April 2017

Strategies for the Social Inclusion of Peers with Learning Difficulties: Perspectives of Adolescents in Various Birth Order Positions

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A thesis submitted in partial fulfillment of the requirements for the degree in Master of Arts

Abstract

While inclusive education has become common practice, adolescents with learning difficulties still tend to be socially excluded by their peers. Whether sibling birth order affects the way adolescents include students with learning difficulties is a limited area of research. By conducting semi-structured interviews with high school students, the present study aimed to explore beliefs about how peers with learning difficulties may be socially included, examining accounts from oldest, youngest and middle siblings. Through content analysis, 4 main themes were identified: (a) academic interventions, (b) group events and activities, (c) student-driven initiatives, and (d) creating awareness (about learning difficulties). Chi square analyses revealed a significant association between birth order and all themes. Findings of this study will inform social inclusion initiatives among educators and contribute to a novel area of birth order research.

Keywords: social inclusion; inclusion strategies; adolescents; intellectual disabilities; learning disabilities; siblings; birth order

Acknowledgements

First, I would like to thank my advisor Elizabeth Nowicki who has been especially kind and encouraging through the thesis process. I appreciate your patience when I sometimes asked the same question in multiple ways! My sincerest gratitude also goes to Alan Leschied, Susan Rodger and Jason Brown for their withstanding support during my Graduate Education. You have all taught me so much through your genuinely compassionate and gentle natures.

Thank you to my closest family and friends who never stopped being my cheerleaders. Taking your love with me to London and looking forward to being with you back home gave me the balance I needed to be successful. My journey had its bumps, but the deep conversations, laughs and necessary breaks kept my motivation strong.

Most importantly, this study would not have been possible without the students who bravely volunteered to be interviewed to share their ideas. Their level of optimism and the quality of their ideas for helping other students gives me confidence that our initiatives will not go unnoticed.

Table of Contents

List of Tables

List of Appendices

Chapter 1: Introduction

Why should adolescents with learning difficulties not have the same access to education as other students their age? How can adolescents with learning difficulties be engaged so that they are welcomed and able to achieve? These are questions that underline The United Nations Educational, Scientific and Cultural Organization (UNESCO)'s World Declaration on Education for All (1990). This declaration firmly states that education systems must ensure an inclusive and equal learning environment for individuals with learning disabilities. What this means is that differences in race, culture, socioeconomic status, and ability are to be both respected and celebrated in the context of the school environment. A subsequent UNESCO document, specific to inclusion policy, conceives that educators are to make an effort to change attitudes about diversity by teaching students with differences all together. In order for this type of inclusion to be successful, policies and strategies must be in effect (UNESCO, 2009).

What is referred to as "inclusive education" aims to provide all students with a sense of belonging and the right to learn a common curriculum with classmates the same age (Ainscow, Booth, & Dyson, 2006). Kvalsund and Velsvik Bele (2010) provided a compelling argument in favour of inclusion by examining the positive and negative effects of being taught in inclusive classrooms in comparison to special education classes. They reported that attending inclusive classes significantly improves social inclusion in social networks through to adulthood. On the contrary, learning in special education classes can restrict social competence by isolating students from their broader group of peers and contributing to negative stigma associated with the label of a learning disability (Kvalsund & Velsvik Bele, 2010; Shifrer, 2013).

Involvement in inclusive classes provides valuable opportunities to master social situations requiring cooperation, competition and social learning from peer models (Kvalsund & Velsvik Bele, 2010). Students in these classrooms are also expected to practice cultural competency and to support one another socially. Special education classes generally provide less practice in forming diverse relationships and offer limited social experimentation. This can lead to anxiety when a student with a disability is expected to interact in social situations outside of what they are accustomed to (Kvalsund & Velsvik Bele, 2010). More generally, it has been demonstrated that inclusive classrooms are a factor contributing to resilience and social integration in early adulthood (Ainscow et al., 2006; Kvalsund & Velsvik Bele, 2010).

Although inclusive education has been a longstanding practice in the Canadian education system, a significant challenge that remains to students with learning disabilities is the social acceptance of their differences by others (Nowicki & Brown, 2013). A pilot study by Nowicki, Brown, and Stepien (2014) uniquely used a concept mapping approach with Grades 5 and 6 children to uncover their perceptions on why some students with learning difficulties are socially excluded. Statements from interviews were sorted into four main clusters, which revealed an overarching theme of "difference" emerging from the children's responses. Differences described by students included negative perceptions of the physical characteristics of peers with learning difficulties, their behaviours, differences in learning abilities, and variance in resource allocation from instructors (Nowicki et al., 2014). In addition, some research has shown negative stigma associated with learning difficulties as a contributing factor to social rejection. Presumably due to a lack of understanding, adolescents with learning difficulties are

sometimes perceived as “lazy or dumb” by their peers (Shifer, 2013). Zhao and Zhang (2008) described youth with learning disabilities as less accepted by their peers than students without learning difficulties. These authors went on to explain that in order to avoid discrimination and rejection, students with learning disabilities often develop strategies to conceal learning-related differences during social interactions (Zhao & Zhang, 2008).

Over the years, numerous evidence-based strategies have been utilized in inclusive classrooms to increase social inclusion. Chapman and Snell (2011) discussed the benefit of turn taking among preschoolers, as this provides children with the opportunity to be heard and facilitates conversation between classmates with and without disabilities. Other popular ideas involve goal-oriented behavior; Maras and Brown (2002) discussed structured tasks for children that serve to increase acceptance, while Hundert (2007) suggested planned seating arrangements and activities that require interaction between children with different abilities. Similar concepts have been tested in adult literature when discussing the intergroup contact hypothesis, which states that encounters with out-group members can reduce prejudice in supportive and structured settings (Vezzali & Capozza, 2011).

Other research has demonstrated that ostracism, a behavioural rejection that portrays the dislike of an individual and restricts their access to social resources (Hawes et al., 2012), has distinct consequences. Using Cyberball technology, Hawes et al. (2012) simulated a ball toss activity with two computer-generated peers over the Internet. Children in the exclusion condition were passed the ball only once throughout the game, while children in the inclusion condition were passed the ball several times. Following

the intervention, children in the exclusion condition performed much poorer on working memory tasks as compared to their inclusion counterparts, with some participants reporting significant anger responses. Using a similar technique, another study used Cyberball technology and fMRI imaging to investigate the neurobiological impact of social rejection. What researchers found was a neurological response to social exclusion that mimicked that of physical pain (Eisenberger et al., 2013).

A number of researchers have outlined specific consequences of social exclusion, including vulnerability to illiteracy, school drop out, unemployment, and poor mental health (Dymnicki, Kendziora, & Osher, 2012; Hawes et al., 2012; Honey & Llewellyn, 2011; Janus, 2008; Nowicki et al., 2014). Due to the negativity of these outcomes, it is critical to gain insight into ways that students with learning difficulties can be more socially included at school. As most evidence-based strategies for social inclusion have been devised and implemented by teachers or school administration (Nowicki & Brown, 2013), it would be valuable to take into consideration students' own perceptions on how to facilitate social inclusion. Therefore, the goal of this study was to investigate students' ideas about how they can include their peers with learning difficulties at school.

The present study refers to the term "learning difficulties", as it reflects everyday language that will be understood by adolescents (Nowicki & Brown, 2013). It was critical that participants had an understanding of learning difficulties, which could include a range of learning problems such as intellectual disability and learning disorders, exceptionalities, lower academic ability, and special needs. When citing the work of other authors, other terms may be used to remain consistent with their work.

Chapter 2: Literature Review

The Challenging Transition to Adulthood for Adolescents with Learning Difficulties

Adolescence is an important biological and social transition, marked by the onset of puberty and emerging adult roles (Dymnicki et al., 2012). During this time, adolescents undergo both physical and emotional changes (Oberle, Schonert-Reichl, & Thomson, 2010; Pander & Agarwal, 2013). A key factor in healthy social development is the ability to create and maintain close social relationships (Dymnicki et al., 2012).

Social networks are pivotal throughout the entire life course. For example, friendships are crucial through transitions involving school and work, and can provide emotional or family support (Kvalsund & Velsvik Bele, 2010). Feelings of belonging and relatedness with peers are also associated with adjustment at school and self-esteem, making peer relationships central to academic development, social competency and psychological well-being (Kvalsund & Velsvik Bele, 2010). On the contrary, peer rejection has been shown to contribute to adjustment problems in late adolescence and early adulthood, relating to higher levels of aggression and withdrawal (Oberle et al., 2010). Taken together, it has been suggested that positive social relationships are essential to a successful and satisfying adult life (Pander & Agarwal, 2013).

During the transition to adulthood, youth are expected to assume a social identity and acquire skills that will allow them to participate in their community (Pander & Agarwal, 2013). For youth with disabilities this period is exceptionally challenging. Difficulties in developing these expected roles have a negative effect on self-esteem, the establishment of relationships, and even sense of hope. Many adults with learning difficulties will remain dependent on their parents or have conflictual relationships with

caretakers and professionals (Pander & Agarwal, 2013).

Emotional autonomy is especially hard for young adults with learning difficulties, as many have little experience with social interactions and few opportunities to build friendships (Pander & Agarwal, 2013). Those with learning difficulties often have problems recognizing social cues, particularly body language and nonverbal prompts (Dymnicki et al., 2012). Partly due to this deficit, students with learning difficulties are more likely to be socially rejected by their peers than other students the same age. Because of peer rejection, students with similar challenges are often grouped together, which in turn accelerates social issues (Dymnicki et al., 2012). Youth with learning difficulties are also more likely than their peers to become criminally involved, and develop substance use and mental health problems (Al-Yagon, 2012; Dymnicki et al., 2012; Pander & Agarwal, 2013). It is troubling to report that these challenges are often associated with loneliness and sometimes result in suicide (Dymnicki et al., 2012).

Fortunately, past studies have identified several factors that contribute to academic and socio-emotional success among students with learning difficulties. Some examples include the promotion of student motivation, supportive teachers, and school-family partnerships (Dymnicki et al., 2012). In addition, some adolescents are able to overcome challenges by developing self-advocacy and self-acceptance. Peer support, characterized by displays of empathy, can also be central to their achievement (Rosetti & Henderson, 2013). While research has focused predominantly on pre-school and elementary students with learning difficulties (Dymnicki et al., 2012), adolescents with learning difficulties continue to be overlooked in the literature (Al-Yagon, 2012; MacIntyre, 2014). The current study seeks to address this gap by investigating strategies

that promote social inclusion during this critical stage of development.

Overall, adolescence is an exceptionally challenging stage of development for students with learning difficulties (Pander & Agarwal, 2013). Without the development of strong social relationships throughout this period, a stable transition to adulthood is less likely for these students compared to their mainstream peers (Dymnicki et al., 2012). A compelling number of studies have outlined the benefit of sibling relationships on adolescent social development. The following section reviews this further.

The Foundations of Sibling Relationships

Sibling relationships have been shown to be the most enduring, lifelong bonds, with siblings spending more time together than with any other companions (McHale, Updegraff, & Feinberg, 2016). These unique relationships involve emotionally intense interactions and have a direct impact on social development. In adolescence particularly, sibling relationships, which can include both positive and negative characteristics, have been linked to prosocial behaviour, empathy development, and academic engagement. Even when considering the current demographic decline in family size, sibling attachment remains universal (McHale et al., 2012). Some findings have even suggested that siblings have a similar or greater influence than parents or peers (McHale et al., 2012; Whiteman et al., 2011).

While sibling relationships have been less frequently researched than other significant familial bonds, siblings assist in critical developmental tasks, including the growth of social and cognitive competency (Lam, Solmeyer, & McHale, 2012; Whiteman et al., 2011). Specifically, children benefit interpersonally from gaining skills that can be generalized to non-familial peers (Downey & Condron, 2004; Lam et al., 2012). Because

children have no choice in who their siblings are, it has been noted that siblings act as agents of socialization by facilitating early learning about compromise, perspective taking, and problem solving (Lam et al., 2012). These are characteristics that can have an impact on the way students perceive and respond to their peers with learning difficulties. As a result, it is possible that these traits may influence their ideas for social inclusion.

The Role of Siblings

Sibling relationships are unique in the ways they include both complementary interactions that are seen within adult-child relationships and reciprocal interactions like those among peers. These frequent and life-long interactions trigger socioemotional development as siblings are working to establish their identity both in the family and larger social context (McHale et al., 2012).

A number of studies have examined the importance of sibling relationships to the development of empathy and pro-social behavior. For instance, a qualitative analysis by Downey and Condron (2004) studied kindergarteners from The Early Childhood Longitudinal Study to look at ways children benefit socially from having siblings. Their investigation revealed that sibling relationships provide opportunities for play and an increased ability to mediate conflict. Further, older siblings may act as teachers or helpers. Additional results indicated that teachers rated children with one or more siblings higher in self-control and interpersonal skills, including sensitivity towards others, and lower in problematic behaviours compared to those with no siblings (Downey & Condron, 2004). These findings provide evidence for the advantage of sibling relationships according to Social Learning theory. As was outlined by Albert Bandura, humans learn behaviours through observing others and are more likely to mimic the

behavior of higher status individuals who are similar to the self (Bandura, 1977; Whiteman et al., 2011). Downey and Condron (2004) not only support that children with siblings show greater interpersonal skills and empathy compared to children without siblings, but that younger siblings are likely to learn these behaviours from their older brothers or sisters.

A study by Lam et al. (2012) focused on the association between sibling relationships and empathy development over 2 years during the transition to adolescence. Through self-report surveys, this longitudinal study aimed to examine the developmental course of empathy in participants between middle childhood and early youth. In the case of closer sibling relationships, authors found that empathy became stronger with age, demonstrating the potential role of siblings in shaping socio-emotional development (Lam et al., 2012).

Both Albert Bandura (1977) and Alfred Adler (1924) saw adolescence as a key period for important tasks, such as social learning and the development of unique identities (McHale et al., 2012). According to Lam et al. (2012), as children age, brain regions associated with the understanding of others and perspective taking are positively changing. Due to biological changes, a desire for deeper, more meaningful connections also becomes present. These levels of empathy in adolescence have often been linked to pro-social behavior, which includes helping, sharing, and comforting (Eisenberg et al., 2005; Eisenberg, Morris, McDaniel, & Spinrad, 2009).

The two major theorists aforementioned, Bandura and Adler, have been particularly influential in offering a framework for the importance of sibling relationships in adolescent development.

Social learning theory primarily discussed in the context of childhood and adolescence, serves as the most common explanation of sibling dynamics (Whiteman, Becerra, & Killoren, 2009; Whiteman et al., 2011). Albert Bandura believed that human behaviours stem from two key mechanisms: Reinforcement and observation of behaviours (Bandura, 1977). Social learning mechanisms include modeling, reinforcement and supplying opportunities for gaining skills (Whiteman et al., 2009). Social learning theory asserts that in addition to learning through experience, individuals also form ideas and learn behaviours through observing others (Whiteman et al., 2009).

Bandura stated that individuals are more likely to imitate models who are warm, nurturing, high status and similar to themselves (Bandura, 1977; Whiteman et al., 2011), and because children spend a lot of time with their siblings, they are potentially salient models (Whiteman et al., 2009). Given their age and advanced maturity, older siblings are typically seen as dominant and are considered nurturing in their roles as caregivers and teachers (Whiteman, McHale, & Crouter, 2007). This makes younger siblings more likely to observe and imitate their older brothers or sisters more than the reverse (McHale et al., 2016; Whiteman et al., 2009). In addition, Bandura stated that in order for observational learning to occur, the observer must be motivated to engage in learned behaviours. In this case, older siblings have been described as sources of reinforcement by providing settings in which siblings can create shared experiences and also integrating their siblings into their network of friends (Whiteman et al., 2009).

Taken together, social learning theory reinforces the importance of sibling relationships in social development. Much of social learning theory connects sibling birth order to observational learning, asserting that younger children are more likely to imitate

the behavior of their older siblings than the reverse. The focus of the present study is on how students feel their peers with learning difficulties fit in socially, and how they believe they can help. By analyzing responses from siblings in different birth positions, the tenets of social learning theory may be assessed in the context of social inclusion. Whether or not the pattern of responses from younger siblings is different from those of older siblings could provide some insight into this.

Adler's theory of individual psychology focused on siblings as central to both family life and personality development (McHale et al., 2012; Whiteman et al., 2007). This ethological perspective also took into consideration birth order effects, and more specifically the tendency of parents to overindulge younger siblings (Adler, 1924).

Alfred Adler believed that social comparison and sibling rivalry for attention impacted personality development. In order to reduce competition, siblings develop unique identities (Adler, 1924). This process was referred to as "differentiation" or "deidentification" and was seen as a way to protect the sibling relationship and lead to warmer, less conflictual interactions (Whiteman et al., 2007). From a young age, children attend to the way they are treated relative to their siblings. Rivalry or jealousy may emerge if children believe their siblings to be favoured by their parents. These feelings are central to emotional development and family dynamics, so the sibling deidentification process serves to establish a unique identity in order to reduce sibling conflict. (McHale et al., 2016; Whiteman et al., 2007). Through the deidentification process, adolescents consciously or subconsciously develop different niches and personal qualities to distinguish themselves from their sibling. This defense mechanism shelters siblings from jealousy, social comparison and resentment. By engaging in deidentification, siblings can

maintain a connection that is more positive and also mitigate similarity in risky or deviant behaviour (Whiteman et al., 2009). The differentiation process has been said to increase during adolescence when siblings are faced with important developmental transitions (McHale et al., 2012).

Adler's theory of individual psychology focused on sibling conflict and rivalry, and the mechanisms siblings use to maintain emotional balance. Unlike social learning theory, in which one sibling mimics another, the differentiation process helps siblings distinguish themselves from one another. This newly formed identity is key to the development of social relationships outside of the family and provides an additional perspective when considering possible birth order effects in the context of the present study. With many of the theoretical foundations of sibling relationships citing sibling birth position, it appears that there is a link between sibling birth order and adolescent social development. Because the aim of this study is to investigate ways that students feel they can socially include their peers with learning difficulties, it is useful to explore how sibling birth order may affect contributing traits like extraversion and empathy.

Birth Order and Personality Development

Birth order has been defined as a person's rank by age among their siblings and has been shown to impact traits including intelligence to extraversion (Salmon, Cuthbertson, & Figuerdo, 2016). Early on, Adler (1928) proposed a theory of birth order that described firstborns as more dependent and neurotic than their siblings. Adler (1928) believed this was due to older siblings being "dethroned" by later children, resulting in a shift in parental attention. More recently, Frank Sulloway (1996) has presented an evolutionary perspective on birth order effects, stating that children strive for parental

resources and develop strategies to gain attention. Sulloway referenced the five-factor personality traits (Extraversion, Agreeableness, Openness to Experience, Neuroticism, Conscientiousness) to propose that firstborns are higher in conscientiousness and neuroticism, while later born siblings are higher in agreeableness and openness to experience (Marini & Kurtz, 2011). Sulloway (1996) believed that firstborns are highly motivated to maintain parental values and uphold expectations. For this reason, he claimed they are also typically higher in dominance and assertiveness. Later born siblings, however, he saw as more approachable and easygoing, which serves to grasp parent attention in a competitive sibling environment (Pollet, Dijkstra, Barelds, & Buunk, 2010).

However, evidence on this subject has been mixed. Sulloway (1995) explained that different forms of extraversion could clarify these mixed findings. Specifically, later born siblings are higher in social extraversion, whereas firstborns are higher in the dominance aspect of extraversion, which characterizes assertiveness. Pollet et al. (2010) used a large community sample to test this theory. Through self-report measures, it was found that firstborns were less extraverted in the sense of dominance, whereas younger siblings scored higher. These findings match an earlier investigation by Dixon et al. (2008), which also showed younger siblings to have higher overall extraversion.

As a whole, past research has demonstrated mixed ideas concerning the role of birth order on traits like empathy and prosociality (Salmon et al., 2016; Szobiova, 2008). Firstborn children, for example, have been said to defend parental values and focus on family relationships (Salmon et al., 2016). They are more oriented to high performance, perfectionism and responsibility, and they take social standards seriously (Szobiova,

2008). On the contrary, later born siblings tend to focus outwardly on friendships and are naturally seen as more popular by their peers (Damian & Roberts, 2015; Salmon et al., 2016; Szobiova, 2008). In addition, younger siblings are sometimes seen as less likely to autonomously settle disputes and more likely to remain dependent on others (Szobiova, 2008). Salmon et al. (2016) looked at the impact of birth order on measures of prosocial behavior and found that birth order had a moderate effect on prosociality. Specifically, later born children exhibited greater prosocial behavior than firstborn children, facilitating strong connections with their peers. Because there is no benefit to mimicking the traits of their older siblings, researchers say that younger children find their own niche through the process of differentiation (Beck, Burnet, & Vosper, 2006; Salmon et al., 2016). Furthermore, it has been noted that later born children on average are more empathetic than their older siblings (Salmon et al., 2016).

Recognition of the middle born sibling position remains inconsistent in the literature making its conceptualization more complex (Beck et al., 2006; Damian & Roberts, 2015; Szobiova, 2008). For the purpose of the current study, a middle born sibling is identified as someone who has at least one older and one younger sibling. Like later born children, middle siblings seem to focus on developing relationships outside of the family. This is seemingly due to a loss of parental investment to the older and younger children's needs (Salmon et al., 2016; Szobiova, 2008). Middle born siblings are also in a distinct position in the family to observe parents caring for both older and younger siblings. This exposure to various developmental stages and challenges provides middle born siblings the opportunity to learn valuable skills, such as negotiation and compromise (Szobiova, 2008). Further, unlike older siblings, middle siblings have likely

never had the experience of being the sole child in the home. This may explain their tendency to resolve disputes between their siblings (Szobiova, 2008).

Summary of Literature Review

Adolescence provides a significant transition in the development of social skills and peer relationships (Dymnicki et al., 2012; Eisenberg et al., 2005; Lam et al., 2012). These relationships have the potential to support future adult roles, like the transition into the workplace and family demands (Kvalsund & Velsvik Bele, 2010; MacIntyre, 2014; Oberle & Thomson, 2010). For students with learning difficulties, adolescence is an exceptionally challenging, but under-recognized period (Al-Yagon, 2012). Due to difficulties in recognizing social cues and isolating themselves from others, students with learning difficulties typically have a more difficult transition and less positive outcomes than their peers (Janus, 2008; Pander & Agarwal, 2013). This research aims to address the limited social interaction between students and their peers with learning difficulties by recognizing that social inclusion remains an area of need in inclusive schools. Fortunately, through factors like self-advocacy and peer support, individuals with learning difficulties have the potential to experience success (Rosetti & Henderson, 2013).

One factor that appears to have a positive connection to sociability is the presence of siblings in the home (McHale et al., 2012; Whiteman et al., 2007). Sibling relationships have been said to promote empathy development, an early understanding of others, and conflict resolution skills (McHale et al., 2012; Whiteman et al., 2009). The effects of having a sibling are related, in part, to an individual's birth order. For instance, older siblings are often seen as role models, typically exhibiting dominance (Adler, 1924;

Beck et al., 2006; Pollet et al., 2010); middle siblings are on average perceived as more sociable and independent (Salmon et al., 2016; Szobiova, 2008); and youngest siblings have been said to seek differentiation from their older siblings (Bandura, 1977; Salmon et al., 2016) but are more likely to depend on others for help (Szobiova, 2008). With the focus remaining on inclusion strategies, this study takes into account the development of birth order traits and their possible connection to an individual's beliefs about social inclusion. Particularly, whether or not a student's birth position has any relation to the nature of their ideas about the social inclusion of peers with learning difficulties.

The Present Study

The aim of this research was to explore ideas about how adolescents who find learning difficult can be more socially included. For this study, it was important to determine how adolescents defined and perceived learning difficulties from their own perspective to understand how this might contribute to social exclusion. The focus of the current study was on ways that students can contribute to social inclusion of their peers who find learning difficult in general, rather than looking for strategies that depend on students' recognition of specific diagnoses. This study addressed limitations in previous literature in a number of ways. First, little was known about adolescent's own perceptions about how their peers with learning difficulties can be more included at school. Past inclusion strategies have mainly depended on teachers and administrators to be implemented, and research by Nowicki and Brown (2013) focused on the opinions of elementary school children. The aim of this study was to represent the voices of adolescents transitioning through an important social period, and to create a platform for their ideas on improving social inclusion. Additional benefits of seeking student ideas

were that inclusion strategies were more likely to be cost-effective and many could be applied in ordinary social situations. Next, few studies have focused on adolescents with learning difficulties (MacIntyre, 2014) and research has often focused solely on physical disabilities that are easy for students to see (Hames, 2005; Janus, 2008). It is also useful to note that inclusion studies have typically isolated specific diagnoses (Nowicki et al., 2014), which makes it possible to overlook common challenges that exceptional students face and contradict the principles of social inclusion. Lastly, considering the mixed findings pertaining to birth order and the development of pro-social behavior (Salmon et al., 2016; Szobiova, 2008), the connection between sibling position and traits contributing to social inclusion remains unclear. Looking at sibling factors can help determine the broader context of family socialization and its impact on inclusion perspectives.

This study explored ideas for socially including peers with learning difficulties, examining accounts from adolescents with older and/or younger siblings. Given the qualitative and exploratory nature of this study, there were no predictions for the findings of this research. Instead, the research questions were: (1) How do adolescents believe their peers with learning difficulties can be more socially included at school? (2) Given the mixed findings pertaining to the development of pro-social behavior and birth order, do ideas for the social inclusion of peers with learning difficulties differ between adolescents who have older versus younger siblings? Using a general interpretive approach, and through content analysis, participants' responses were analyzed to answer these questions.

Chapter 3: Methodology

Participants

Twenty students (11 male and nine female) attending their fourth or fifth year of high school were recruited for this study. The mean age of participants was 18.15 years (SD = 0.57). Participants attended two secondary schools with broad urban and suburban demographics in a medium-sized central Canadian city. The school district has an academic inclusion policy that provides all students with the option to attend classes with the same aged peers. Students with or without learning disabilities were eligible to participate in the study, although no one self-identified as having such challenges. No students identified any of their siblings as having a learning difficulty either.

For the purpose of this study, oldest siblings were defined as students with only younger siblings at home, youngest siblings were students with only older siblings at home and middle siblings were identified as students with at least one older and one younger sibling. Whether siblings all live in the same home or share both biological parents was not assessed. All participants of this study reported having at least one sibling. Nine students identified being the oldest sibling in their family; five identified being the youngest; and six identified being in the middle (having both older and younger siblings).

Instruments

A semi-structured interview guide adapted from Nowicki and Brown (2013) was used in this study (see Appendix A). This interview protocol included basic demographic information including age (birthdate), gender, grade, questions pertaining to siblings (presence of siblings, ages of siblings, whether or not any of these siblings have a

learning difficulty) and focal questions: “Why do you think secondary (high school) students who have learning difficulties sometimes left out at school?” and “What are some things that can be done to help secondary (high school) students with learning difficulties feel more included at school?” Participants were also asked if they themselves have difficulties with learning or if they knew of anyone who has had learning difficulties. Standard prompts were used to encourage participants to expand on their ideas. These prompts included, “Can you tell me more about that?” and “Is there anything else you can think of?” Only questions and their responses pertaining to social inclusion were reported in this study.

In their earlier study, Nowicki and Brown (2013) gathered responses from Grades 5 and 6 children. All participants of that study were able to provide meaningful inclusion strategies and presented a sound understanding of learning difficulties. Given the more advanced age of the participants in the present study, comprehension and ability to respond to the focal question were not of concern. Furthermore, due to the current participants’ longer experience with inclusion compared to elementary school children and their advanced cognitive maturity, it is expected that they will be capable of providing more informed and elaborated responses than children in Grades 5 and 6.

Procedure

Ethics approval was granted from Western University’s ethics review board and the school district’s ethics committee. The research team contacted the secondary schools’ research officer, who contacted school principals with an invitation to participate in the study. Following a period of no response, calls were placed directly to school principals, who agreed to a meeting with the research team. During this meeting, the

research team explained the interest behind the study and answered any questions the principals had. Once principals had expressed interest in participating in the study, research assistants arranged to enter Grade 12 classrooms to introduce themselves and explain the study to students. At that time, the research team distributed letters of information and parental consents (see Appendix B).

Research assistants met with the principal investigator prior to starting the interview process to practice the interview protocol and agree on standard probes. In order to contribute to a confirmable and credible study, it was essential that interviews were objective and value-free. Ethically, it was also important that participants were not probed to disclose personal information beyond what was approved by the ethics board.

Participation was on a volunteer basis. Once students had returned signed consent forms and booked an interview slot, interviews were conducted in a quiet room at the school. Interviews did not infringe on tests, presentations, or other important classroom activities. Research assistants explained the study to participants and outlined that their responses and any identifying information would be kept confidential. Participants were also asked for their permission to record the interview. Interviews were recorded and transcribed verbatim, which prevented recall bias or missed information, and further contributed to the confirmability and dependability of the research findings.

Before starting the interview, researchers asked a rapport-building question, such as "What do you like to do in your spare time?" Next, researchers asked participants to describe what a learning difficulty is and to provide an example of something a student with a learning difficulty might have trouble with at school. Once it was established that participants understood the concept of a learning difficulty and provided a thorough

example, the voice recorder was turned on. All participants of the study were clear in their descriptions of learning difficulties. For example, one participant explained, "I feel that some people, not everyone learns the same way so maybe just the way that the curriculum or the way that high school is set up is not tailored to every single person. It's just kind of the general, what teachers or administration think is how people should learn but maybe people have different learning styles. I think that sometimes in high school people don't really realize that until kind of later on. They just kind of go through high school reading, taking notes, doing the homework but really some people either learn from experience and other people learn from taking notes. So I feel like everyone is kind of different." Another student said, "Sometimes the teachers can't accommodate to everybody at a certain time. So some people will learn in different ways than others. Whether it's just a disability or just a smaller, like maybe again they can't focus or they can't pay attention or whatever it is."

Research assistants then asked participants questions about their basic demographics, presence or absence of siblings, and if applicable, whether or not any of these siblings have a learning difficulty. Researchers then asked the focal question of this study, "What are some things that can be done to help secondary (high school) students with learning difficulties feel more included at school?"

Participants were assigned identification numbers, which were associated with their data to maintain confidentiality. All voice recordings were stored on a password-protected computer and consent forms were stored in a locked cabinet inside the primary investigator's office. Data will be kept for a period of 5 years following the publication of this research. All electronic data will be deleted and consent forms will be shredded.

Data Analysis

A general interpretive approach was used to organize and reduce data into thematic categories. Researchers developed coding categories from the data directly through conventional content analysis, as cited by Creswell (2009). First, research assistants transcribed recorded interviews verbatim. Researchers then read through transcripts looking for meaning, clarity, and redundancy, and isolated statements that included at least one subject, predicate, and inclusion strategy. Statements with two or more strategies were split into two or more statements. For example, "As a student we should be like, you know, helping them, like making them feel welcome" was divided into "As a student we should be helping them" and "Making them feel welcome". Individual statements, or "meaning units", were entered into a spreadsheet and read over for clarity before being assigned descriptive codes. A total of 164 inclusion statements were obtained for this study (see Appendix C). The mean number of responses per student was 8.2 (SD = 3.83). Oldest siblings generated an average of 6.8 statements (SD = 6.32), youngest siblings generated an average of 9.6 (SD = 3.79), and middle siblings shared an average of 9.2 (SD = 2.78).

Each statement was assigned a code that captured its meaning. Codes were typically one or two words and summarized the implication behind the statement (Creswell, 2009). To illustrate this, "If you see students struggling I think they should also be there to help them" was assigned the code "Classroom help". Each statement and its corresponding code were written onto individual cue cards (see Table 1 for descriptive codes). In order to identify thematic categories, these cards were categorized on the basis of their meaning and in a way that responded to the research question. For example, each

code that reflected an academic intervention aimed at promoting social inclusion was placed into a pile. Accordingly, codes that mentioned students' individual efforts to facilitate social inclusion were placed into a separate pile. Researchers then reviewed each pile and further divided codes into more specific categories, or subthemes, as appropriate. For instance, codes including the word "teacher" were placed into their own subtheme within the main theme of academic interventions. This process increased the specificity of intervention categories within themes that had a larger range of ideas. All themes and subthemes were then assigned operational definitions, which summarized the group of statements.

Four main themes were identified: (a) academic interventions, (b) group events and activities, (c) student-driven initiatives, and (d) creating awareness (about learning difficulties). Group events and activities comprised three subthemes: Encouraging socialization with all students, introducing students with similar challenges and lunchtime opportunities, while academic interventions was further sorted into teacher interventions, helping students in the classroom, and adjustments to the school (see Table 2). In consideration of the dependability of results, researchers worked in a close team to determine themes and to discuss discrepancies that occurred. To assess inter-rater reliability, all members of the research team were provided with operational definitions of the emerging themes and asked to organize a random sample of 20% of the total statements into those themes. Through this procedure, research assistants achieved a total of 84% inter-rater agreement. Discrepancies were discussed among coders and all agreed to omit eight statements that appeared vague or did not respond directly to the focal question (see Appendix D).

Table 1

Codes by Theme and Subtheme

Theme	Codes
Helping Students Academically	Classroom help Additional educational resources Providing encouragement Classroom connections Classroom inclusion
Changes to the school	Administrative changes Additional services School adjustments Systemic changes Changes to services Confidentiality
The Teacher's Role	Teacher's help Teacher's traits Teacher advocacy Teacher's role Teachers facilitating inclusion Teacher attention Teacher's acceptance
Student-driven Initiatives	Student acceptance Reaching out Exiting comfort zone Providing opportunities Being kind Providing reassurance
Encouraging Socialization - All Students	Inclusion in groups Inclusive activities Group activities Inclusive events Entering classrooms Inclusion programs New programs Icebreaker activities Togetherness
Introducing Students – Similar Challenges	Groups for learning difficulties Activities for differences Class for learning difficulties

Opportunities at Lunchtime	Lunchtime inclusion Cafeteria choices
Creating Awareness	New knowledge Student Advocacy Building acceptance Promotion Awareness

Table 2

Thematic Categories for Inclusion Strategies

Theme	Number of responses	Percent of total
Student-driven initiatives	37	22.6
Creating awareness	28	17.1
Group events and activities	47	28.7
Encouraging socialization with all students	36	22
Introducing students with similar challenges	6	3.7
Lunchtime opportunities	5	3.1
Academic Interventions	52	31.7
The teacher's role	16	9.8
Helping students in the classroom	19	11.6
Adjustments to the school	17	10.4
Total	164	100

Chapter 4: Results

The data were analyzed from a quantitative and qualitative perspective. Quantitative analysis focused on chi-squared analyses to determine if thematic category and birth order were associated. Qualitative analysis was used to evaluate thematic content and further assess birth order patterns.

To determine if the distribution of themes and subthemes by birth order were non-random, three separate chi-squared analyses were conducted. In the first analysis, frequencies of all themes and subthemes (see Table 3) by birth order indicated a significant relationship, χ^2 (14, N = 20) = 32.14, p <.05. Although several cells had small expected frequencies, earlier guidelines requiring expected cell frequencies to be at least 5 may have been overly conservative. According to Aron and Aron (2002), the contemporary perspective on this issue is that expected frequencies can be as low as 1 without affecting Type I error, particularly when no more than 20 percent of cells have low expected frequencies. In the current analysis, 100% of the cells had sufficiently high expected frequencies to keep the likelihood of a Type 1 error low.

Given that the overall chi-square test of independence for birth order and theme was significant, subsequent chi-squared analyses were carried out to determine if there were associations between birth order and subthemes. The first analysis tested associations between group events (encouraging socialization with all students, introducing students with similar challenges and opportunities at lunchtime) and sibling birth order. This chi-square test of independence presented a significant relationship, χ^2 (4, N = 20) = 15.18, p <.05. Sharing a total of 17 statements, youngest siblings were more likely to discuss strategies for including all students in events, compared to 11 statements

from oldest siblings and just eight statements from middle siblings (see Table 3). Oldest siblings were also most likely to encourage events created for students with similar challenges, providing a total of five statements in this category. Only one middle sibling mentioned the idea of events for students with similar challenges and youngest siblings did not mention this at all.

A final chi-square test of independence showed a significant association between academic interventions (helping students in class, adjustments to the school and teacher interventions) and birth order, χ^2 (4, N = 20) = 11.10, p <.05 (see Table 3). Considering the theme as a whole, youngest siblings were more likely to mention educational interventions than oldest and middle siblings. Youngest siblings were also the most likely to discuss the teacher's role in social inclusion with nine statements, compared to oldest and middle siblings, with four and three statements, respectively.

Themes

As previously described, researchers used content analysis to apply codes to individual statements and sorted these codes based on their meaning. This process facilitated the development of themes, representing broad social inclusion efforts. Some themes were further categorized into more precise subthemes, which increased the specificity of content. All themes and subthemes were qualitatively assessed and presented below.

Theme 1: Academic Interventions

Statements that focused on academic strategies formed the largest theme, with 52 strategies (31.7% of the total number of strategies). Three additional subthemes were identified – Helping students in the classroom with 19 statements, adjustments to the

school with 17 statements and the teacher's role with 16 statements. Strategies for inclusion focused on what students, teachers and other school staff can do to promote the academic success of all students. These strategies ranged from students helping one another in class to school-wide changes in academic placement. Overall, compared to oldest and middle siblings, youngest siblings were the most likely to recommend academic-related strategies, contributing a total of 22 statements compared to 17 from middle siblings and 13 from oldest siblings.

Helping Students in the Classroom. This subtheme included 19 statements (11.6% of the total statements). Participants who contributed to this subtheme spoke about offering support when they notice classmates with learning difficulties struggling. This subtheme referred to opportunities that typically arise inside inclusive classrooms, like course assignments and group work. Strategies directly related to providing peers with academic support included: *"As a student, we should be helping them"* and *"I think when we work in groups they should be included more."* Other students discussed possible programs that could be implemented to help students with their learning. For instance, one student suggested, *"If there were more programs that encouraged or that help them with learning*" and more specifically, *"More programs not just with math but with other things that can help students with their learning.*"

Table 3

Frequency of Responses for all Themes and Subthemes by Birth Order

Theme	Youngest Siblings	Oldest Siblings	Middle Siblings	Total
Student Initiatives	10	9	18	37
Awareness	12	9	7	28
Group Events	17	17	13	47
Events – All students	17	11	8	36
Events – Similar students	0	5	1	6
Lunchtime	0	1	4	5
Academic Interventions	22	13	17	52
Teacher's Role	9	4	3	16
Helping students	7	8	4	19
School changes	6	1	10	17
Total	61	48	55	164

Oldest siblings most frequently proposed strategies intended to help peers with learning difficulties academically. Oldest siblings contributed a total of eight statements to this subtheme, while youngest siblings contributed seven and middle siblings suggested four.

Although the focal question deliberately asked students to brainstorm ideas for social inclusion, strategies related to academics had the largest number of responses. It appears that students feel by working closely to help their peers with learning difficulties in the classroom, they are also contributing to social acceptance. This validates the connection outlined in the literature between inclusive education and social inclusion.

Adjustments to the School. Adjustments to school included 17 statements (10.4% of all statements). This sub-category represents larger scale changes to the system that must be implemented at an administrative level. In turn, these changes could positively influence students with learning difficulties by contributing to their ability to achieve and interact with other students at school. One student suggested, *"Having another teacher or student teacher in the class that not just helps them specifically but seems like they're helping everyone, but focuses on the students who have learning disabilities."* Other students suggested strategies that would increase support resources for their peers, including: *"More guidance with people in the school," "More counsellors for these people"* and *"Having extra help at school."*

With 10 statements, middle siblings were the most likely to mention strategies that require administrative changes to the school. Youngest siblings recommended six strategies and oldest siblings recommended just one strategy.

The Teacher's Role. The teacher's role included 16 statements (9.8% of the total responses) and explicitly mentioned teachers and the ways they can promote academic and social equality among students with learning difficulties. Within this subtheme, students suggested dispositional strategies like *"Being more approachable as a teacher would really help"* and *"Teachers should have more patience with students who have learning difficulties,"* as well as learning-focused strategies such as, "*Teachers being more open to learning styles."* Another key component to this subtheme appeared to be the promotion of students with learning difficulties. For instance, one student said, *"Teachers could spread awareness to other students that they have to be more inclusive of others*", while another student suggested, *"Teachers should get them involved in things that everyday students do."* From these responses, it appears to be valuable to students that they have support from their teachers in facilitating this level of social change.

Youngest siblings most often recommended the involvement of the teacher in classroom inclusion with a total of nine statements. Comparatively, oldest siblings only contributed four statements to this subtheme and middle siblings contributed three statements.

Theme 2: Group Events and Activities

The group events theme was the second largest with 47 statements (28.7% of the total number of statements) emphasizing the importance of students spending time together in a group. This theme was further sorted into three subthemes: Encouraging socialization with all students (36 statements), introducing students with similar challenges (six statements) and lunchtime opportunities (five statements). Strategies in this theme emphasized supporting students with learning difficulties through group-based

social activities and school events. Including students with learning difficulties in existing recreational programs and creating new opportunities for socialization were both components of this category. Both oldest and youngest siblings contributed the most to this theme, providing a total of 17 statements each, while middle siblings provided 13.

Encouraging Socialization with all Students. This subtheme comprised 36 statements (22% of all responses) and was the fourth largest response category. Statements in this category focused on activities done as a group between students with learning difficulties and those without. This incorporated group strategies that aim to build acceptance and inclusiveness, like games, school events, and icebreakers. "*Create more events where we can promote equality"* and *"Maybe do activities for students with learning difficulties or something that includes everybody*" were two ideas. Another student had more specific thoughts about activities that could bring all students together such as, "*Partner [students with and without learning difficulties] up and do individual activities that person really likes*" and "*We could have this thing where you could sit at a different table with all these different kinds of people and just have them sit together and talk about different things.*"

Some students suggested organizing visits to special education classrooms or helping the special education program in some way. For example, "*They should go to their classes and talk to them about the events one on one instead of letting them just hear it on the announcements*" and **"***We could do a day or get a partner or something from a group of students who don't have learning disabilities and they could spend the day with these kids."* Other suggestions addressed the need for students to be supported in joining common events like assemblies and tournament sports. As a whole, this

subtheme emphasized the promotion of contact between students and their peers with learning difficulties.

With a total of 17 statements, youngest siblings most frequently discussed encouraging socialization with all students. Oldest students, with 11 statements, were the second most likely to mention strategies in this subtheme. Finally, middle siblings mentioned these strategies the least with just eight total statements.

Introducing Students with Similar Challenges. This subtheme included six statements (3.7% of all statements) and outlined the possibility of encouraging social connectedness between students with learning difficulties. Some students saw interaction between peers who face similar challenges as a positive way to create social experiences. This idea embraced, rather than overlooked differences and contributed an interesting perspective to this study. Students who shared ideas in this subtheme stated, "*Grouping students with learning difficulties together helps them socialize and be with people just like them*" and "*People with learning difficulties could form their own kind of group."*

Another idea was to connect different groups of students who are often excluded, like those who speak English as a second language, with students with learning difficulties –*"If we incorporated those with learning disabilities and ESL and different kids like that in different programs, we could do different activities*." Strategies like this may demonstrate that students have a broader understanding of the impact of social exclusion. By applying inclusion strategies to the wider school population, it seems as though students were considering how to most efficiently facilitate contact with as many peers as possible. Although these opinions did not directly respond to the aim for

inclusion of students with and without learning difficulties, they provided insight into how students believe peers with similar challenges may be able to help one another.

Oldest and middle siblings were the only ones to recommend strategies that related to this subtheme. Oldest siblings proposed that students with similar challenges form their own group five times, while the middle sibling group only mentioned this once.

Opportunities at Lunchtime. Opportunities at lunchtime formed a small but noticeable sub-category with five statements (3.1% of all responses), suggesting the use of the lunch period to bridge a social gap between students. One student said, "*Lunchtime is a really good time to bring social aspects to different people,"* while another said, *"Students should include them by sitting with them at lunchtime."* Another student recommended lunchtime as a way to support independence, sharing that she often observes teachers showing certain students where to sit. Instead, she recommended, "*Allowing them to sit anywhere in the cafeteria*]" and added, "*Just say 'where would you like to sit today?*'" It appears that lunchtime is a popular time for student engagement. Presumably due to the social nature of lunchtime and potential for students from various classes to sit together, students recognize this as another opportunity to reach out.

With respect to birth order, middle siblings were the most likely, with four statements, to discuss lunchtime as an opportunity to connect with their peers. Oldest siblings only mentioned opportunities at lunchtime once, and youngest siblings did not mention this at all.

Theme 3: Student-driven Initiatives

Student-driven initiatives comprised the third largest theme with 37 statements (22.6% of the total number of statements), each requiring individual student efforts. Student-driven initiatives represented the responsibility of students to personally change the level of social acceptance of their peers with learning difficulties. General statements included: *"Being more friendly", "Putting a smile on their face*", *"Be their friend*" and "*Welcoming them a lot more"*. One student noted, "*Students could talk to them because sometimes we see students with learning difficulties more alone than with friends*". In other statements, students expected their schoolmates to reach out to peers with learning difficulties wherever they have a chance. For instance, *"Students should include them by playing with them during gym class."*

In order to help others fit in, participants also felt students should be making an effort to normalize learning difficulties and provide affirmation to peers who have them. Some examples of this included, *"Students should make them feel like they're one of us*" and "*Students should make them feel like they're just as smart as us."* Another student advised, "*Students could try not to make students with learning difficulties stand out in a bad way."* Participants also spoke about getting out of their "comfort zone" and moving away from behaviour that hinders inclusion. While acknowledging that reaching out is often uncomfortable, one student suggested, *"If you put people in situations where they have to be uncomfortable and have to talk to people they don't usually talk to, maybe they would develop a relationship with them"* adding, *"Get out of their comfort zone."* Another student simply stated, *"Be more outgoing to talk to them."* Throughout this

theme, students seem to be overlooking the differences of their peers with learning difficulties and aiming to provide them with equal treatment.

With a total of 18 statements, middle siblings provided the most strategies for this theme. Youngest siblings provided a fair amount less with 10 statements, while oldest siblings provided a total of nine statements.

Theme 4: Creating Awareness (about Learning Difficulties)

Creating awareness was the smallest theme with 28 statements (17.1% of the total number of statements) and focused on conveying new understanding of learning difficulties to the general student population. These initiatives were designed to promote and affirm the unique experience of students with learning difficulties. To illustrate this, students described, *"More understanding about the learning disability and that they have it*", **"***More awareness of what learning disabilities are"* and "*We could have an assembly on including students with learning difficulties, explaining what it is."* The logic seemed to be that with increased understanding, students can begin to accept and embrace peer differences.

Another important feature of this category was the idea of students advocating on behalf of their peers with learning difficulties. This includes sharing their own understanding of what having a learning difficulty means and encouraging other students to be more accepting as well. Some strategies that reflected this were: *"Tell other students you cannot look down on them because it's not their fault",* "Inform other students it's not their fault" and *"Try to get students to include students with learning difficulties."*

Although it was the smallest category, the statements pertaining to awareness were striking. These responses conveyed an important message about the power of peer advocacy, while simultaneously delivering student requests for more education about learning difficulties.

Considering birth order, youngest siblings suggested the most strategies that aimed to build awareness of learning difficulties (12 statements). Oldest siblings followed with nine statements, and middle siblings contributed seven statements.

Summary of Results

Both quantitative and qualitative methods were employed to thoroughly analyze the data. Examining the data qualitatively, conventional content analysis yielded four main themes: (a) academic interventions, (b) group events and activities, (c) student-driven initiatives, and (d) creating awareness (about learning difficulties). The academic interventions theme was sub-divided into helping students academically, adjustments to the school, and the teacher's role, and the group events and activities theme was further divided into encouraging socialization with all students, introducing students with similar challenges, and lunchtime opportunities.

A chi-square test of independence was used to quantitatively assess the association between thematic content and birth order. A significant association was found between birth order and all identified themes. Subsequent chi-squared analyses indicated there were significant associations between birth order and all subthemes of both the academic interventions and group events themes. Further analysis of thematic content demonstrated that youngest siblings most frequently mentioned strategies that encouraged socialization of all students and discussed the teacher's role in social

inclusion. Oldest siblings were the most likely to propose the idea of introducing students with similar challenges. Finally, middle siblings most often suggested ways that students can reach out to peers on their own. The implications of these findings are discussed in the following chapter.

Chapter 5: Discussion

Past research has described adolescence as a crucial period for the development of sociality and empathy (Eisenberg et al., 2009). Sibling relationships have been determined to be particularly influential to prosocial behaviour, adolescent adjustment and academic engagement (McHale et al., 2012). These traits continue to be important in the transition to adulthood, when youth are expected to progress into appropriate social roles (Janus, 2008; Kvalsund & Velsvik Bele, 2010; Oberle et al., 2010). For students with learning difficulties, social relationships are often a challenge, posing a risk to future adjustment in many adult domains (Al-Yagon, 2012; Pander & Agarwal, 2013). The responses found in this study support that students with learning difficulties are often seen as socially disadvantaged and likely to be excluded by their peers. Fortunately, participants of this study have provided a number of ideas on how their classmates with learning difficulties might be better recognized. The emerging themes of this study reflected ways that students thought their peers with learning difficulties could be more socially included at school. Results showed that later born siblings most frequently discussed group events that included all students, and the teacher's role in facilitating social inclusion. Oldest siblings spoke more about introducing students with similar challenges compared to youngest and middle siblings. In terms of student-driven initiatives, middle siblings were most likely to recommend that students reach out to their peers with learning difficulties on their own. Overall, students demonstrated an understanding of the possible limitations to special education classrooms and supported an inclusive approach.

In an earlier study, using similar methodology, Nowicki and Brown (2013) asked Grade 5 students how their peers with learning difficulties could be more included at school. Thirty-six students provided a total of 80 statements, which fell into seven themes Involve the teacher; Instructional strategies that can be used by children; Being supportive by helping, encouraging and giving advice; Focusing on similarities not differences; Modelling appropriate social behaviours and intervening in non-appropriate social behaviours; Structured social interactions that are inclusive; and Special programs and activities that are non-inclusive. Comparing the findings of this study to those of Nowicki and Brown (2013), there are some clear similarities in thematic categories. Similar to the present study, many of the strategies derived in the earlier Nowicki and Brown (2013) study reflected academic inclusion and classroom help. While many students in the present study responded directly to the focal question, "What are some things that can be done to help secondary (high school) students with learning difficulties feel more included at school?" most strategies actually concentrated on academic interventions. There is no clear explanation for this, but it is possible that due to daily commitment to the school setting, students felt that most opportunities to connect with others were in the classroom. It is also possible that academic inclusion is what students are most exposed to at school and the relative lack of social inclusion, perhaps due to a lack of opportunities, means they are unsure of how to connect with different peers. Because of the natural emphasis on academic achievement during school hours, this could be a common way that students relate to one another.

Another common theme that emerged in both the earlier Nowicki and Brown (2013) study and the current research was the involvement of the teacher. Elementary

school participants mentioned statements that reflected the teacher's responsibility to facilitate inclusion 33 times, accounting for 41.25% of all responses. Although presenting similar ideas, adolescent students who participated in the present study mentioned teacher involvement less, with 16 statements that comprised just 9.76% of all responses. This marked difference in frequency of teacher-related responses can likely be explained by the age of participants. Respectively, developmental research has flagged adolescence as a crucial period for social maturation and the development of pro-social behaviour (Eisenberg et al., 2005). During this period, adolescents are beginning to desire the formation of meaningful connections and brain regions associated with empathy are developing (Eisenberg et al., 2009; Lam et al., 2012). As these changes occur, it makes sense that adolescents would depend less on their teachers to assist them in forming social relationships than would younger children.

While students in the current study referenced teachers much less than younger students (Nowicki & Brown, 2013), 11 participants did provide at least one statement discussing the teacher's involvement. For this reason, it is possible that secondary students are sometimes still unsure of how to support their peers with learning difficulties. For instance, students may look to their teachers for guidance due to their own lack of confidence in interacting with these peers or because of their teacher's position of authority in the classroom. Results also indicated that youngest siblings compared to oldest siblings were significantly more likely to discuss the teacher's role in social inclusion. This is somewhat surprising when considering the literature on personality development and birth order. On average, it is suggested that later born siblings are more extraverted and focused on relationships with peers than are their older

siblings (Salmon et al., 2016; Sulloway, 1995). From this lens, it might be expected that younger children would reach out to their peers on their own without the support of their teachers. However, another way to interpret this finding is through social learning theory, which supports the notion that younger children often seek guidance from older role models (McHale et al., 2012; Whiteman et al., 2009). Taking into account the sheltered role of younger siblings in the home (Szbiova, 2008), social learning theory might explain the likelihood of youngest siblings to seek direction from their teachers.

Youngest siblings were also more likely to share strategies that were intended to include all students in school-wide events. This result seems to fit with younger siblings' more outwardly social reputation as presented in the literature. Specifically, the literature indicates that through the process of de-identification, younger siblings attempt to differentiate themselves from their older siblings by forming relationships with peers outside of the family (Salmon et al., 2016; Whiteman et al., 2009). Accordingly, younger siblings are perceived as more extraverted and open to experiences (Salmon et al., 2016). This might explain their enthusiasm for bringing together as many students as possible.

Some students discussed group ideas that would only include students with learning difficulties and other challenges. There is no definitive explanation for this, but past research has shown that many adolescents still perceive their peers with learning difficulties as less smart or capable than others (Shifrer, 2013). These thoughts may have contributed to the idea that students with similar academic challenges would perform best if connected with each other. While it is possible that these generalizations were related to negative stereotypes, it seemed as though students' ideas for non-inclusive groups were well intentioned. Looking at birth order, firstborn siblings were more likely than

later born siblings to propose the idea of non-inclusive group activities. What this indicates is that even when the main focus was to promote social inclusion among peers, oldest siblings still offered event ideas that would separate students into groups based on their perceived ability level. An example of this was "*Grouping students with learning difficulties together helps them socialize and be with people just like them."* Though at first glance it seems this idea supports social exclusion, it is also possible that some students in the oldest sibling group interpreted the focal question differently to address the needs of students with common learning challenges. It is unclear why this might be, but it could potentially be related to their widely recognized roles as caretaker or mediator in the family structure (Downey & Condron, 2004; Salmon et al., 2016; Whiteman et al., 2011). Firstborns tend to be sensitive to the needs of their younger siblings, often providing them with comfort in times of distress and facilitating exploration (Whiteman et al., 2009). Because students with learning difficulties are often seen as less socially advanced than their peers (Kvalsund & Velsvik Bele, 2010), it makes sense that older siblings would anticipate their heightened needs and perceive them as requiring additional support. In this case, oldest siblings might be generalizing the heightened social needs of younger children, like their siblings, to the needs of their peers with learning difficulties. While it would be ideal for students of all ability levels to interact through school activities, this subcategory challenged the idea that students with learning difficulties must be included with all of their peers to feel socially fulfilled. While there have been compelling arguments for including students with learning difficulties in inclusive classrooms (Kvalsund & Velsvik Bele, 2010), it may also be

practical for students with similar challenges to have opportunities to connect with one another.

Finally, middle siblings were most likely to describe inclusion strategies that focused on individual student efforts. Szobiova (2008) reported that middle born children are quite sensitive to injustice, which in this case may explain their higher likelihood to connect with peers on their own. Middle born children also tend to focus on developing relationships outside of the family due to a perceived loss of parental investment to older and younger siblings (Salmon et al., 2016). This need for socialization outside of the family could explain why middle children would be intrinsically motivated to include students of all achievement levels. From the responses provided by middle siblings, this drive to include others seems less dependent on the help of educators or special events to bring them together. Alternatively, given their exposure to the distinct developmental periods of their older and younger siblings (Adler, 1928; Szobiova, 2008), middle born students may feel better equipped to validate and respond to the needs of others. This could partially be due to their observation of parents managing a variety of situations in the home. Future studies are required to further consider the validity of these theories.

Limitations and Future Directions

The strategies identified in this study provide insight into reasonable ways that students may be encouraged to involve their peers with learning difficulties at school. Because students themselves can apply many of these strategies during an average school day, they are cost-effective. With the exception of ideas that related to administrative-level changes, many of these strategies require few resources to implement. The findings of this study can be used to inform social inclusion initiatives among educators and

ultimately contribute to the increased social acceptance of students who present with learning difficulties at school.

Although the results have been discussed in the context of past research, individual personality traits have the potential to create variances in responses. For this reason, it is important to remain vigilant not to overgeneralize these findings and to respect possible diversity in family structure, individual experiences and cultural practices.

The goal of the present study was to inform larger system-wide social inclusion strategies and provide participating schools with a curriculum package based on the ideas generated by students. In the future, this research could be extended to include a broader representation of inclusive classrooms, and might distinguish adolescents' understanding of particular disorders that contribute to academic and social challenges. Due to the ethical limitations at this time, researchers were unable to pose questions specific to learning disabilities.

Despite its limitations, the present study offers excellent insight into ways that students can support the social needs of their peers with learning difficulties. The aim of this study was to share the subjective narrative of students who have regular interaction with peers with learning difficulties. By gathering inclusion strategies from students themselves, it is more likely that the ideas are reasonable and based on experience. As past approaches have often focused on the ideas of educators, the strategies discussed in this paper will hopefully appeal directly to students and encourage social inclusion efforts at the secondary school level.

In order to promote a strengths-based approach to social inclusion, future studies should also include accounts from students who themselves have learning difficulties. Particularly, by asking adolescents who have learning difficulties how they would feel best supported in forming meaningful connections, staff and students would know better how to help. Future studies might also consider the ideas of parents who have found ways to encourage the social inclusion of their children both at school and in the community.

Conclusion

The experience of having a learning difficulty has proven challenging for many Canadian students. Academic success and meeting expected adulthood milestones are two of the core areas affected by learning difficulties. These challenges are intensified when factoring in social isolation and peer disconnection also faced by many students with learning difficulties.

The goals of this study were to investigate ways students feel they can social include their peers with learning difficulties at school and examine the possible association with birth order. By gathering social inclusion strategies from secondary school students, the hope is that the strategies presented will be meaningful to the very individuals who can best promote social unity in schools. It is felt that the presented strategies are both promising and achievable given that many of them rely on student efforts.

Analysis showed significance when comparing frequency of responses to sibling position. Specifically, it appears that youngest siblings most frequently discussed educational interventions, often including the teacher, and school events that included all students. Middle siblings were most likely to provide strategies that focused on students

directly engaging with their peers with learning difficulties. These findings provide an interesting new perspective on familial position in pro-social responding and lay the framework for further research looking at birth order in the context of social inclusion.

Finally, it was encouraging to hear that the students had such a positive outlook on their peers with learning difficulties. Many students shared strategies that they have already used to socially engage with their peers, and all participants were receptive to the idea of creating new strategies. With this kind of optimism at the student-level, a brighter, more inclusive experience appears that much closer for students with learning difficulties.

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Appendix A: Interview Guide

1. What grade are you in?

2. In what month and year were you born?

3. What is your gender?

4. How many siblings do you have? How old are they? What is the gender of each sibling? Do any of these siblings have learning difficulties?

5. Do you sometimes find learning new things difficult? Can you tell me about it? PROBE (e.g., do you have an IEP, receive resource help, accommodations/modifications at school).

6. Can you tell me why you think some secondary (high school) students find learning new things difficult? PROBE.

7. Can you give me some examples of the kinds of things that secondary (high school) students who have learning difficulties would find difficult at school? PROBE.

8. Do you know anyone who has learning difficulties? Are any of them your friends or relatives?

9. Are secondary (high school) students who have learning difficulties sometimes left out at school? Why do you think they are/are not left out? PROBE.

10. **What are some things that can be done to help secondary (high school) students with learning difficulties feel more included at school? PROBE.**

11. Do you have any questions about what we have talked about?

Thank participants for their responses.

PROBES: Oh, that is very interesting. Can you tell me more? Can you think of any other examples? Do you have any more thoughts about…?

Western Education

Appendix B: Letter of Information and Consent

SOCIAL INCLUSION AND EXCLUSION OF STUDENTS WITH LEARNING DIFFICULTIES

Introduction

Our names are Dr. XXXX, Dr. XXXX, and XXXX from Western University. We are conducting a study that focuses on the thoughts of students, parents, and educators on the social inclusion and exclusion of students with learning difficulties in school. We are seeking secondary school students to participate in this study.

Purpose of the study

The purpose of this study is to interview students to find out (a) their thoughts on why secondary school students with learning difficulties are sometimes socially excluded at school, and (b) their strategies for enhancing the social inclusion of students with learning difficulties at school.

If you agree to participate

If your son or daughter agrees to participate in this study, he or she will be asked to participate in an interview at school or by Skype that will take approximately 10 to 20 minutes. Interviews will be audio-recorded. If your daughter or son does not wish to be audio-recorded she or he may still participate in this study, and we will take notes on her or his comments. At a later date, he or she will be invited to sort and rate a set of anonymous statements, either in person or online, taken from interviews with other students. It will take approximately 15 to 30 minutes to sort and rate the statements.

Confidentiality

The information collected will be used for research purposes only. All information collected for the study will be kept confidential. Participants will be identified by unique code numbers on digital recordings and transcribed data. Names will not be recorded and will not be used in the sorting or rating tasks, any publication or presentation. All data will be destroyed five years after the study has been published.

Risks & Benefits

There are no known risks to participating in this study. Benefits are that researchers and educators will have a better understanding of the beliefs of students regarding the social inclusion and exclusion of students with learning difficulties.

Voluntary Participation

If your son or daughter would like to participate in this study, they are asked to contact us at xxxx to set up an appointment for an interview. Participation in this study is voluntary. Your daughter or son may refuse to participate, refuse to answer any questions, or withdraw from the study at any time. She or he does not waive any legal rights by participating in this study.

Questions

If you have any questions about the conduct of this study or your child's rights as a research participant you may contact the Manager, Office of Research Ethics, Western University at xxx-xxx-xxxx or xxxx. If you have any questions about this study, please contact us at xxxx. This letter is yours to keep for future reference.

SOCIAL INCLUSION AND EXCLUSION OF STUDENTS WITH LEARNING DIFFICULTIES

Western University

CONSENT FORM

I have read the Letter of Information, have had the nature of the study explained to me and give permission for my child to participate in this study. All questions have been answered to my satisfaction.

Students who are 18 years or older may give their own consent.

Name (please print):_____

Signature: _____ Date: _____

Child's name (please print): _____

Signature: _____ Date: _____

Appendix C: Participant Statements

STUDENT-DRIVEN INITIATIVES

1. Being more friendly
2. Try to be more friendly
3. Be their friend
4. Students should include them by playing with them during gym class
5. One of them, me and my friend took him to prom
6. You'd want to include them in more things [to] make them feel included
7. Students could try not to put down students with learning difficulties
8. Students could talk to them because sometimes we see students with learning difficulties more alone than with friends
9. Welcoming them a lot more
10. Ask them to hang out
11. We need to start paying more attention to them
12. Students should make them feel comfortable first before the teacher does
13. Students should make them feel welcome
14. Students should make them smile
15. Try to talk more
16. Tell them not to stress
17. Putting a smile on their face; those little things
18. [don't] just shut them away because they have such difficulties
19. [students] have to be accepting and it has to be on them
20. Respecting [them] and we respect what [they] like
21. Students could try not to ostracise the person with learning difficulties
22. Students could try not to make students with learning difficulties stand out in a bad way
23. Students should make them feel like they're one of us
24. Students should make them feel like they're just as smart as us
25. Giving them the opportunity to speak up one on one
26. Allow them more freedom
27. Make the community feel like more of a nice, welcoming, smaller venue
28. Be more outgoing to meet them
29. Students should make an effort to want to get to know them
30. Be more outgoing to do things with them
31. Be more outgoing to talk to them
32. Talk to different people
33. Get out of their comfort zone
34. Try and get people to branch out
35. If you put people in situations where they - have to be uncomfortable and – have to talk to people they don't usually talk to, maybe they would – develop a relationship with them
36. Don't just ice them out because you think they can't do something because they probably can
37. I'll try to put myself in their shoes to understand more about them

GROUP EVENTS AND ACTIVITIES

Encouraging Socialization with all Students

1. Put students more together
2. More opportunities for them to be mixed in and socializing and stuff
3. Include them in groups and things that's happening in the school
4. Include them in more everyday school events
5. Assemblies [to put students more together]
6. Maybe do activities for students with learning difficulties or something that includes everybody
7. If other students are running [inclusive activities] it makes it more personal
8. More programs and school events that everybody comes to
9. Making events everyone can be a part of
10. For every event we're always mindful of them and how we can help them interact in different ways
11. Create more events where we can promote equality
12. Or just a game [to put students more together]
13. [sit together] and do some ice breakers
14. Partner them up and do individual activities that person really likes
15. Maybe spend a day with them and do activities they would want to do
16. Maybe at the start of the year or something "try to get to know you" for the whole grade
17. A group of students who don't have LDs - could spend the day with these kids
18. Instead of leaving them out, we'll have their own little tournament in front of the school
19. They can blend in with everybody [at events]
20. [events help for them to] see [peers with LDs] in other places
21. [events help for them to] have that experience with [peers with LDs]
22. [they'd have people to] take them to events
23. [events] help for them to fit in
24. [events help for them to] be able to talk to them about something
25. We could have this thing where you could sit at a different table with all these different kinds of people and just have them sit together and talk about different things
26. People need to make an effort to do more group activities
27. Student council should run something
28. We could contribute to their program somehow
29. They should go to their classes and talk to them about the events one on one instead of letting them just hear it on the announcements
30. We sometimes go in [to classrooms] and we talk to them
31. We sometimes go in [to classrooms] and we hang out with them
32. They have different programs, like group inclusion
33. In the school there's a Best Buddies program where people volunteer to include them in the community
34. Have a fundraiser [for their special education program]

35. If groups went in and helped them
36. [students] should be more together, like talk more

Opportunities at Lunchtime

1. Lunch would be a good time [to do it] cause everyone's free and could talk
2. Lunchtime is a really good time to bring social aspects to different people
3. Students should include them by sitting with them at lunchtime
4. They'd have people to sit with at the caf. tables
5. Allowing them to sit anywhere in the caf.

Introducing students with similar challenges

1. Putting [students with learning difficulties] in the same class
2. If we incorporated those with learning disabilities and ESL and different kids like that in different programs, we cold do different activities
3. Have people with learning disabilities grouped with other people with LDs
4. Grouping students with learning difficulties together helps them socialize and be with people just like them
5. Put people with learning difficulties together
6. People with learning difficulties could form their own kind of group

AWARENESS AND ADVOCACY

1. People just need to be aware that just because they might have learning difficulties doesn't mean they're not as smart
2. If we had maybe a speaker or something that would educate students [about LDs]
3. Promoting them and letting them know they're welcome in the school
4. A big thing would be saying it's okay to have learning disabilities
5. Accepting that people shouldn't be left out because they have learning difficulties
6. We could have an assembly on including students with learning difficulties explaining what it is
7. More people would join [the Best Buddies program] if they knew about it
8. Promotion is the number one thing
9. If I had known about it, like the details
10. What you can do to help them and socialize
11. More understanding [from students] about the LD and that they have it
12. More awareness, I guess
13. [If I had known] what to do then I would have gotten involved
14. Having a mental health week is starting to help with acceptance
15. Getting the education to know that it's okay to have learning difficulties helps
16. Learning more about LDs would be good
17. More awareness of how they learn differently
18. More awareness of what LDs are
19. Less stigma, like more programs about [learning difficulties]
20. Be like "this isn't a problem but it happens at schools"

21. Inform other students what they're going through
22. [tell students] there are people with learning difficulties basically and just because you don't understand it doesn't mean that they understand things the way you do
23. We always tell students "you need to be more inclusive"
24. Maybe make other people aware too that this person is having difficulty
25. Tell other students you cannot look down on them because it's not their fault
26. Try to get students to include students with learning difficulties
27. Tell other students they are people too
28. Student council could get the students' points across

EDUCATIONAL INTERVENTIONS

Helping Students (with Learning Difficulties) Academically

1. Just continue to encourage students with their school education
2. Having more group studying opportunities
3. More group work
4. I think when we work in groups they should be included more
5. Include them in class
6. Instead of doing work by themselves, it'd be easier for students with learning difficulties to talk to other people
7. Have a group of kids helping the person with learning difficulties instead of another teacher helping them
8. As a student, we should be helping them
9. If they're struggling or something, just help them out
10. Help them wherever they need help
11. If you see students struggling, I think they should also be there to help them
12. In group work, people who are helping them could say "you can do this part of it" or letting them choose what part they want to do
13. [students can] help them connect if you know somebody who learns the same way as someone you know has a learning difficulty
14. Ask [others] to help them if you know they learn somewhat the same way
15. [students can] try and connect with people that you know learn somewhat the same way as you do
16. Make teachers aware that this person is having difficulty so the teacher can also help the student
17. We have another room that's called Resource and a lot of kids who have LDs will go and do their work in that room
18. More programs not just with math but with other things that can help students with their learning
19. If there were more programs that encouraged or that help them with learning

The Teacher's Role

1. [if there were] some teachers willing to help them
2. Being more approachable as a teacher would really help
3. It's the teacher's job

4. Teachers could invite them to – the regular classroom setting and let them try out what you are doing
5. Teachers need to include them in regular classes so they do feel included
6. Teachers need to educate more
7. Teachers should have another student help out the student with learning difficulties if they don't understand
8. Teachers shouldn't give them special treatment because that singles them out
9. Teacher's being more open to learning styles
10. Teachers should have more patience with students who have learning difficulties
11. Teachers could pay more attention to them
12. [Teachers could talk to them, understand] where is their difficulty
13. Teachers could talk to them, understand what they are feeling
14. Teachers could spread awareness to other students that they have to be more inclusive of others
15. Teachers should get them involved in things that everyday students do
16. Teachers should take an attitude of acceptance towards students with learning difficulties

Adjustments to the School

1. If the school put in place different classes
2. More guidance with people in the school
3. Having another teacher or student teacher – in the class that not just helps them specifically but seems like they're helping everyone, but focuses on the students who have LDs
4. Having extra help at school
5. More counsellors for these people
6. [counsellors] not necessarily pulling them out of class because that draws [attention]
7. [more counsellors] in a way that they feel comfortable going in and not having to explain themselves
8. System of how kids are put into a class could be different
9. Avenues can help them and if one of those students has a LD those avenues can be diagnosed earlier
10. Maybe teachers or administration could set up including them in regular classes
11. I just think that my school needs to pay more attention to them
12. Start off inviting them to regular classes in the younger years where there are easier things to do
13. Instead of an all day thing, maybe one or two classes in a regular setting with someone there to help them
14. [if we kept the LD private] kids would feel less pressure to be a certain way or act a certain way around people
15. Keep the LD thing a lot more private
16. If the school put in place programs
17. Grouping kids at a younger age to send them off to different avenues or different schools

Appendix D: Discarded Statements

The following participant statements were discarded due to lack of clarity or vague response to the focal question:

1. Maybe trying to get a chance for them
2. You can't just say [you need to be more inclusive], it has to be action done as well
3. If they don't feel as spotlighted then there's nothing to hide or be ashamed of
4. Make [the strategy] appealing for everyone
5. Some people don't know how much it means to have someone there, talking and all that
6. To be expected to do a presentation or something with a LD, it could be really hard and scary
7. If people feel welcome all the time there's no room for worry
8. More opportunities for classes to like, for social opportunities, I guess

Curriculum Vitae

Sarah Breckenridge

EDUCATION

- Master of Arts: Counselling Psychology, June 2017
  Western University, London, ON

- Graduate Certificate: Addictions and Mental Health, January 2015
  Durham College, Pickering, ON

- Honours Bachelor of Arts: Psychology (minor in Sociology), June 2013
  Wilfrid Laurier University, Waterloo, ON

EXPERIENCE

- Psychological Services Intern at Dufferin-Peel Catholic District School Board, Mississauga, ON
  September 2016 – present
  Conducting psychoeducational assessments with students to identify their emotional and academic needs, consulting with parents and school staff, providing recommendations for student success, and engaging in goal-oriented counselling with students.

- Residential Counsellor at Jean Tweed Centre, Etobicoke, ON
  September 2014 – present
  Providing trauma-informed addiction and mental health services to women presenting diverse legal, trauma, and family issues; engaging in one on one counselling, group facilitation, intake assessments, case management, crisis prevention and intervention, and the maintenance of clinical notes.

- Recreation Facilitator at Holland Christian Homes, Brampton, ON
  June 2011 – March 2016
  Planning and directing programs for residents based on their distinctive psychological, social, and physical needs and varying levels of cognitive ability, as well as maintaining resident records of functioning and participation.

- Inpatient Mental Health Volunteer at Grand River Hospital, Waterloo, ON
  June 2012 – January 2013
  Supporting and interacting with clients through individual and group activities, carrying out scheduled recreation programs, and assisting in the direction and monitoring of health related day groups.

- Resident Support Volunteer at Parkwood Mennonite Home, Waterloo, ON
  January – May 2011
  Providing companionship to residents on the basis of their social and psychological needs.

- Recreation Volunteer at Holland Christian Homes, Brampton, ON
  Summer 2010
  Helping in the provision of therapeutic and engaging activities with seniors.

RESEARCH EXPERIENCE

- Research Assistant and Master's Thesis with Dr. Elizabeth Nowicki, Western University, London, ON
  September 2015 – April 2017
  Research investigated students' ideas for the social inclusion of their peers with learning difficulties at school. Duties included conducting in-school interviews with adolescents, transcribing and sorting responses, qualitatively analyzing data, and writing of the final thesis.

- Directed Research and Honours Thesis with Dr. Bruce McKay, Wilfrid Laurier University, Waterloo, ON
  October 2011 – April 2013
  Research examining the motives for and the frequency of substance use in relation to mental health factors and friendship quality among undergraduate students. Tasks included project and survey design, preparation of the ethics application, data analysis, and manuscript writing.

- Research Assistant to Dr. Eileen Wood, Wilfrid Laurier University, Waterloo, ON
  September 2012 – May 2013
  A project concerning the perception of shared personal information in relation to its method of disclosure (written journal, online blog, or e-mail). Duties included participant instruction, documenting and monitoring experimental groups.

- Research Assistant to Dr. Todd Ferretti, Wilfrid Laurier University, Waterloo, ON
  September 2011 - May 2012
  An investigation of lexical and verb aspect effect on autobiographical memory retrieval through the use of EEG. Duties included computer programming, setting up 32-channel electrode cap, monitoring data recording for errors, and supervision of newer assistants.

PRESENTATIONS

- Breckenridge, S.L., & McKay, B.E. (2012). Differentiating the contributions of friendship characteristics and mental health factors to the frequency vs. motives to use marijuana. Wilfrid Laurier University Undergraduate Thesis Conference, April 2013.

GRANTS

 Joseph Armand-Bombardier Canada Graduate Scholarship. Breckenridge, S., & Nowicki, E.A. *Strategies for the social inclusion of peers with learning difficulties: Perspectives of adolescent siblings.* Social Science and Humanities Research Council of Canada (SSHRC), $17,500.

 Undergraduate Thesis grant. Breckenridge, S., & McKay, B.E. Differentiating the contributions of friendship characteristics and mental health factors to the frequency vs. motives to use marijuana. Faculty of Science Students' Association (FOSSA), $500.00.

 Breckenridge, S., & McKay, B.E. Differentiating the contributions of friendship characteristics and mental health factors to the frequency vs. motives to use marijuana. Directed Research grant received in February 2012 from the Faculty of Science Students' Association (FOSSA), $209.00.