

Invisible Disabilities: Perceptions of Academic Accommodations in Post-Secondary

Institutions

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Approval

The undersigned recommended acceptance of the thesis “Invisible Disabilities:
Perceptions of Academic Accommodations in Post-Secondary Institutions”

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Abstract

Learning disabilities (LD) are disabilities that are protected under Memorial University of Newfoundland's disability policy. LD can be defined as a neurodevelopmental disorder resulting in deficits in reading, written word and expression, spelling, and mathematical reasoning that are not attributable to other disorders (American Psychological Association [APA], 2013). The scope of this study was to determine the perceptions of accommodations made for students with learning disabilities by their peers without learning disabilities. Three hypotheses were made: (1) Students will perceive an accommodation more positively when they are aware of the student's disability; (2) individuals will perceive accommodated students who have not disclosed having a LD as undeserving of the grades they receive; and (3) students who have experience with an individual with a LD perceive examination accommodations more positively. A series of independent-measures t-tests, chi-squared analyses, and two-factor independent-measures ANOVAs were conducted on the data collected. Significant results were found regarding hypotheses (1) and (2); however, no significant results were found regarding hypothesis (3). Implications of the findings are discussed with regards to increasing students' acceptance of accommodations through contact interventions and full disclosure of students' disabilities.

Invisible Disabilities: Perceptions of Academic Accommodations in Post-Secondary
Institutions

Memorial University of Newfoundland's (MUN) *Calendar* (2013) states that all members, including students, faculty, and staff, must maintain the maximum standards of educational integrity by treating others fairly and with respect, and by being responsible and honest (Section 1.2). This policy for all members of the university community maintains that students with disabilities in post-secondary shall receive equal opportunity to achieve the equivalent education as students without disabilities.

Although most post-secondary institutions in Canada have policies in place to address the equality of students with disabilities, Canada has yet to develop a federal policy of the same regard. The Canadian Disability Policy Alliance (CDPA) (McColl, Schaub, Sampson, & Hong, 2010) consists of a group of researchers, community organizations, and federal and provincial policy-makers with the primary goal of promoting equity and opportunity for Canadians with disabilities. The alliance's objective is to have an Act passed in Canada that would remove historical barriers faced by individuals with a disability (i.e., stigma, exclusion). Thus far, there is no indication of a National Canadians with Disabilities Act being developed in the near future.

Post-secondary education policies are regulated at the provincial level of government. MUN's policy for academic accommodations for students with disability is based on Newfoundland and Labrador's Human Rights Act, which promotes the principle of equal opportunity for every individual without discrimination (Government of Newfoundland and Labrador, 2010). MUN, regulated by this Act, is thus prohibited from discrimination on a number of factors including disability (MUN, 2013a). According to

this policy, MUN is required to provide accommodations to students with disabilities to the point of undue hardship (i.e., the accommodation poses a risk to public safety, there are high financial costs involved in providing the accommodation, etc).

Diagnosed disabilities affect 35% of Canadians (McColl et al., 2010). Four percent of students enrolled in post-secondary institutions in Canada have been diagnosed with a disability, which is an increase from the 1.2% enrolled 20 years ago (Harrison & Wolforth, 2012). With increasing numbers of students with disabilities enrolling in post-secondary institutions, accommodation requests are increasing as students require support to gain the same access to education as their nondisabled peers (Brinckerhoff & Banerjee, 2007; Shaw, Cullen, McGuire, & Brinckerhoff, 1995). In the past decade, MUN has seen a 273% increase in requests for disability accommodations, and at Grenfell Campus (MUN) specifically, a 52% increase in accommodation requests over the past five years has occurred (Philpott & Chaulk, 2013).

Equal access to education for all members of an institution is attained through the implementation of accommodations. Unfortunately, when an accommodation is executed, there is the potential for adverse effects on its users, referred to as consequential validity (Lang et al., 2013). The intended purpose of an academic accommodation is to provide students with disabilities an environment with equal access for achievement (Elbaum, 2007). However, academic accommodations have the potential for negative consequences, such as social stigma (Lang et al., 2013). Consequently, employing the use of accommodations can draw unwanted attention to its requesters and decrease user motivation (Lang et al., 2013).

The scope of this study is to determine the perceptions of accommodations made for students with learning disabilities by their peers without learning disabilities. Before any meaningful examination of the current literature can be conducted, it is essential that learning disabilities and accommodations be discussed, including the definitions used in the literature.

Learning Disabilities

Students with learning disabilities (LD) make up over 50% of the special education population at post-secondary institutions (Lewandowski, Cohen, Lovett, 2013). To assist students with LD in these settings, increasing numbers of accommodations are being requested and provided upon registration with the institutions' disability services office (DSO) (Shaw et al., 1995). Other disabilities registered with the DSO may include medical disabilities, physical disabilities, or psychiatric disabilities, as well as vision or hearing impairments (Harrison & Wolforth, 2012).

Post-secondary institutions are required to assist any individual in need of aid, providing the individual is eligible for the accommodation or assistance as recommended by a practitioner (Shaw et al., 1995). An operational definition of LD is important to determine eligibility of accommodations in post-secondary settings. While the DSO may work with a number of different disabilities within an institution, this review will focus on learning disabilities.

The Canadian National Joint Committee of Learning Disabilities (1994, as cited in Shaw et al., 1995) define LD as a group of disabilities in which the individual displays difficulties in the understanding and use of listening, speaking, reading, writing, reasoning, or mathematical abilities. The *Diagnostic and Statistical Manual of Mental*

Disorders (DSM-V) defines learning disabilities more specifically as a neurodevelopmental disorders showing irregularities at a cognitive level which are associated with various behavioral symptoms of the disorder (American Psychological Association [APA], 2013). The DSM-V provides specific criteria that must be met for an individual to be diagnosed with a learning disability (APA, 2013). The individual must have difficulties attaining and using academic skills which are indicated by deficits in at least one of the following areas for a minimum of six months: slow, effortful reading; difficulty understanding written words; difficulties with written expression; problems with spelling; or trouble with mathematical reasoning.

Intellectual functioning of individuals with learning disabilities is considered normal (APA, 2013). These individuals normally have an intelligence quotient (IQ) of above 70, but experience difficulties in a specific area of academics (APA, 2013). Although the individual may have an average IQ in most academic subjects, his/her IQ in the specific area of difficulty will typically be below average (APA, 2013). To be classified as having a learning disability, the symptoms must not be attributable to other disorders such as hearing or vision impairment, neurological or motor disorders, or intellectual disabilities (APA, 2013).

Of the various learning disabilities seen in students, dyslexia is the most common in postsecondary institutions (Paetzold et al., 2008). Dyslexia has been defined by the DSM-V as a specific learning disorder in which the individual presents difficulties with reading printed words (APA, 2013). Most students with disabilities report reading difficulties to be at the forefront of their disability (Hadley, 2007).

Accommodations

Academic accommodations, usually simply known as accommodations, are the focus of the present study and its definition is important in understanding the literature. ‘Accommodations’ may be referred to interchangeably with ‘academic adjustments’ or ‘modifications’. MUN’s *Policy on Academic Accommodations for Students with Disabilities* (2013a) provides two definitions for possible accommodations provided in post-secondary settings. Academic accommodations are defined first as a modification to teaching or evaluation procedures prepared to meet the specific needs and requirements of students with disabilities without hindering the educational integrity of the course or program. The policy also provides a second definition, referred to as ‘reasonable accommodations,’ which means that any adjustment made to course or program evaluations must be designed such that it will not alter essential requirements of the course or program.

Various accommodations may include the use of auxiliary equipment, such as readers (i.e., someone who will read questions and instructions to a disabled student) (Brinckerhoff, Shaw, & McGuire, 1992; Hadley, 2007), computers (Lang et al., 2013), and various methods for making oral methods of instruction available in different formats (Brinckerhoff et al., 1992). Changes in the length of time permitted to complete a degree (Brinckerhoff et al., 1992), extended time for exams (Brinckerhoff et al., 1992; Hadley, 2007; Lang et al., 2013), and permission to record lectures (Brinckerhoff et al., 1992) are among a host of other modifications that may also be offered as an academic accommodation.

A valid accommodation should not lower academic standards but qualify students to meet criteria (MUN, 2013a). The accommodation should influence only the skills needed for equal access of the evaluation in question, not the skills being targeted by the evaluation (Lang et al., 2013). The sole purpose of an academic accommodation is to allow students with LD the same advantages and opportunities as their peers without LD (Brinckerhoff et al., 1992; Egan & Guiliano, 2009; Paetzold et al., 2008). Accordingly, equal opportunity and the potential for improved academic performance is the objective, not guaranteed passing grades, as may be perceived by the population without disabilities (Brinckerhoff et al., 1992; Egan & Guiliano, 2009). This follows MUN's (2013a) definition of reasonable accommodations, as previously discussed.

Section 12(2) of the *Policy on Academic Accommodations for Students with Disabilities* (MUN, 2013a) states: "academic accommodations must be dealt with on an individual basis" (p. 10). Accommodations employed for one student with a LD may not generalize to the learning disabled population; no single accommodation has been shown to benefit all students with LD (Brinckerhoff & Banerjee, 2007). Implementation of a specific accommodation should be based on the DSO's knowledge of the disability, the potential impact the accommodation may have on a student's performance, and the effect certain supports will have on the performance of the individual (Brinckerhoff et al., 1992). Details of the accommodation should be determined in a team effort between the referring professional, requesting student, the DSO, and the faculty member completing the evaluations (Brinckerhoff et al., 1992) and it is the faculty member's responsibility to protect the integrity of the assessment (Brinckerhoff et al., 1992).

Accommodations should be specific and adjustments must be developed to accommodate strengths and weaknesses of the student; therefore, they cannot be generalized to the entire population of students with learning disabilities (Brinckerhoff et al., 1992). A student is not eligible for an academic accommodation if the difficulty in evaluation is not directly related to a disability (Brinckerhoff et al., 1992). When these rules and regulations are applied consistently regarding accommodations, biases held by the nondisabled population may be curbed (Colella, 2001).

Accommodation of Extended Time

Seventy-six percent of readers with LD display a speed deficit (Speece, as cited in Runyan, 1991), which is defined as slow, effortful reading by the DSM-V (APA, 2013). For that reason, it should be no surprise that the most commonly requested accommodation in post-secondary institutions is extended time on examinations (Egan & Guiliano, 2009; Lewandowski, Cohen, & Lovett, 2013; Paetzold et al., 2008; Vogel, Leyser, Wyland, & Brulle, 1999). Extended time is a reasonable accommodation when considering students with LD often have deficits in processing speed of written word and often have to reread passages to gain an understanding (Runyan, 1991); consequently, they have difficulty completing examinations in a fixed time frame (Lewandowski et al., 2013). Kurth and Mellard (2006) found that extended examination times were rated as effective 88% of the time, with most students using the extended time accommodation regularly.

Hadley (2007) investigated the effectiveness of extended time on examinations. All students who reported having used this accommodation stressed the importance of such an accommodation to the student with a learning disability, and specifically, the

community of students with dyslexia. Another similar study evaluated the reading comprehension scores of students with LD and students without LD under timed and untimed conditions (Runyan, 1991). It was found that LD students gave fewer responses to exam questions under the timed condition; however, the questions which were answered were correct. Comparing the group of participants without a LD with the group of participants with a LD showed that there was no significant difference ($p = .288$) in comprehension scores between the groups under a timed and extra time condition. Runyan (1991) also found that students with LD scored significantly higher when provided with extra exam time. These studies demonstrate the potential effectiveness of an extended time accommodation to the population of students with LD.

Perceptions of Accommodations

Although the purpose of an accommodation is to provide equal access to all students, obedience to policy is irrelevant if a student with a learning disability is reluctant to request an accommodation due to perceived negative consequences (Egan & Guiliano, 2009). Negative consequences may include, but are not limited to, aggression, revenge, resentment, loss of respect, harassment, and discrimination towards students with disabilities (Colella, 2001; Paetzold, 2008). Due to the concerns of students with LD, there has been an underreporting of LD in post-secondary institutions (Kurth & Mellard, 2006), because students believe that the social consequences of the accommodation overshadow the performance benefits (Egan & Guiliano, 2009).

Colella (2001) suggests that if policies for accommodations are developed and applied consistently to the student population with disabilities, these negative biases and consequences could be reduced. However, there are a number of issues with this

stipulation. First of all, it is practically impossible to apply policies consistently across the entire population with disabilities, because accommodations are individual issues and require specific detail to address the strengths and weaknesses of the individual (Colella, 2001). Also, in order for populations without disabilities to fully understand the accommodation, the reasoning behind the accommodation would have to be provided to them, which breaches privacy rights (Colella, 2001). Policies are more or less guidelines, then, to approaching development of accommodations, as opposed to specific rules to be applied consistently to every member of a group.

A number of explanations exist as to why an accommodation may be perceived negatively. For example, an accommodation may be judged as unfair by peers if it is regarded as making the assignment easier, or increasing the rewards for the individual requesting and using it (Colella, 2001). Colella (2001) proposes that judging equality of an accommodation requires the attention of an observer, and is a conscious procedure requiring motivation. She suggests that there are two characteristics of an event which may result in an individual paying attention and passing negative judgment: salience and relevance. To be salient, the accommodation must be visible. An accommodation will likely be perceived as fair if the person judging the accommodation can visibly observe the disability (e.g., physical handicap requiring a wheelchair). However, if the person cannot observe the disability (i.e., the student has a learning disability), the accommodation provided to the student will likely be perceived negatively. To be relevant, the person observing the student must be personally affected by the accommodation. For example, wheelchair ramps are irrelevant to a person without a physical handicap. Conversely, extra time on an examination may be perceived as unfair

if a person feels it is allowing the requester to perform better than him or herself on the evaluation. People's attitudes regarding accommodations for students with disabilities will theoretically be more positive with more knowledge of and experience with the community with disabilities (Colella, Paetzold, & Belliveau, 2004; Vogel et al., 1999).

Perceptions by Post-Secondary Faculty

As faculty members are the people responsible for maintaining the academic integrity of evaluations, their perceptions of the accommodation process are important. Research on faculty perceptions of accommodations is inconsistent with some studies suggesting that faculty do not perceive accommodations as fair (Lang et al., 2013) while other studies have found more positive results (Houck, Asselin, Troutman, & Arrington, 1992; Vogel et al., 1999).

Lang and her colleagues (2013) conducted a study on 35 educators which employed two math and two reading tests, an accommodations checklist, and a questionnaire. It was found that 78% of faculty members believed providing accommodations was unfair because most students could benefit from being provided with an accommodation regardless of whether or not they receive special education services. The participants of the study claimed that if a student with a disability is placed in a general education classroom, they should adhere to the regulations and evaluation procedures of the classroom and not receive any accommodation that is not in the standard curriculum. Providing an accommodation has been perceived as making the workload easier for some students while maintaining difficulty for other students (Paetzold, 2008).

Contradictory results were found in Vogel and colleagues' (1999) study of 420 instructional faculty members. This study investigated faculty attitudes on the ability of students with LD to successfully attain a post-secondary degree. It was found that only 8.8% of faculty disagreed with the provision of accommodations and 93% of faculty members were willing to provide extra time on an exam.

Houck and colleagues (1992) found similar results in their investigation of faculty perceptions of accommodations provided to students with LD. They conducted a study with 109 faculty members from American universities in which participants responded to a telephone interview. Results showed that faculty were willing to make adjustments to evaluation procedures and did believe that these accommodations were fair to the student population.

Perceptions by Students with Learning Disabilities

Renick and Harter (1989) examined 86 students in secondary school settings and found that students with LD felt mostly positive outcomes of accommodations. However, these results were found only when these students were not included within the regular classroom and, consequently, had no means of social comparison. The authors found that students with LD perceived themselves to be more academically proficient in a special education classroom than in the regular classroom. Social comparisons between students with LD and their peers without LD is likely the cause of this discrepancy. Students with LD are possibly sensitive to the fact that they require accommodations, unlike their peers, and subsequently feel poorly about themselves.

Special education classrooms do not exist in post-secondary settings. Students with LD must take part in the regular classroom alongside their peers without LD. Due to

the negative consequences to students' self-esteem due to social comparisons which occur in an inclusive setting, along with the added anticipation of social consequences, many students with LD are reluctant to request accommodations in post-secondary institutions (Colella, 2001; Egan & Guiliano, 2009; Paetzold et al., 2008). Fear of a negative social standing among peers often discourages students with LD from employing accommodations (Egan & Guiliano, 2009).

Consequential validity plays an important role in deciding whether or not a student with a LD will take advantage of their right to accommodations (Lang et al., 2013). It has been discussed that accommodations result in unintentional negative consequences for the students who request it. However, the reverse may also occur: students with LD are looked at more positively when they excel at an evaluation without an accommodation because it shows populations without LD that the student can cope with their disability (Egan & Guiliano, 2009). Regardless of the outcome of requesting accommodations, students with LD present a desire to receive the accommodations they are entitled to without bringing attention to themselves (Hadley, 2007).

Perceptions by Students without Learning Disabilities

Reactions by peers without LD regarding accommodations are dependent on how fair they perceive the accommodation to be and these reactions impact whether a student with a disability will request an accommodation (Colella, 2001). The more desirable an accommodation is observed to be, the more negatively peers will view it (Paetzold et al., 2008).

Egan and Guiliano (2009) examined the interaction between the use of accommodations and test performance on the perception of a student with LD. One

hundred and sixty-three undergraduate students took part in a study regarding performance and rewards. The presented scenario differed across groups, such that accommodations were either granted or denied, participants were in competition or cooperation, and an acting individual pretending to have dyslexia was placed in the classroom and either outperformed peers or performed on par. They found that when the actor received an accommodation, he or she was perceived as less intelligent by peers, liked less by peers, and received less respect, especially when performing better. When declined the accommodation, the actor was perceived as equally intelligent and liked as other peers. In general, a negative stigma surrounded accommodation usage when students with LD outperformed their peers (Paetzold et al., 2008). This is paradoxical since the purpose of the accommodation is to make education accessible to everyone. Paetzold and colleagues (2008) proposed an explanation for this perception made by peers without LD. They suggested that because most people portray students with LD as inept, it is ego-threatening when this population outperforms the population without LD.

Learning disabilities, such as dyslexia, are commonly perceived as an ‘invisible’ disability because the public cannot observe its implications (Colella, 2001; Paetzold et al., 2008). As previously discussed, Colella (2001) suggested that when a disability is invisible to the public eye, accommodations provided for that disability will likely be perceived as unfair and unnecessary. This may be because peers do not believe the disability is real (Colella et al., 2004), and that the student is faking the symptoms so as to receive differential treatment (Paetzold et al., 2008).

Present Study

The current study aimed to evaluate three hypotheses. The first hypothesis was that when students are aware of another student's disability (i.e., dyslexia), they will perceive the accommodations made for the student (i.e., extended exam time) more positively because they have knowledge of the provision (Colella et al., 2004; Vogel et al., 1999). Conversely, when a student's disability is not disclosed to peers, the accommodation will be perceived more negatively. The second hypothesis was that although equal access for achievement is the purpose of an academic accommodation (Elbaum, 2007), individuals may perceive accommodated students who have not disclosed having a LD as undeserving of the grades they receive. The third hypothesis of the present study was that students who personally knew an individual with a LD would perceive examination accommodations more positively.

Method

Participants

A sample of 106 undergraduate students from Grenfell Campus, Memorial University of Newfoundland participated in the study. Ages ranged from 19-34 years ($M = 20.51$, $SD = 2.22$), with 18 males, 81 females, and 7 undisclosed individuals participating. Of the individuals who participated, 2 reported having a learning disability, and 83 reported personally knowing someone with a learning disability. Students were recruited from second and third year psychology courses.

Materials

A script was written and followed when the researcher entered classrooms as a formal way of informing potential participants of the study (Appendix A). An informed consent form was administered before the study took place (Appendix B) and included details concerning anonymity and confidentiality, right to withdraw, and contact information for the researcher. It also provided students with contact information, had the study raised any personal issues. The form also informed students on how to obtain results upon completion of the study.

Two versions of the questionnaire were developed for the study. One version explicitly stated that Morgan, an imaginary student at Grenfell Campus, Memorial University of Newfoundland, had dyslexia and was receiving extended time on her examinations (Appendix C). The second version did not make this declaration (Appendix D). The questions and instructions on both surveys were the same and evaluated the same concepts. Students were required to decide whether they believed Morgan deserved specific grades on the examination, whether or not the student agreed with varying

amounts of time extension, and whether or not the student agreed with a variety of other accommodations.

Section A of the questionnaire included 3 opinion questions regarding Morgan's grades received on an exam. This section was made up of 'yes or no' questions. Section B included 5 questions concerning opinions on various time extensions that could be offered to Morgan during an exam. Section C included 5 questions concerning opinions on various resource accommodations that could be offered to Morgan during an exam. Questions in sections B and C used a Likert scale (1 = *Strongly Agree*, 4 = *Strongly Disagree*). A demographics section was included on the final page of the questionnaire including questions regarding participants' personal experience with learning disabilities.

Procedure

Permission was obtained from university faculty to enter classes to administer the study. Students were told the study was examining perceptions of examination administration and were informed that taking part in the study was completely voluntary, that they may withdraw from the study at any time, and that the responses provided were confidential (see Appendix A). Students were provided with the questionnaire package containing the informed consent form and questionnaire. If they chose to participate, they were asked to read, sign, date and return the consent form to the researcher by placing the form in an envelope. Those choosing not to participate were also to put the unsigned forms in the envelope to maintain confidentiality and minimize coercion. It was explained to students that although they were provided with the questionnaire package, they were not obligated to complete it. They were further informed to accept the questionnaire, regardless of their intentions, and return it at the end of the study to

maintain confidentiality. Upon completion, questionnaires were placed in another envelope separate from the consent forms. Participants were thanked for their participation and given a copy of the consent form for their records. The entire process took approximately 15 minutes.

Results

Before any analyses were conducted, the two participants who disclosed having a learning disability were removed from the data as the target population was students without a LD.

Chi-squared analyses were conducted on the three questions included in Section A of the questionnaire. Results of the analysis found a significant relationship between participants' opinions of Morgan's higher grade and whether a LD was disclosed in the opening scenario, $\chi^2(1, N = 105) = 24.02, p < .001, \phi^2 = .48$. When the LD was disclosed, participants thought Morgan was deserving of the higher grade compared to when the LD was not disclosed (93.1% vs. 48.9%, respectively). A significant relationship was found between participants' opinions of Morgan's equal grade and whether a LD was disclosed in the opening scenario, $\chi^2(1, N = 105) = 9.58, p = .002, \phi^2 = .30$. Participants thought Morgan was deserving of the equal grade when the LD was disclosed compared to when the LD was not disclosed (93.1% vs. 29.8%, respectively). Finally, a significant relationship was also found between participants' opinions of Morgan's lower grade and whether a learning disability was disclosed in the opening scenario, $\chi^2(1, N = 105) = 6.44, p = .011, \phi^2 = .25$. Participants thought Morgan was deserving of the lower grade when the learning disability was disclosed compared to when the LD was not disclosed (94.8% vs. 21.7%, respectively).

A series of independent-measures t-tests were conducted to analyze the Likert scale questions of Sections B and C. A Bonferonni correction was used ($\alpha = .005$) to reduce the chance of type I error as a result of completing multiple statistical tests on the data. When questioned about the provision of extra time for Morgan, there was a

significant increase in positive responses between the disclosure ($M = 1.66, SD = .64$) and non-disclosure groups ($M = 2.89, SD = .93$), $t(76.55) = -7.31, p < .001, r^2 = .41$. Opinions of providing Morgan with time and a half to complete exams also showed a significant increase in positive responses between the disclosure ($M = 2.16, SD = .72$) and the non-disclosure groups ($M = 3.09, SD = .87$), $t(101) = -5.94, p < .001, r^2 = .23$. As well, opinions of providing double time to Morgan to complete an exam resulted in a significant increase in positive responses between the disclosure ($M = 2.59, SD = .77$) and the non-disclosure groups ($M = 3.35, SD = .67$), $t(102) = -5.28, p < .001, r^2 = .20$. The disclosure group ($M = 1.97, SD = .77$) and the non-disclosure group ($M = 2.54, SD = .91$) also differed significantly in responses regarding the provision of variable times to Morgan during exams, $t(88.12) = -3.43, p = .001, r^2 = .11$, such that more positive responses were given when the disability was disclosed. When asked about their opinions on providing Morgan with a reader, the disclosure group ($M = 1.55, SD = .63$) had significantly more positive responses than the non-disclosure group ($M = 2.15, SD = .79$), $t(102) = -4.33, p < .001, r^2 = .16$. Questions regarding providing Morgan with unlimited time, assistive technology, a dictionary, a scribe, and all supports listed did not result in any significant differences.

Independent-measures t-tests were also conducted to analyze differences between opinions of those who reported personally knowing someone with an LD and those who did not (see Table 1), and differences between opinions of those who reported having perceived Morgan as a male and those who reported having perceived Morgan as a female (see Table 2). No significant differences were found among these groups. In addition to Morgan's perceived gender, a two-factor independent-measures ANOVA was

Table 1

Results of Participants' Opinions on Various Accommodations when Participant Reported Knowing or Not Knowing a Student with LD

	<i>t</i>	<i>p</i>	<i>r</i> ²
Section B			
Q1	-0.79	.430	
Q2	1.62	.109	
Q3	-0.20	.843	
Q4	0.26	.792	
Q5	-0.63	.530	
Section C			
Q1	-0.33	.742	
Q2	-0.08	.935	
Q3	1.02	.322	
Q4	1.53	.129	
Q5	0.68	.501	

Note: $n_{(\text{knowing student with LD})} = 83$, $n_{(\text{not knowing student with LD})} = 15$

conducted to determine if there was a significant interaction between perceived gender and disclosure of the learning disability; no significant main effects or interactions were found.

Table 2

Results of Participants' Opinions on Various Accommodations when Participant Perceived Morgan as Either a Male or Female

	<i>t</i>	<i>p</i>	<i>r</i> ²
Section B			
Q1	0.14	.890	.00
Q2	1.57	.121	.03
Q3	-0.26	.793	.00
Q4	-0.03	.976	.00
Q5	0.98	.922	.01
Section C			
Q1	-0.76	.452	.01
Q2	-0.09	.926	.00
Q3	-0.30	.767	.00
Q4	0.77	.129	.01
Q5	-0.93	.354	.01

Note. $n_{(females)} = 29$, $n_{(males)} = 63$.

Discussion

The purpose of an accommodation is to provide equal access to all students. Achieving compliance to policies in place for accommodating students with learning disabilities (LD), such as those developed by government agencies and university boards, is ineffective if a student with a LD is reluctant to request an accommodation due to the perceived negative consequences (Egan & Guiliano, 2009). Aggression, revenge, resentment, loss of respect, harassment, and discrimination are a few of the listed negative consequences a student with a learning disability may experience (Colella, 2001; Paetzold, 2008). The current study aimed to determine the perceptions of peers without LDs on accommodations made for students with LDs in post-secondary institutions.

Support for Hypotheses

It was hypothesized that when students are aware of another's LD (e.g., dyslexia), they will perceive the examination accommodations made for the student (e.g., extended time) more positively, because they have been provided with more knowledge of the provision (Colella et al., 2004; Vogel et al., 1999), than when a student's LD is not disclosed to other students. Results supporting this hypothesis, as determined by independent-measures t-tests, were found regarding LD disclosure and students' perceptions. Analyses confirmed that when participants were made aware of another student's LD, accommodations of extra time in general, and specifically, time and a half, double time, and variable times, as well as readers, were perceived more positively. However, there were no significant differences between groups in accommodation perceptions regarding providing the student with unlimited time, assistive technology, a dictionary, a scribe, and all supports listed. These results are in line with previous studies

conducted by Colella, Paetzold, and Belliveau (2004) and Vogel and colleagues (1999). Colella, Paetzold, and Belliveau (2004) found that the nature of one's disability will influence peer judgments of accommodations. Specifically, they found that with regards to 'invisible' disabilities, such as dyslexia, many individuals were skeptical and reluctant to believe the student had a disability at all. This, in turn, caused them to believe that the student did not deserve the accommodations and, by association, a higher grade. However, when the accommodation and disclosed disability are viewed as consistent by peers, perceptions of accommodations are more positive. Vogel and colleagues (1999) found similar results suggesting that being aware of a student's disability made perceptions of accommodations more positive.

It is worth noting, however, that providing Morgan with assistive technology, a dictionary, and a scribe were viewed as relatively neutral across both scenarios (disclosure vs. non-disclosure) with means falling between agreement and disagreement (options 2 and 3 on the questionnaires). Extended examination time is a common accommodation made for students with LD; it is also an accommodation often desired by students without LD (Egan and Guiliano, 2009). Extended examination time is desirable because many students feel they may achieve higher grades if they were given this extension. Accommodations such as assistive technology, dictionaries, and scribes are not as common among educational institutions, and when they are used as an accommodation, those are not often perceived as desirable by students without LD. Assistive technologies, dictionaries, and scribes are used with students who need extra help writing, listening, spelling, and etcetera. Students without LD likely observe these accommodations as irrelevant to themselves (the same as they would the wheelchair ramp

previously discussed), and therefore be indifferent to whether or not those accommodations are provided to students with LD.

It was also hypothesized that although the purpose of an academic accommodation is to provide students with LD with equal access for achievement (Elbaum, 2007), individuals may perceive accommodated students who have not disclosed a LD as undeserving of the grades they receive. Analyses showed that not disclosing a LD to peers had a significant relationship with whether or not peers believed the accommodated student deserved higher/equal/lower grades. This could be explained by the idea that disabilities like dyslexia are not physically visible to the public, and therefore, observing an individual get differential treatment for an unknown reason may be judged as unfair. These results parallel Colella's (2001) research, which suggested that for an individual's attitudes to be influenced, the observed behavior or situation must be considered relevant to the individual passing judgment. The wheelchair ramp is irrelevant to an individual without a physical disability; conversely, an individual who believes he/she could benefit from extended examination time may perceive an accommodated student, not having disclosed a LD, more negatively because, essentially, he/she has what the individual wants.

A third, and final, hypothesis of the present study was that students who personally knew an individual with an LD would perceive examination accommodations more positively. The results suggested that personally knowing someone with a LD did not significantly change perceptions of accommodations provided to a student with/without LD. This result contrasts with research conducted by Hewstone (2003), who argued that contact with minority groups promotes more positive attitudes. Hewstone

(2003) also suggests that knowing one member of an “out-group” will promote positive effects to the entire “out-group” population; the positive effect will be generalized. Also, Pettigrew and Tropp (2003) conducted a meta-analysis of 516 studies which found a significant inverse relationship between contact and prejudice (i.e., as contact between in and out groups increased, prejudice decreased). Hewstone (2003) agreed with Pettigrew and Tropp’s (2003) findings and further argued that the most effective mechanism in decreasing negative attitudes and perceptions was friendship between the minority group and the majority group. However, the outcome of the current study may have resulted from of an uneven split in the distribution of participants (i.e. 83 participants reported knowing someone with a LD and 15 participants reported not knowing a person with LD). Had the participants been more evenly distributed between knowing and not knowing an individual with a learning disability, results similar to Hewstone’s (2003) and Pettigrew and Tropp’s (2003) research may have been found. With such a large discrepancy in the population sizes between groups, it is difficult to make a valid comparison.

Practical Implications

An obvious benefit of this research concerns students requesting accommodations in post-secondary settings. As discussed in the introduction, underreporting of learning disabilities is on the rise in post-secondary institutions (Kurth & Mellard, 2006). Underreporting is often the result of fear of judgment and ridicule by peers. However, although privacy policies are in place in academic institutions regarding personal information such as disabilities, it may benefit a student with a LD who is requesting accommodations to know that disclosure of their disability to their peers has been found

to significantly decrease negative attitudes towards the accommodations provided to them. If negative treatment by peers is causing a student to hesitate in requesting for accommodations, they may consider disclosing their disability to their peers instead, so that their peers may be more understanding of the situation.

As discussed by Kurth and Mellard (2006), many students refuse to report their LD in post-secondary settings due to concerns of negative consequences such as discrimination, resentment, and harassment. If students are more fearful of prejudicial treatment as a result of accommodations than they are concerned about their academic success, their academic achievement may ultimately suffer because they are not receiving the help they require to reach their full academic potential. Past literature highlights the idea that contact with the minority group (i.e., students with learning disabilities) can effectively reduce prejudice (Hewstone, 2003; Kurth & Mellard, 2006; Pettigrew & Tropp, 2003). Specifically, implementation of contact interventions by accommodating agencies, such as post-secondary institutions, would likely show increasing positive attitudes and opinions of accommodated individuals in those settings. However, results of the current study do not support this implication. No significant difference was found between participants who reported having contact with the population of students with learning disabilities and those participants who did not. However, as stated previously, this result may be due to the discrepancy in population size between these two groups.

Limitations and Future Research

The current study found support for two of the three hypotheses. Limitations of the research may have resulted in differences in findings compared to the literature. First of all, this study may have benefited from recruiting a specific group of individuals to

partake in the study (i.e., individuals who had contact with the LD population). Secondly, the current research study could have benefited from the inclusion of open-ended questions in the questionnaire to allow participants to explain their choices in response.

With regards to the limitations of the current study, it would be interesting to conduct further research into the contact hypothesis, as discussed by Hewstone (2003) and Pettigrew and Tropp (2003). Further research is necessary to investigate the generalizability of the results to the entire population regarding differences in perceptions between invisible and visible disabilities. Instead of recruiting a general sample of individuals, as in the current study, researchers could focus more specifically on a population of individuals who reported having experiences with the population of students with LD. Ultimately, this research could explore whether the contact hypothesis extends to invisible disabilities. This could be even further studied to include various disabilities.

With regards to the hypothesis of the current study concerning disclosure of LD and achieved grades, it would be important to investigate the reasoning behind individuals' responses. The present research study could have benefited from an open-ended question asking participants to further explain why they agreed or disagreed with Morgan's grades. For example, why do you feel that Morgan does or does not deserve a higher/equal/lower grade? This could shed light on whether or not it is because the individual feels threatened by the accommodated student's success as suggested by Paetzold and colleagues (2008), or if he/she perceives the entire accommodation procedure as unfair. Paetzold and colleagues (2008) suggested that because many people may portray students with LD as less competent, it is, therefore, ego-threatening when

this population outperforms the population without LD. Further investigation into this concept would be beneficial in reducing prejudice and negative judgment by allowing universities (and other accommodating agencies such as secondary schools and workplaces) to address these important issues in more depth.

The current study aimed to investigate the perceptions of accommodations made at the post-secondary level for students with LD. Research into this concept is important if society is to create an environment that is equitable for the population with LD. It is essential to determine what challenges are faced by this population outside of their diagnosed disability (i.e., stigma, social treatment, etc.) if post-secondary institutions hope to eradicate all barriers this population experiences as a result of their disability. For example, as mentioned previously, many individuals with LD will not request accommodations for fear of ridicule by their peers. With the present research study, it has been concluded that having disclosed one's disability to peers creates a more positive perception of any accommodation an individual with LD may receive. Furthermore, grades achieved by students with LD with the help of accommodations during examinations are more positively perceived when the individual chooses to disclose their disability to their peers.

In conclusion, it is essential that more research be conducted on this topic, since achieving equality in educational settings is important so that no person's success is limited. Awareness of the purpose of accommodations is also important if educational institutions wish to decrease stigmatization and prejudicial treatment of their students. Every individual deserves and has a right to an equal and fair education. The current

study aimed to shed light on some of the issues faced by the community of students with LD in an effort to decrease negative perceptions of this community.

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Appendix A
Classroom Script

Hello everyone. My name is Andrea Head, and I am currently in my fourth year of the Bachelor of Science Honours Psychology program. I am currently working on a study investigating perceptions of examination administration in post-secondary institutions. The results of this study will be used to write an honours thesis as part of the program requirements. Today, I am looking for participants for this study; however do not feel obligated to take part. I will be handing out a package including an informed consent form for you to sign, if you choose to take part, as well as the questionnaire and a copy of the consent form for your records. The questionnaire should take you approximately ten minutes to complete. I do ask, however, if you do not choose to take part that you hang on to the study package until the end to ensure confidentiality of who has or has not taken part. At the end, I will ask everyone to return the informed consent form (signed or not signed) as well as the questionnaire (completed or not completed) in two separate envelopes.

Appendix B
Examination Administration in Post-Secondary Institutions
Informed Consent Form

The purpose of this Informed Consent Form is to ensure you understand the nature of this study and your involvement in it. This Consent Form will provide information about the study, giving you the opportunity to decide if you want to participate.

Researchers: This study is being conducted by Andrea Head as part of the program requirements for the Bachelor of Science in Psychology (Honors). I am under the supervision of Dr. Sonya Corbin Dwyer.

Purpose: The study is designed to investigate perceptions of examination administration at the post-secondary level of education. The results will be used to write an honors thesis as part of the program requirements. The study may also be used in a larger research project and may be published in the future.

Task Requirements: You will be asked to complete a questionnaire. There are no right or wrong answers to the statements; we are only interested in your opinions.

Duration: The questionnaire will take approximately ten minutes to complete.

Risks and Benefits: There are no obvious risks or benefits involved with your participation in this study.

Anonymity and Confidentiality: Your responses are anonymous and confidential. Please do not put any identifying marks on any of the pages. All information will be analyzed and reported on a group basis. Thus, individual responses cannot be identified.

Right to Withdraw: Your participation in this research is totally voluntary and you are free to stop participating at any time. You may also omit any questions you do not wish to answer.

Contact Information: If you have any questions or concerns about the study, please feel free to contact me at ahead@grenfell.mun.ca, or Dr. Corbin Dwyer at scorbin@grenfell.mun.ca. As well, if you are interested in knowing the results of the study, please contact me or Dr. Corbin Dwyer after April 30, 2014. If this study raises any personal issues for you, please contact the counseling centre at Grenfell, specifically,

Dr. Paul Wilson at 637-6234 or pwilson@grenfell.mun.ca or Ms. Maureen Bradley at 637-6211 or mbradley@grenfell.mun.ca

This study has been approved by an ethics review process at Grenfell Campus, Memorial University of Newfoundland.

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I acknowledge that I have been informed of, and understand, the nature and purpose of the study, and I freely consent to participate. This Informed Consent Form will be placed in a separate envelope to ensure anonymity. I acknowledge that I have received a copy of this Form for my own records.

Signed _____

Date _____

**Academic Accommodations in Post-Secondary Institutions
Informed Consent Form**

The purpose of this Informed Consent Form is to ensure you understand the nature of this study and your involvement in it. This Consent Form will provide information about the study, giving you the opportunity to decide if you want to participate.

Researchers: This study is being conducted by Andrea Head as part of the program requirements for Bachelor of Science in Psychology (Honors). I am under the supervision of Dr. Sonya Corbin Dwyer.

Purpose: The study is designed to investigate perceptions of examination administration at the post-secondary level of education. The results will be used to write an honors thesis as part of the program requirements. The study may also be used in a larger research project and may be published in the future.

Task Requirements: You will be asked to complete a questionnaire. There are no right or wrong answers to the statements; we are only interested in your opinions.

Duration: The questionnaire will take approximately ten minutes to complete.

Risks and Benefits: There are no obvious risks or benefits involved with your participation in this study.

Anonymity and Confidentiality: Your responses are anonymous and confidential. Please do not put any identifying marks on any of the pages. All information will be analyzed and reported on a group basis. Thus, individual responses cannot be identified.

Right to Withdraw: Your participation in this research is totally voluntary and you are free to stop participating at any time. You may also omit any questions you do not wish to answer.

Contact Information: If you have any questions or concerns about the study, please feel free to contact me at ahead@grenfell.mun.ca, or Dr. Corbin Dwyer at scorbin@grenfell.mun.ca. As well, if you are interested in knowing the results of the study, please contact me or Dr. Corbin Dwyer after April 30, 2014. If this study raises any personal issues for you, please contact the counseling centre at Grenfell, specifically, Dr. Paul Wilson at 637-6234 or pwilson@grenfell.mun.ca or Ms. Maureen Bradley at 637-6211 or mbradley@grenfell.mun.ca

This study has been approved by an ethics review process at Grenfell Campus, Memorial University of Newfoundland.

**Appendix C
Questionnaires**

Morgan is a student in your class at Grenfell Campus. Morgan has been diagnosed with dyslexia, which is described as a difficulty to read fluently and with accurate comprehension, despite a normal intelligence. To help Morgan succeed in studies at Grenfell, extra time is given provided during exam periods.

A. Please answer the following questions regarding grades received on the exam:

1. Morgan receives a better grade than you on the exam, do you believe Morgan was deserving of the grade?

Yes ___ No___

2. Morgan received the same grade as you on the exam, do you believe Morgan was deserving of the grade?

Yes ___ No___

3. Morgan received a lower grade than you on the exam, do you believe Morgan was deserving of the grade?

Yes ___ No___

B. Rate your level of agreement with the following details regarding the time extension:

1. Should Morgan receive extra time to complete an examination while you and other students write in the assigned time period?

Strongly Agree Agree Disagree Strongly Disagree

1 2 3 4

2. Should Morgan receive unlimited time to complete the examination?

Strongly Agree	Agree	Disagree	Strongly Disagree
1	2	3	4

3. Should Morgan receive time and a half to complete the examination?

Strongly Agree	Agree	Disagree	Strongly Disagree
1	2	3	4

4. Should Morgan receive double time to complete the examination?

Strongly Agree	Agree	Disagree	Strongly Disagree
1	2	3	4

5. Should Morgan receive variable time to complete the examination, depending on the type of exam administered (ie. Mathematics versus English)?

Strongly Agree	Agree	Disagree	Strongly Disagree
1	2	3	4

C. The following questions concern various types of examination administrations provided to Morgan. Please rate your level of agreement with the administration.

1. Morgan is provided with a reader, defined as an individual who reads directions/exam questions aloud to a student.

Strongly Agree	Agree	Disagree	Strongly Disagree
1	2	3	4

2. Morgan uses assistive technology to complete the exam (i.e., word-to-text software).

Strongly Agree	Agree	Disagree	Strongly Disagree
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1 2 3 4

3. Morgan uses a dictionary.

Strongly Agree Agree Disagree Strongly Disagree

1 2 3 4

4. A scribe, defined as an individual who transcribes verbal presentations into written word, is provided to Morgan.

Strongly Agree Agree Disagree Strongly Disagree

1 2 3 4

5. Morgan receives all of the above mentioned supports (i.e., extra time, reader, assistive technology, dictionary, scribe).

Strongly Agree Agree Disagree Strongly Disagree

1 2 3 4

Please turn over for final questions!

Demographics

1. Age: _____

2. Gender: _____

3. Do you have a learning disability?

Yes ___ No ___

4. Do you personally know someone who has a learning disability?

Yes ___ No ___

5. Do you think Morgan is a male or a female?

Male ___ Female ___

Thank you for your participation!

Appendix D

Morgan is a student in your class at Grenfell Campus. To help Morgan succeed in studies at Grenfell, extra time is provided during exam periods.

A. Please answer the following questions regarding grades received on the exam:

1. Morgan receives a better grade than you on the exam, do you believe Morgan was deserving of the grade?

Yes ___ No___

2. Morgan received the same grade as you on the exam, do you believe Morgan was deserving of the grade?

Yes ___ No___

3. Morgan received a lower grade than you on the exam, do you believe Morgan was deserving of the grade?

Yes ___ No___

B. Rate your level of agreement with the following details regarding the time extension:

1. Should Morgan receive extra time to complete an examination while you and other students write in the assigned time period?

Strongly Agree	Agree	Disagree	Strongly Disagree
1	2	3	4

2. Should Morgan receive unlimited time to complete her examination?

Strongly Agree	Agree	Disagree	Strongly Disagree
1	2	3	4

3. Should Morgan receive time and a half to complete her examination?

Strongly Agree	Agree	Disagree	Strongly Disagree
1	2	3	4

4. Should Morgan receive double time to complete her examination?

Strongly Agree	Agree	Disagree	Strongly Disagree
1	2	3	4

5. Should Morgan receive variable time to complete her examination, depending on the type of exam administered (ie. Mathematics versus English)?

Strongly Agree	Agree	Disagree	Strongly Disagree
1	2	3	4

C. The following questions concern various types of examination administrations provided to Morgan. Please rate your level of agreement with the administration.

1. Morgan is provided with a reader, defined as an individual who reads directions/exam questions aloud to a student.

Strongly Agree	Agree	Disagree	Strongly Disagree
1	2	3	4

2. Morgan uses assistive technology to complete the exam (i.e., word-to-text software).

Strongly Agree	Agree	Disagree	Strongly Disagree
1	2	3	4

3. Morgan uses a dictionary.

Strongly Agree	Agree	Disagree	Strongly Disagree
1	2	3	4

4. A scribe, defined as an individual who transcribes verbal presentations into written word, is provided to Morgan.

Strongly Agree	Agree	Disagree	Strongly Disagree
1	2	3	4

5. Morgan receives all of the above mentioned supports (i.e., extra time, reader, assistive technology, dictionary, scribe).

Strongly Agree	Agree	Disagree	Strongly Disagree
1	2	3	4

Please turn over for final questions!

Demographics

1. Age: _____

2. Gender: _____

3. Do you have a learning disability?

Yes ___ No ___

4. Do you personally know someone who has a learning disability?

Yes ___ No ___

5. Do you think Morgan is a male or a female?

Male ___ Female ___

Thank you for your participation!