opposed to any positive effects, associated with self-disclosure in the workplace. This theme was reiterated in survey responses, as the majority of respondents decided to forego employment self-disclosure. Sample comments on this topic from the focus interviews included:

- “I am embarrassed to have a LD – I have a fear of being judged and discriminated against.”
- “Disclosure leads to unemployment and judgments from coworkers.”
- “Once you tell an employer about a disability then I found I had to prove myself that I could get a promotion.”
- “No need for disclosure – it disadvantages you for promotion.”
- “Employers doubted me after disclosure.”
- “The hardest part is getting through an interview. People can tell there is something wrong with you but you don’t want them to know because you will never get the job. What kind of employer would hire an ADHD kid and send him to work on live hydro lines?”
- “I did not want to disclose and employers are quick to judge and there is a negative perception to learning disabilities. I have not experienced this but that is how I feel.”

Although the majority of comments concerning self-disclosure were negative, a small group of graduates saw this process as a positive step. Sample comments reflecting this viewpoint include the following:

- “Sometimes it is hard for people to notice my learning disability but the services I received when I was in college helped me to learn that if I am just honest with it and with others about it I can make it work. My bosses at work all know about my learning disability and are all great with giving me extra time.”
- “Informed my boss at the time of hire that I had a learning disability. So far so good, the boss said he will go with the flow.”

- “I feel that if you ask for help it will be provided. I know that I am not alone in this world, many people have disabilities.”

Job Satisfaction

Although job satisfaction surfaced enough during interviews to be designated a theme, the comments garnered were decidedly less robust than those given for the primary themes already reviewed (impact of LD and self-disclosure). The majority of focus interview respondents were satisfied with their present job, yet they viewed themselves as being underemployed. Sample comments pertaining to job satisfaction included these:

- “Somewhat satisfied with my job but it is below my education and skills.”
- “Fairly satisfied with my job.”
- “Very satisfied with my job – I am overqualified though.”
- “Not satisfied with my job as it is below my qualifications.”

Graduates with LD also reported that key factors linked to job satisfaction were, first, a good fit between their individual strengths and job and, second, having understanding employers. Comments to this effect were as follows:

- “No impact of AD/HD on my job. My ADHD characteristics help with being a sales representative.”
- “I feel that I am lucky to have such strong strengths, as people are surprised when it comes to my weaknesses. My strengths make me a valuable employee so my supervisor is willing to assist me when problems arise.”
- “My learning disability is the reason why I have decided to go to college instead of university and to choose a job not affected greatly by my disability.”
- “My employer supports me at the work site when I have problems with math (hard to understand fractions).”

Disability Services Support

Although this was not one of the primary probes in the focus interviews, many respondents felt the need to state how satisfied they were with their respective disability office services. Sample comments from the focus interviews on this topic included the following:

- “Disability services helped me to find new ways of dealing with my LD.”

- “I was diagnosed later in life and the Disability office made what I was experiencing make sense.”
- “Disability office has helped me cope.”
- “Disability services identified specific strategies to help me cope.”
- “Disability office helped to explain how I learned.”
- “The college disability service was a great benefit for me because it allowed me to write my tests in a distraction reduced area with extra time. I was provided with a learning strategist who helped and taught me how to organize my work load among many other things.”
- “I was very surprised that in a postsecondary education I was finally able to find out why things were so hard to learn by reading. I was also grateful for the reading software that helped me move forward in my education.”
- “There are many services that I took advantage of at disability services but the one I used the most was access to software to help with organization, memory, and read my tests (sic) and text books to me.”

Graduates with LD often reported that they received career services from disability services offices instead of career centres. Many of the graduates commented that they preferred this due to their high satisfaction with disability services offices. The following comments serve to illustrate this point:

- “Never accessed career services, the disability service office helped with that. I am so impressed with the disability service office that my daughter who is dyslexic is now being helped at the college disability office for career help.”
- “Not sure of the career programs in university, did not want to take advantage of them as disability services helped me with that.”
- “Did not use career services at college, my disability services office helped me with my resume.”
- “Did not even know there was a career service at college, the disability service office helped with all of this.”
- “Used career services at college but the job they got me did not fit my skills.”
- “Used career services at one college as they were connected to disability services but did not use career services at another college as they were separate from disability services and they were not approachable.”

- “Accessed job postings at career services only but disability services helped me with my resume and interview techniques.”

Summary

The present study sought to extend the knowledge base surrounding the employment experience of postsecondary graduates with LD in the province of Ontario. More specifically, employment success, job satisfaction, impact of LD within a job setting and experience with employment transition services while in postsecondary institutions were examined. Furthermore, this study sought to improve upon methodological limitations in past research by simultaneously surveying graduates from colleges and universities, using a Canadian sample, offering the survey through a variety of media and adhering to a stringent definition of LD to enhance the generalizability of the findings.

The research was conducted through Ontario’s two Assessment and Resource Centres (ARCs), which collectively provide comprehensive psycho-educational assessments to any student accepted to, or enrolled in, Ontario’s postsecondary institutions, with a history of, or suspicion of, LD or Attention Deficit Hyperactivity Disorder (ADHD) and who requires assessment. The pool of participants, drawn from students seen at these centres between the years 2004/04 and 2007/08, is more homogeneous than in past research, where self-reported LD or diagnoses of LD arrived at using varying definitions of LD (or even “identifications” of LD) have all been included in samples. The survey was offered electronically in a format capable of working in conjunction with reading technology software, and it was also offered on paper and over the telephone – in order to accommodate the preference and needs of respondents. The electronic version of the survey had the highest return rate by far, followed by the paper version; the telephone version was not well used. The overall response rate to the survey was 20.8%, which is comparable to that obtained in previous investigations of college graduates with LD, where the rate of return ranged from 17% to 40% (Dickinson & Verbeek, 2002; Witte, 2001).

Key findings regarding the employment status of graduates with LD from Ontario’s colleges and universities showed that since graduation, 69.1% of the sample reported being employed on either a full-time or a part-time basis, while 16.4% reported being unemployed and a further 10.9% had returned to school. The primary reason given by respondents for periods of unemployment was not being able to find work in their field of study (45.7%). Combined, this may suggest a degree of unemployment as occurring through the choice to not work in unrelated fields. Also of interest is the fact that approximately 57.5% of the respondents reported not receiving benefits through their current jobs.

The main findings regarding the impact of LD in the workplace centred on strategies to manage the impact of LD on these individuals, disclosure of their learning disabilities and the consequences of disclosure. Low-profile, low-technology strategies, such as time management and support from friends and family, were favoured over highly visible or high-technology strategies such as assistive technology and self-advocacy as means of decreasing the impact of LD in the work setting. The majority of respondents (71.9%) indicated that their LD impacted their performance in the workplace, yet the majority (62%) also chose not to disclose their LD in

this setting. If self-disclosure occurred, it was typically after the point of hire (71.4%) and related to a need to make supervisors and coworkers aware and to explain difficulties on the job. Gender, age, level of education and job satisfaction differences presented with respect to the decision to self-disclose within the workplace; women, older graduates (over the age of 30), college graduates and individuals with lower levels of job satisfaction had higher levels of self-disclosure than males, young graduates (under the age of 21), university graduates and individuals with higher levels of job satisfaction. The reasons cited for not disclosing were the following: fear of being judged, embarrassment and a belief that the LD did not impact job duties. Negative consequences of disclosure were reported in a small number of cases.

Regarding job satisfaction, the sample reported being satisfied with their current employment, as 70.8% of respondents either strongly agreed or agreed with eight different aspects of job satisfaction. Graduates were most satisfied with their collegial relationships (83.3%) and the independence within their jobs (80.8%). Skill set and job duty match were less highly rated (59%) as were professional development opportunities (57.7%). Differences in salary level, strategies utilized on the job to reduce LD impact and self-disclosure of LD presented in relation to job satisfaction. Self-disclosure rates rose as the number of strategies used to manage LD on the job rose and as job satisfaction declined. More graduates from higher than lower income brackets expressed job satisfaction.

Career services were not highly utilized by this group of students, yet the rates were comparable to those of college students without disabilities. Work experiences such as co-op placements and job search training were accessed by approximately one-quarter of survey respondents. However, a number of graduates with LD did report receiving assistance with career planning services through their disability services office.

After completion of the survey, focus interviews were conducted with 49 respondents to engage in discussion concerning their experience in the workplace since graduation, and this discussion revealed several interesting themes. The most frequent comments centred on the impact of a learning disability in the workplace: respondents reported being very conscious of their information-processing speed problems and the extra time they needed to complete tasks relative to their coworkers. Negative ramifications associated with self-disclosure in the workplace were also mentioned frequently during the focus interview. Again, the notions of judgement, embarrassment and having to prove one's self were communicated. Discussions about job satisfaction rang true with the quantitative findings of the survey in that most respondents indicated that they were satisfied with their present employment. However, some interviewees noted that they were underemployed or overqualified. The non-disabled working population echoes comments of over qualification, as the Statistics Canada General Social Survey (2000) found that approximately 25% of Canadians with a university or college degree felt overqualified for their jobs. Finally, although this was not part of the survey or the focus interview topics, respondents emphasized the valuable role played by the disability services offices of various college and university campuses. Clearly, they felt that these centres were integral to their success in managing their LD.

Conclusions

Students with LD graduating from Ontario's colleges and universities are largely gaining employment that they find to be satisfying. However, this employment often comes without benefit packages and may not utilize the training and education these students have acquired from their postsecondary studies. LD continues its impact in the lives of these students, with the majority of them stating that such traits as slower speed of information processing, spelling and reading impedes their performance on the job. Conversely, this group of employees largely chooses not to disclose their disability to the workforce, and they primarily cite reasons of judgment and embarrassment as preventing them from making the disclosure. Self-disclosure does appear to be influenced by the age, gender, job satisfaction and educational level of the individual making the disclosure. Finally, career services as offered on the campuses of Ontario's colleges and universities were accessed only infrequently by this group of graduates with LD. On the other hand, it was noted that disability services offices played an important role in the lives of these students.

The results of this research must be considered in light of some limitations. First, the sample size as reported is small, even though multiple attempts were made to increase the response rate. Whether the non-respondents did not receive the survey or reviewed it and chose not to respond remains unknown, raising the possibility of selection bias on the part of the respondents. Nevertheless, a comparison of survey respondents to non-respondents on the basic characteristics of age, gender and level of schooling did not reveal any notable differences between the two groups. The narrow range of ethnic backgrounds contained in the sample could be construed as a further limitation of this study. Caution must therefore be used before generalizing these results to students with LD from minority groups. In addition, this study did not employ a matching sample of non-LD graduates. Because the intent of the research was to determine how a set of variables specific to a sample of LD graduates (e.g., self-disclosure and impact of LD on the job) interacted with employment, it was determined that the results of a matching non-LD sample would not be relevant. However, it is worth noting that when Walters (2004) examined employment outcomes for a sample of recent college and university graduates in which those with and without disabilities were not separately categorized, he obtained some findings similar to those of the present study. Walters determined that university graduates have higher earnings and a higher probability of obtaining full-time employment than do college graduates. Lastly, this research was conducted during a period (September 2009 to July 2010) of financial recession in Canada. For this reason, replication of this data during a period of economic prosperity is warranted.

The present study improves upon past research in the area through its use of multiple sites, a Canadian perspective, varied survey media, focus interviews blended with quantitative survey findings and breadth of investigation. The study has provided some much-needed information regarding the employment status and satisfaction of postsecondary graduates with LD in the province of Ontario. It has gathered information on disclosure rates and factors influencing disclosure in the workplace, and it has also garnered some elementary information concerning the relationship between career services and college and university graduates with LD.

In addition, this research has highlighted areas in need of further exploration. Much work remains to be done in identifying the factors underlying the disconnect between the stated LD impacts on the job and the stated disinclination to disclose a disability within the job setting. Furthermore, the limited use of career services by this population of students is a new and surprising finding. The reasons leading to this are far from known let alone understood. However, the career support some respondents received through their disability services offices may be related to this finding. Finally, when disability services offices and personnel are busy promoting high-technology supports to students with LD, why are these supports not transferring into the work setting? Understanding this turn of events could lead to considerable changes in the manner in which accommodations and strategies are provided for postsecondary graduates with LD.

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Appendix A: Survey Documents

Letter of Information and Consent Form
Employment Success of Postsecondary Graduates with Learning Disabilities

Dear Graduate,

I would like to invite you to participate in a research study funded by the Higher Education Quality Council of Ontario (HEQCO) and administered by the Northern Ontario Assessment and Resource Centre (NOARC) located at Cambrian College and the Regional Assessment and Resource Centre (RARC) at Queen's University. This study is designed to examine employment success and satisfaction of students with learning disabilities who have graduated from an Ontario college or university.

How will the researcher conduct the study?

In order to examine this topic, an on-line survey will ask for your opinions related to employment experiences. Your name was selected from a database of college and university students who have completed a psycho-educational assessment at NOARC or RARC and received a diagnosis of a learning disability. Your participation in this study is entirely voluntary.

What will I be asked to do?

1. Read this Letter of Information
2. Take 10-15 minutes to complete the on-line survey. Completion of the survey indicates your consent to participate in the study
3. Accept or decline the option to enter into a draw for one of three IPODS™

Can I withdraw from the study?

You may decline to participate or answer any of the questions, and you may withdraw from the study at any time without penalty.

How will my privacy be protected?

Please be assured that the survey responses will be completely anonymous. It will not be possible for individuals *to be linked to the answers* that they provide. The e-mail addresses of participants will be held in a separate database to the responses and it will not be possible to link an e-mail address to any answers provided. The only information we will keep is your identification number assigned to track response rate.

This research may result in the publication of various types, including books, journal articles, professional publications, newsletters, or policies. Your name will not be attached to any form of the data that you provide, neither will your name or identity be known to anyone tabulating or analyzing the data nor will these appear in any publication created as a result of this research.

What are the risks and benefits of the study?

There are no known or expected risks associated with participating in this study. If you choose to participate in this study you will be helping to advance knowledge related to the employment experiences of postsecondary graduates with learning disabilities and improving transition services (i.e., from postsecondary schooling to employment services) for future graduates with learning disabilities.

What if I have questions?

If you have any questions, please feel free to contact Dr. Alana Holmes (705-566-8101 ext. 7621). If you have any questions about your rights as a research participant or the conduct of the study, you may contact the Director of Planning and Research at Cambrian College, Sherrill McCall (705-566-8101, ext. 7888).

This survey is compatible with screen reading software. The attached link for the survey is: A report on the survey results will be provided in summer 2010 at www.noarc-orno.ca.

Thank you very much for considering this request.

Sincerest Regards,

Dr. Alana Holmes, C. Psych., Manager, Northern Ontario Assessment and Resource Centre (NOARC), at Cambrian College, Sudbury, ON.

SURVEY

Code # _____

Employment Follow-Up: Success of Graduates with Learning Disabilities from Ontario's Colleges and Universities.

This survey is intended for postsecondary graduates and asks questions about your learning disability and how your learning disability impacts your career.

Please answer all questions to the best of your ability

Dr. Alana Holmes, C. Psych., Northern Ontario Assessment and Resource Centre
at Cambrian College

Dr. Allyson Harrison, C. Psych., Regional Assessment and Resource Centre
at Queen's University



NOARC/CÉRNO



Demographic Information:

1. Gender

- Male
- Female

2. What is your current age in years.

3. Please list the city/town where you are currently residing

4. Ethnicity

- Aboriginal
- Arab/West Asian (e.g., Armenian, Egyptian, Iranian, Lebanese, Moroccan)
- Black (e.g., African, Haitian, Jamaican, Somali)
- Chinese
- Filipino
- Japanese
- Korean
- Latin American
- South Asian
- South East Asian (e.g., Vietnamese, Cambodian, Malaysian, Loatian)
- White
- Other (please specify):

5. What was the primary language spoken in your home?

6. At what level of schooling was your learning disability first diagnosed?

- Elementary
- Secondary
- Postsecondary

7. Please indicate any disabilities you have in addition to a learning disability

- AD/HD
- Mental health disability (e.g., anxiety, depression, substance abuse)
- None
- Other (please specify)

8. Please check the highest degree/diploma/certificate obtained

- Less than high school
- High school
- General Equivalency Diploma (GED)
- Apprenticeship or Trades Certificate/Diploma
- University Certificate or Diploma below Bachelor Level
- Bachelor or Honours Degree from a University (e.g., B.A., H.B.A., LL.B.)
- Post-Graduate Degree (e.g., M.A., M.Sc., M.Ed., D.Ed., Ph.D.)

9. Year in which highest Degree/Diploma/Certificate awarded

Employment status

10. Since your most recent graduation, what is your longest period of employment?

- less than 6 months
- 6 months to 1 year
- 1 to 2 years
- more than 2 years
- Never employed → if selected GO to question 33

11. Current level of employment?

- Full-time (35 or more hours per week)
- Part-time (21 to 34 hours per week)
- Part-time (20 hours or less per week)
- Student
- Homemaker
- Not currently employed → if selected GO to question 30

12. Are you self-employed?

- No Yes

13. Current Salary per year

- Less than \$20,000
 \$20,001 - \$40,000
 \$40,001 - \$60,000
 \$60,001 - \$80,000
 80,001 - \$100,000
 More than \$100,000

14. Does your current job provide benefits (e.g., medical/dental insurance)?

- No Yes

15. For your current employment please indicate the type of industry.

- Agriculture and other resource based industries
 Construction
 Manufacturing
 Wholesale trade
 Retail trade
 Finance, insurance, and real estate
 Health care and social services
 Educational services
 Arts, entertainment, and recreation
 Accommodation and food services
 Business services
 Public administration (e.g., municipal, provincial, federal government)
 Other (please specify)
-
-
-

16. Are you currently employed part-time?

- No → if selected GO to question 18
 Yes

17. Why are you employed part-time? Please answer by checking the applicable response (s).

- Caring for children
 Caring for other children

- Due to disability related issues
 - Medical reasons
 - In school
 - Could not find work with 30 hours or more per week
 - Did not want to work full time
 - Other (Please specify)
-
-
-

18. Since your most recent graduation, what is your longest period of unemployment?

- Under three months
- Three to five months
- Six months or more
- Never unemployed —————> If selected GO to question 20

19. If you had a period of unemployment since your most recent graduation, please indicate the reason for unemployment.

- Company closed
- Company downsize (e.g., reduced operating budget)
- Performance based
- Caring for children
- Could not find work in my chosen field
- Due to disability related issues
- Other (please specify): _____
- Medical reasons
- Was not actively seeking employment

20. Do you believe that your learning disability makes it difficult for you to advance at your present job?

- Strongly disagree
- Disagree
- Undecided
- Agree
- Strongly Agree

21. Does your current job require the level of education you have?

- No
- Yes
- Don't Know

22. In your present job are you beneath or above your level of college/university training?*

- Beneath
- Above
- Don't Know

* Data not reported due to error in skip logic within surveys.

23. The following items represent statements about how satisfied you are about your current job. Please circle the number that most closely indicates how you feel.

	Strongly disagree	Disagree	Undecided	Agree	Strongly agree
My job gives me a feeling of accomplishment	1	2	3	4	5
My job allows me to learn new skills	1	2	3	4	5
I am satisfied with my job	1	2	3	4	5
My work is valued by my employer	1	2	3	4	5
There is a match between my skills/abilities and my job	1	2	3	4	5
My job provides opportunities for professional development	1	2	3	4	5
My job provides an appropriate amount of independence	1	2	3	4	5
My co-workers are supportive of my work	1	2	3	4	5
My co-workers and I work well together	1	2	3	4	5

Other (please specify) _____

Self-Disclosure of Learning Disability and Employment

24. Have you self-disclosed your learning disability in your current job?

- No —————> if selected GO to Question 28
- Yes

25. Please indicate when you self-disclosed in your current job

- When applying for current job
- During the interview process
- After being hired in current job
- After being fired in current job

Other (please specify) _____

26. Please indicate the reasons you disclosed your learning disability in your current job. Please circle the number that most closely indicates how you feel.

	Disagree	Undecided	Agree
Make coworkers aware	1	2	3
Make supervisors aware	1	2	3
Required assistive technology	1	2	3
Need for additional time to complete work	1	2	3
As an explanation for difficulties on the job	1	2	3

27. Please indicate if you felt your disclosure lead to any of the following.

	Strongly disagree	Disagree	Undecided	Agree	Strongly agree
Given less job responsibilities	1	2	3	4	5
Refused a job promotion	1	2	3	4	5
Paid less than coworkers	1	2	3	4	5
Exposed to verbal discrimination	1	2	3	4	5

	Strongly disagree	Disagree	Undecided	Agree	Strongly agree
Layed off from job	1	2	3	4	5
Fired from Job	1	2	3	4	5

Other (please specify) _____

Non-Disclosure of Learning Disability and Employment

28. Have you self-disclosed your learning disability in your current job

No

Yes —————> if selected GO to Question 30

29. Why did you not disclose your learning disability to your current employer

	Strongly disagree	Disagree	Undecided	Agree	Strongly agree
Negatively impact relationship with supervisor	1	2	3	4	5
Negatively impact relationship with co-workers	1	2	3	4	5
Concern for job security	1	2	3	4	5
Would not have been promoted	1	2	3	4	5
Did not want to be judged	1	2	3	4	5
Embarrassed of learning disability	1	2	3	4	5
Learning disability had no impact on job responsibilities	1	2	3	4	5

Other (please specify) _____

Impact of Learning Disability on Employment since Graduation from College/University

30. How frequently does your learning disability impact the work you have done since graduation?

- Never
- Seldom
- Sometimes
- Very often
- Always

**31. To what extent does your learning disability impact the following work skills?
Please circle the number that most closely indicates how you feel.**

	Not at all	Very little	Sometimes	To a great extent	To a very great extent
Oral communication skills	1	2	3	4	5
Organization skills	1	2	3	4	5
Reading comprehension	1	2	3	4	5
Rate of processing information	1	2	3	4	5
Time management	1	2	3	4	5
Mathematics computation	1	2	3	4	5
Group/team projects	1	2	3	4	5
Social interactions with coworkers	1	2	3	4	5
Social interactions with supervisor	1	2	3	4	5
Short-term memory	1	2	3	4	5
Reading in public	1	2	3	4	5
Computer skills	1	2	3	4	5
Spelling	1	2	3	4	5
Writing skills	1	2	3	4	5

Other (please specify) _____

32. Rate the frequency with which you use these strategies and accommodations to minimize learning disability impact at work. Please circle the number that most closely indicates how you feel.

	Never	Seldom	Sometimes	Very often	Always
Assistive technology for reading, spelling, dictating	1	2	3	4	5
Delegation of difficult tasks	1	2	3	4	5
Use of graphic organizers (mindmaps)	1	2	3	4	5
Quiet work environment	1	2	3	4	5
Problem solve and brainstorm with coworkers	1	2	3	4	5
Monitor for errors (e.g., use of proofreaders)	1	2	3	4	5
Self-advocate - to communicate and meet the needs specific to one's learning disability	1	2	3	4	5
Set goals and priorities	1	2	3	4	5
Arrive early for work	1	2	3	4	5
Time management at work	1	2	3	4	5
Stay late at work	1	2	3	4	5
Using time outside work	1	2	3	4	5
Support from family/friends	1	2	3	4	5

Other (please specify) _____

33. To what extent did you use each of the following services? If service was not available at your college/university, please check Service not available

	Never	Seldom	Sometimes	Very often	Always	Service not available at my college or university
Career readiness support (e.g., career decision making, exploring career values)	1	2	3	4	5	6
Career assessment (e.g., career interest and abilities testing)	1	2	3	4	5	6
Career self advocacy (e.g., disclosing a disability, discussing job accommodations)	1	2	3	4	5	6
Job search training (e.g., resume preparation, interview skills, labour market information)	1	2	3	4	5	6
Career maintenance skills (e.g., adjustment to social demands, problem solving on the job)	1	2	3	4	5	6
Work experiences (e.g., availability of internships, co-operative placements)	1	2	3	4	5	6
Career support services (e.g., job coaches, job search clubs)	1	2	3	4	5	6
Career readiness support (e.g., job coaches, job search clubs)	1	2	3	4	5	6

34. Please share any thoughts you feel are important regarding:

a) your disability

b) services received at postsecondary education pertaining to your learning disability

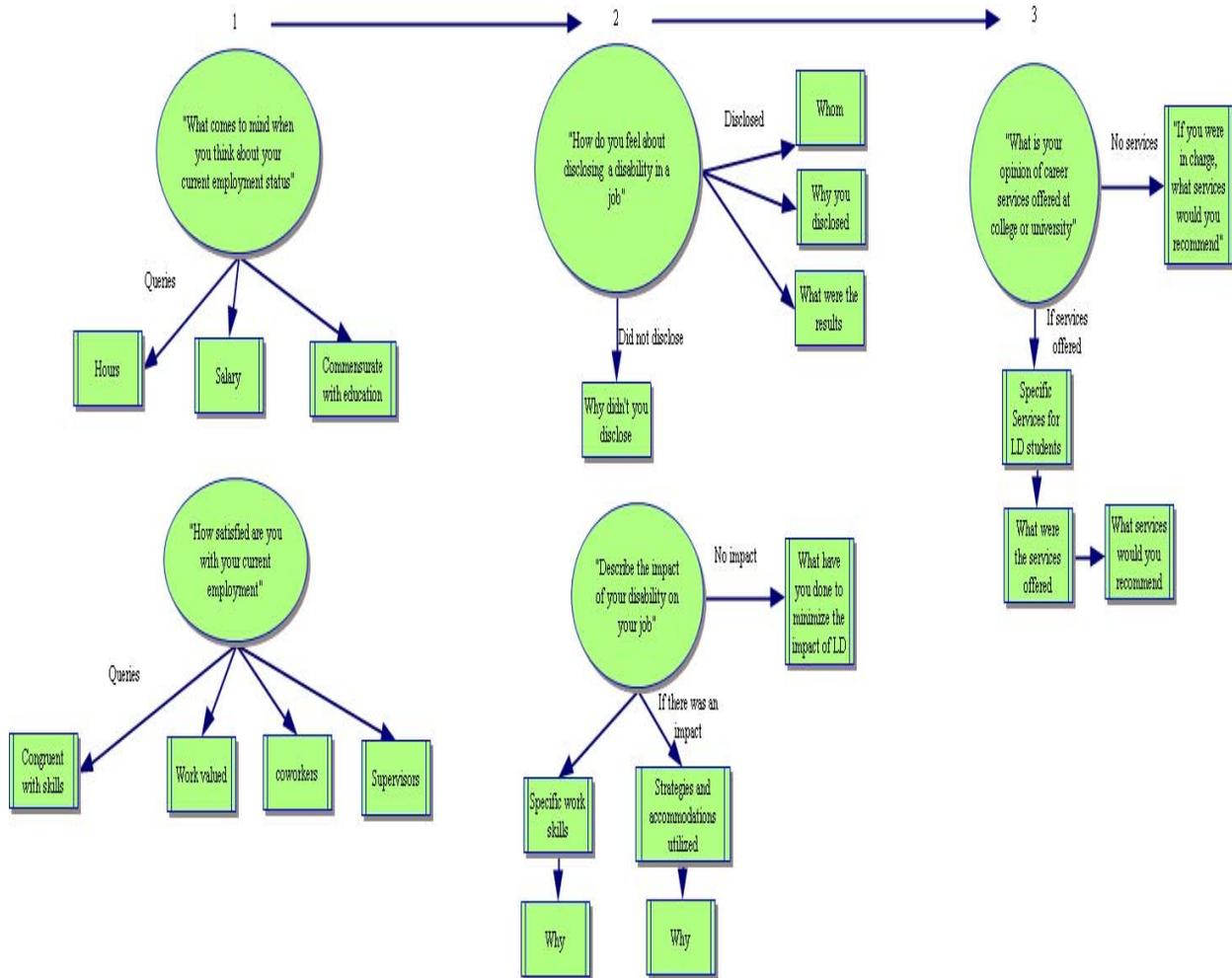
c) the impact of having a learning disability in the workforce

35. Do you consent to a researcher telephoning you to gain additional explanation around some of your responses?

No

Yes (Please list your area code and telephone number and a convenient time to be contacted)

Appendix B: Focus Questions for Follow-Up Phone Interview



Appendix C: Employment Industry

Employment Industries

Industry Area	# Respondents	Percentage Endorsed
Construction	6	6.8
Manufacturing	5	5.7
Retail Trade	3	3.4
Finance, Insurance, Real Estate	2	2.2
Health Care and Social Services	17	19.3
Educational Services	17	19.3
Arts, Entertainment, and Recreation	3	3.4
Accommodation and Food Services	10	11.4
Business Services	4	4.5
Public Administration	3	3.4
Computer Related	4	4.5
Unemployed	11	12.5
Other	3	3.4

