A SURVEY OF EDUCATORS’ PERCEPTIONS OF AUTISM

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Abstract

Educators are feeling inadequately prepared to deal with some of the social, emotional, communication and behavioural challenges that go along with working with students who have an Autism Spectrum Disorder (ASD), given their current levels of training and professional development. Recent changes in the definition of autism and the manifestations that children with autism present in the classroom have further complicated educators response to the inclusion of children with autism in classrooms, which is compounded by the creation of a single range of diagnosis based on severity and level of support required. The purpose of this study was to determine levels of understanding and perceptions that educators have about the general level of understanding of Autism spectrum disorders (ASD) and to determine if they believe they are prepared to work with students who have an ASD in regular classrooms. Their training, experience, level of commitment, and perceptions about the need for teacher preparedness were probed. Participants in the study clearly indicated they felt both a need and a desire to learn more and be better trained to deal with the inclusion of students with autism in their classrooms. Through collaboration, training, and reflection, educators can work together to share best practices and implement the necessary strategies that are proven to be effective in the inclusion of all students. It was acknowledged that the greatest factor in student success was teacher efficacy, which could be improved with the proper training and support needed for educators to feel confident in their abilities. Further research in the area of social constructivist theories surrounding how educators develop perceptions of ASD and how they act based on those perceptions would be greatly beneficial in understanding how to successfully include all students in every classroom.
Acknowledgements

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Last, but certainly not least, I would like to dedicate this achievement to my sons, whose lives have impacted every decision I have ever made from the moment I became aware of their existence. They inspire and motivate me every day to better myself and to improve the lives of others.
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CHAPTER ONE: INTRODUCTION AND BACKGROUND

Autism spectrum disorder (ASD) as a focus of neurological study has only been around since the early 1950s (Deisinger, 2011). As a result, much of the study and debate about it have occurred in a relatively short period of time (Weintraub, 2011). Given the range of needs and abilities of individuals along the spectrum and some of the admitted ambiguity regarding some of the clinical diagnostic procedures, it is understandable that educators would admit to having difficulty recognizing and perceiving autism in the classroom, as well as developing preconceived notions of what ASD is before the child has even entered the classroom (Belcher & Maich, 2014). According to the National Epidemiological Database for the Study of Autism in Canada (NEDSAC), one in nine individuals are diagnosed with autism in Canada each year (NEDSAC, 2012). Considering that students with all disabilities are being integrated into the regular classroom, educating students with ASD is becoming both common and challenging (Segall & Campbell, 2007). A review of the literature was conducted in order to examine the recent and relevant studies conducted in this area (Whittemore & Knafl, 2005). Greater description of the search methods and search parameters are outlined in the documentation section of this study. Selected studies revealed an unbalanced and incomplete body of knowledge about the extent to which educators (a) have a general level of understanding of ASD among educators, (b) believe they are prepared to work with ASD students in regular classrooms or school, (c) feel they have sufficient training/experience to understand ASD, and (d) have an awareness that ASD training is necessary and desirable. The objective of this study was to explore these four areas of concern.
Background of the Study

Autism spectrum disorder (ASD) is described by the American Psychiatric Association (APA) as a range of neurological disorders “that can cause problems with thinking, feeling, language, and the ability to relate to others” (American Psychiatric Association, 2013, p. 15). This range of disorders includes a variety of symptoms and diagnostic criteria that overlap to create a spectrum of diverse needs and abilities (Worley & Matson, 2012). The primary diagnostic criteria for ASD include deficiencies in the areas of social communication and repetitive behavior and/or restricted interests (McGuiness & Johnson, 2013).

Recent changes to the fifth edition of APA’s Diagnostic and Statistical Manual (DSM-V) have been made in an effort to improve specificity and sensitivity, and to “decrease misinterpretation and therefore misdiagnosis with the hope that more people with autism will receive the correct diagnosis” (McGuiness & Johnson, 2013, p. 18). One of the most controversial and relevant changes includes the removal of subsections from the ASD diagnostic criteria and the creation of a single range of diagnosis based on severity and level of support required (Halfon & Kuo, 2013). Subsequently, the new approach of the DSM-V is to encompass “a more dimensional approach to diagnosis that considers functional dimensions (communication, aggression) as a developmental continuum and uses new measurement tools to specify functional capacities” (Halfon & Kuo, 2013, p. 609).

These recent changes to the DSM have also resulted in the removal of Asperger’s Syndrome as a condition in and of itself. The previously defined characteristics of Asperger’s Syndrome are now amalgamated into the broader category of high functioning autism (Belcher & Maich, 2014). With no conclusive biological criteria for a specific autism diagnosis, the medical and psychological professions are left to interpret the degree to which individuals meet
the somewhat subjective formula of communicative, behavioural, and social criterion (Huws & Jones, 2010). Given the significant changes to definitions, symptoms, and diagnostic criteria, autism in the 21st century is a social and educational enigma. Although autism has no known cure, some of its challenges can be addressed by current treatment and educational approaches (Autism Society, 2012b, para. 3, as cited in Hayes, 2014). Preparing educators for this rapidly growing demographic is made even more challenging with funding cuts and the increasing demands on time and resources. Providing students with ASD the adequate and appropriate levels of intervention and support depends greatly on educator efficacy.

**Standard Interventions**

Within the public education setting, basic services and programs are outlined and enforced by provincial legislation through Ontario’s Education Act, and more specifically the *Education Amendment Act, 1980* (MOE, Ontario, 2016). Otherwise known as *Bill 82*, the *Education Amendment Act, 1980* was created to ensure that programs exist for students with exceptionalities and disabilities within Ontario. To go one step further, Ontario has developed its *Equity and Inclusive Education Strategy* in order to identify and address barriers to success for all students in the province, including students with disabilities and exceptionalities (MOE, Ontario, 2016). As part of these mandates, inclusionary programs in Ontario schools aim to provide appropriate levels of support and resources for all students. Regular classroom educators are therefore responsible for dealing with many of the social, communicative, and behavioural needs of individuals with special needs. Given the current level of training and professional development, many educators feel inadequately prepared to deal with some of the social, emotional, communication and behavioural challenges that may arise in the classroom (McGregor & Campbell, 2001; Robertson, Chamberlain, & Kasari, 2003).
There exist a multitude of specialized treatment and educational programs for individuals with autism, many of which require an elevated level of training and education (Hayes, 2014), such as:

1. Applied behavioural analysis (ABA)
2. Discrete trial training (DTT)
3. Pivotal response training (PRT)
4. Verbal behaviour intervention (VBI)
5. Developmental, individual differences relationship-based approach (DIR)
6. Treatment and education of autistic and related communication-handicapped children (TEACCH), speech therapy
7. The picture exchange communication system (PECS)

Along with these interventions, there are several other approaches that can be used in conjunction with or separate from the above-mentioned programs, such as dietary approaches, medication, alternative medicine nutrition therapy, occupational therapy, therapeutic listening, facilitated communication, holding therapy, music therapy, auditory integration therapy, and the Dolman/Delcato method (Hayes, 2014). To determine the most appropriate level of intervention and programming, the school-based team collaborates with board staff, school based teams, as well as outside agency stakeholders to review the use of strategies that have been used, and to formulate an Individualized Education Plan (IEP) that would outline the next steps, goals, strengths and needs of the student with autism. The IEP would be created to include any or all accommodations, strategies, learning goals, transition plans, modifications to the regular curriculum, and/or any type of behaviour program in which the individual would be taking part. The IEP is a standard and Ministry of Ontario mandated policy that accompanies all students.
who have been identified with an exceptionality of ASD. It is in this process that experience, training, perceptions, and professional judgement come in to play when planning and implementing an education plan for an individual with autism. Members of the IEP team must also consider other factors that would contribute to the individual’s success, such as ability to transition, response to change, sensory processing issues, field trips, assemblies, lack of peer support, subjection of bullying and harassment, self-stimulation, and the possibility of violent or explosive outbursts (Goodman & Williams, 2007). The tremendous impact of educator experience, training, and perceptions can mitigate some very real barriers to success. “The effect the classroom teacher can have on student achievement is clear because student achievement begins and ends with the quality of the teacher, the instructional program, and his/her leadership” (Korkmaz, 2007, p. 390, as cited in Hayes, 2014, p. 43.)

**Individual Interventions**

The perceptions and understanding that educators have regarding the student with ASD are inherently connected to their role in developing strategies and programs, and in defining a child’s place within the classroom. The expectations that educators have regarding individuals with ASD can greatly influence the individual’s success and self-image (Alexander & Strain, 1978, as cited in Park & Chitiyo, 2011). In general, educators tend to have positive views about inclusion, and their attitudes reflect the professional duty of care which the job entails (2011). There are, however some factors which appear to affect the opinions of some educators, including type and severity of disability; training and knowledge of disabilities; and contact and experience with disabilities (Avramadis & Norwhich, 2002; Hannah & Pilner, 1983). From this, it is apparent that educator perception can be affected by various factors and that some of these factors, such as experience and training, can be measured.
Statement of the Problem

Based on information in the preceding paragraphs, many educators feel that they are inadequately prepared to deal with some of the challenges given their current level of training and professional development (Belcher & Maich, 2014; Segall & Campbell, 2007). Changes in the definition of autism and what children present in the classroom have further complicated educators’ responses to the inclusion of children with autism in classrooms, which is compounded by the creation of a single range of diagnosis based on severity and level of support required. Specific to the problem addressed in this study, autism is a social and educational enigma that professional educators are poorly prepared to assess or manage (McGregor & Campbell, 2001).

Purpose of the Study

The dual purpose of the present study was first to determine level of understanding and the perceptions that educators have about individuals with ASD. Second, the purpose was also to determine if educators feel that they are adequately prepared to work with students with ASD in the regular classroom. Their training and/or experience with preparedness and understanding of ASD was probed as well as their level of commitment to ASD awareness training and need for teacher preparedness. The appropriate method of inquiry was deemed to be a survey because the survey questionnaire could contain both Likert-type response choices as well as true and false, and an open-ended question that asked for a composed reply.

Research Questions

Given the rapidly developing and changing nature of ASD diagnostic procedures and practices, one of my beliefs is that educators at the Lakeside District School Board (LDSB) feel unprepared to deal with social, communicative, and behavioral issues that arise in the classroom
with students who have an ASD. From a growth mindset, I believe that educators at the LDSB welcome the idea of more training and education in the area of ASD inclusion and integration. I also believe that there is a general understanding of ASD among educators at Lakeside District School Board.

\[ \text{RQ 1: What is each educator’s general level of understanding of ASD?} \]

\[ \text{RQ2: Do LDSB educators believe that they are prepared to work with students with an ASD?} \]

\[ \text{RQ3: Do educators at LDSB believe that ASD awareness training is necessary?} \]

Theoretical Framework

Social cognitive theory researchers have noted the bidirectional interaction and reciprocal causation of behaviour along with cognitive and other personal factors and environmental events that define social interaction among individuals and groups (Wood & Bandura, 1989). For this reason, the social cognitive theory of human behavior was deemed to be an appropriate theoretical framework for the present study because educators are interacting with students manifesting various presentations of autism while in organized classrooms and among other students, teachers, and counselors. Social cognitive theory provides a framework for understanding why people behave in certain ways given their individual cognitive style and environmental influences (Woods & Bandura, 1989). Cognition is influenced by a person’s preference for perceiving and processing information, which is true in a school setting for all stakeholders.

Cognitive style is defined as “the way people perceive stimuli and how they use this information to guide their behaviour” (Cools & Van Den Broedy, 2007, p. 360). Bandura (2001a) argued, “to be an agent is to intentionally make things happen by one’s action” (p. 2).
Bandura concluded that personal influence is manifested through an individual’s belief systems and self-regulatory. Human behaviour can be explained through cognition, according to Bandura, which is the mental ability of individuals to process, represent, retrieve, and use coded information to manage tasks. Bandura also states that self-regulation influences human behaviour through goal setting, self-motivation, and self-enabling functions, which also determine the manner and level of commitment to act (2001a). He theorized that social cognition through self-regulatory functions of intention, forethought, self-monitoring, self-reflectiveness, and self-efficacy “address what it means to be human” (p. 6). Indeed, every participant in the study and those surrounding them bring to bear their own individual intentions and perceptions to the overall tone of the study.

Assumptions

Leedy and Ormrod (2010) argued, “assumptions are so basic that, without them, the research problem itself could not exist” (p. 62). It was assumed that the educators who were participants in the study had an appropriate level of professional training and certification by the Ontario College of Teachers, and/or postsecondary institution as necessary. Study validity was based on the assumption that educators would answer truthfully and to the best of their individual abilities to the questions on the survey (Castellan, 2010). It was assumed the participants correctly perceived the nature and significance of the study and would actively participate and be dedicated to understanding the nature of the information requested.

Limitations of a study refer to the factors and contexts of a study that remain out of the researcher’s control and may have an effect on the results of the study (Wiersma, 2000). Creswell (2014) believes that limitations of a study indicate reservations, exceptions, or qualifications of a study, and as such, limitations identify potential weaknesses.
validity of this study may have been affected by the possibility that factors outside of the control of the researcher such as time, setting, or full completion of the survey might have influenced the responses and thus pose a limitation on the findings (Kirkwood & Price, 2013). Results of the study may not be characteristic of all educators in the region in which the study took place, which could pose a limitation on the interpretation of the collected data.

**Limitations**

Some limitations of the study include reliability and validity, while limitations of survey research include an inability to make causal inferences (Wiersma, 2000). Limitations of this survey include the following:

1. Small size of sample and response rate.
2. Participants are colleagues.
3. Study’s findings have limited generalizability.

**Delimitations**

Unlike the limitations of a study, which result from inherent features of a study, delimitations arise from the choices made by the researcher during the planning and implementation process (Wiersma, 2000). Delimitations include the nature of questions, methodologies, and choices of theoretical frameworks that encompass the structure of the study. Some of the delimitations of this study are as follows:

1. The wording of some survey questions was unclear and provided response selections that could overlap, resulting in reduced accuracy.
2. No control group to compare.
3. The study includes educators from only one board – English/FI Public.
4. The study used an online survey methodology, which relies on honesty of respondents.
Definition of Terms

**Autism spectrum disorder.** According to The American Psychological Association, Autism spectrum disorder is defined in the Diagnostic and Statistical Manual 5th ed. as a spectrum of neurological disorders which affect two main areas: a) social communication and interaction; b) repetitive and restrictive movements and/or behaviour. The severity of the disorder is determined by the level of support required by the individual (McPartland, Reichow, & Volkmar 2012).

**Inclusive education.** For the purpose of this study, “education that is based on the principles of acceptance and inclusion of all students. Students see themselves reflected in their curriculum, their physical surroundings, and the broader environment, in which diversity is honoured and all individuals are respected” (MOE, 2009, p. 4).

**General level of understanding.** For the purpose of this study, the general level of understanding will be defined by using the Oxford (2017) dictionary definition as the ability to understand something; comprehension, as well as an operational definition of achieving an average range of 60–100% correct responses on the General Understanding section of the survey.

**Educator.** For the purpose of this study, the term educator refers to employees of Lakeside District School Board who were employed as one of the following: educational assistant, elementary teacher, secondary teacher, vice-principal or principal.

**Perception.** The operational definition of perception for this study is based on psychologists Eleanor J. Gibson and husband James L. Gibson’s work, which outlines perception as a recurring cognitive process involving the learning and acquisition of knowledge regarding
one’s environment, and the adjustment or enactment of behaviour according to this knowledge (Pick, 2012).

**Preparedness.** The operational definition of preparedness for the purpose of this study depends to some degree on its interpretation by the participant. It is assumed that the generally accepted definition of the term, referring to a state of readiness and ability, was used.

**Social cognitive theory.** The theoretical framework for this study is based on social cognitive theory, which refers to the human ability to engage in “functional consciousness” (Bandura, 2001a, p. 1). More specifically, social cognitive theory defines the parameters of human social exercise as being interactive, reflective, regulative, and reactive (Bandura, 2001a). In this sense, “people are producers as well as products of social systems” (p. 1).

**Summary**

Chapter one included a brief review of the literature pertinent to the background of the study, the statement of the problem, and the purpose of the study. The research questions and related questions were defined by the search of the literature. The literature review in Chapter Two is a summary of literature related to the intent of the study. Gaps in the body of knowledge found during the search are represented by the research questions. Chapter Three illuminates methods that were used to collect and analyze data. Chapter Four is a summary of the findings, and Chapter Five contains a discussion of the findings and recommendations for either future research or action.
CHAPTER TWO: LITERATURE REVIEW

What do educators really know about autism, and how does this affect their perception of students with autism in their classrooms? These two fundamental questions are at the heart of this study and are driving forces in the search for a clearer understanding of educator efficacy, as well as how individuals diagnosed with this disorder make their way in the world. This chapter contains discussions of (a) the history of autism pathology and treatment, (b) variability of the presentation of symptoms, (c) the complexities of the diagnosis of autism, (d) the complexities of perception, (e) the dangers of stereotypes versus reality, (f) educational implications, and (g) educational implications of diagnosis.

Documentation

The approach used to conduct the literature review included accessing the Nipissing University Digital Library in order to find books, articles, professional journals, and other scholarly texts pertaining to educator perceptions and ASD inclusion in the regular classroom. Primary focus was directed towards finding previous studies conducted in this area as well as any relevant research in the field of ASD inclusion. Databases searched include: Education Research Complete, ERIC (EBSCOhost), Scholars Portal Journals (previously known as E-Journals@Nipissing University), and PSYCHArticles. The online search engine Google was also used to find scholarly articles in related search fields. Texts were chosen based on relevant and current research in the following fields: autism inclusion, educator perception, and social constructivism. Approximately 150 texts were reviewed in the process of acquiring relevant information, while 112 of these texts are cited and documented in the reference section of this paper. Texts were also included based on the relevant context of the study being similar to that of the target population. The following terms and search parameters were used to direct the
literature review: (a) definition of autism spectrum disorder; (b) definition of inclusion; (c) Ontario Ministry of Education policy memorandum regarding special education and inclusion in public schools; (d) factors affecting educator perceptions of ASD; (e) impact of educator perceptions on student success; and (f) societal representation of ASD in mainstream media.

**History of Autism Pathology and Treatment**

The diagnosis of autism and the progression of its pathology goes back to American psychiatrist and physician Leo Kanner, who was the first to describe autism in 1935, though it was not formally considered a credible diagnosis until the release of the DSM-III in 1980 (Lohr & Tanguay, 2012). Since then, a subset of diagnostic groups were included in subsequent issues of the DSM in order to account for varying degrees of impairment, criteria for communication, socialization and behaviour, as well as age of onset. This polythetic approach was able to account for variances in pervasive developmental disorder (PDD including the mysterious PDD-not otherwise specified) as well as the inclusion of Asperger’s disorder and Rett’s disorder. As research into the field of ASD and PDD continued, goals for improving specificity and reliability of diagnosis revolved around converging accurate assessments of IQ range, age, and the criteria for autism diagnosis set forth by the World Health Organization’s International Classification of Diseases (ICD-10); (Lohr & Tanguay, 2012). As a result of increased research, review of the literature, and large field trials, the DSM-IV evolved into what was considered a more balanced and reliable guide, particularly for less experienced evaluators (Lohr & Tanguay, 2012).

Questions and concerns have centered on the difficulties in retrospectively measuring language delays (or lack thereof in the case of Asperger’s Syndrome) as well as problems related to clinically diagnosing ASD in “children under the age of 5 years, adolescents, females and ethnic minority groups” (Lohr & Tanguay, 2012, p. 163). As such, the need for revision and
improved specificity has prompted the most recent edition of the DSM. With the improved specificity of diagnostic tools and an increase in autism research, autism diagnoses have increased significantly within the past decade, with rates reaching an estimated 1 in 68 children in North America (CDC, 2016). These estimates are 30% higher than estimates from 2008 and almost 120% higher than 2002 (2016). With these significant increases in diagnostic rates come the inevitable social and educational implications.

**Variability of the Presentation of Symptoms**

The major shift outlining the diagnostic criteria for autism in the DSM-V has occurred from the previous independent categories within the PDD subset to the single, encompassing concept which is ASD (King, Navot, Bernier, & Webb, 2014). In the effort to improve specificity, a general description of each variation of the disorder, as well as the inclusion of history have been introduced into the assessment and diagnostic criteria (King et al., 2014). As such, a more unified and detailed approach to diagnosis should enable more effective diagnosis of autism, allowing for more easily identifiable differences between high functioning autism (HFA) and Asperger’s syndrome (Lohr & Tanguay, 2012). Since a delay in language is neither unique nor universal to ASD, the change to these criteria could explain to some degree why Asperger’s disorder was removed. The subgrouping of PDD has been replaced with the newly presented social communication disorder (SCD) characterized by difficulties in the social use of verbal and nonverbal communication which can’t be otherwise explained by low cognitive ability (American Psychiatric Association, 2013).

The question that has been the target of a multitude of studies (King et al., 2014; Lohr & Tanguay, 2012) is whether or not these changes will make it more difficult for some individuals to receive an identification of autism and therefore receive appropriate supports. With what could arguably be considered more comprehensive diagnostic requirements, some researchers
have indicated that certain individuals with symptoms similar to Asperger’s or HFA may in fact be excluded altogether from the new criteria and would not receive any diagnosis at all (Kent et al., 2013). Some predictions have been as high as that of 39.4% of individuals who currently meet the diagnostic criteria for autism would not meet the new criteria outlined in the DSM-V (McPartland et al., 2012). From a social and educational standpoint, these changes could have drastic repercussions with respect to services and support available to individuals who may no longer meet the clinical diagnostic criteria for autism according to the DSM-V and therefore any educational criteria for identification of exceptionality. These children will all end up in our classrooms whether or not they are formally or clinically identified.

Further changes in the most recent edition of the DSM V include the removal of the age of onset criteria, which was previously outlined in the DSM-IV-TR. Contradictory to the previous concern that some individuals would not meet the diagnostic criteria of the DSM-V, some researchers believe that the removal of the specific age requirement will in fact increase diagnosis rates (Falco, 2012). This could mean that diagnoses and identifications could be made at any age if all other required diagnostic criteria are met. For many children, symptoms of social impairment do not typically occur until social demands are increased, and for some these demands might not present themselves until adolescence or puberty (Halfon & Kuo, 2013). School boards and educational governing bodies will undoubtedly take into consideration the definitions for determining identification of exceptionalities and supports within their respective jurisdictions. The rising numbers of autism diagnoses will certainly affect the budget for special education services everywhere. “New research estimates that autism’s costs to the nation [U.S.] have reached $137 billion per year” (National Autism Network, 2013, para.1).
The researchers also estimated autism’s lifetime costs for one individual to be more than $2.3 million for a person with an autism spectrum disorder (ASD) and intellectual disability and $1.4 million for a person with ASD and no intellectual disability. Intellectual disabilities affect around 40 percent of those with autism. (National Autism Network, 2013, para. 2)

According to a brief published by the Autism Society of Canada presented to the Parliament of Canada, estimates of the yearly cost of individuals with autism to the nation reached $3 billion dollars per year in 2001 (Autism Society of Canada, 2017), with an estimated annual cost for each individual being approximately $2 million. The brief also states that challenges in coordinating financial statistics as well as financial supports originate from the nature of a provincially mandated healthcare system. Suggestions were made that a more concerted federal effort be made in order to address the growing needs of individuals and families who are affected by autism.

**Complexities of the Diagnosis of Autism**

With no conclusive biological criteria for a specific autism diagnosis, the medical and psychological professions are left to interpret the degree to which individuals meet the somewhat subjective formula of communicative, behavioural, and social criteria (Huws & Jones, 2010). According to social constructionists such as Maija Holmer Nadesan, autism is in fact a social construct that is based on the notion that disability and disorder are defined by their aberration from the norm (Nadesan, 2005). As such, autism would have to have been present and representable within the relative context of various stages of our society (Murray, 2008). A diagnosis of autism is variable; “it is a framework for a set of symptoms. And it’s a framework that works at a particular point in time with a certain society and a certain health-care system and
education, and that will change as society changes” (Grinker, 1998, as cited in Weintraub, 2011, p. 23).

Seen in these terms, it has to be admitted that autism has rushed into the public realm comparatively soon after its first diagnostic formations (this may, indeed, explain the lack of clarity over the vaccine scares). At the same time, given that it is now understood to be a neurologically based condition, we know that autism has always been part of human diversity, and its current status should be seen in light of centuries when it belonged to the general categories of idiocy or retardation. So, as a subject matter, autism is both timeless and totally contemporary. (Murray, 2008, p. 11)

As society changes rapidly with the evolution of technology, psychological disabilities and disorders such as autism (which is defined as an aberration from the norm) will change as the idea of the norm changes. We are currently seeing changes in the media with the rise of new television shows and movies starring individuals who are on the spectrum. But do these changes, and the rise of occurrence in popular media signal a positive shift in social consciousness?

**Complexities of Perception**

Understanding and acknowledging stereotypes can help us to address and eliminate prejudice and misconception (Stangor & Crandall, 2013). However, within society and in particular, mainstream media, I believe there to be a strange dichotomy of opinions that surround individuals with autism. Among parents of children with autism, studies have reflected that there is a negative stereotype that generally regards their children as “unintelligent, undisciplined and rude” (Gray, 2002; Peters, 1997, as cited in Huws & Jones, 2010, p. 331). Within the
entertainment media, individuals with autism are portrayed as either idiots or savants (Murray, 2008).

In 2010 and 2012, researchers Christina Belcher and Kimberly Maich examined 23 texts across various literary genres to examine the cultural portrayal of autism in children’s books. What they found was that few stories or books presented children with autism as functioning within the greater context of society outside of home or school. As such, autism was not portrayed outside of the stereotypical roles of socially challenged, odd, or eccentric individuals who exist mainly in our homes and schools. In 2012, Belcher and Maich went on to identify that similarly rigid constructs were portrayed in many television series and movies. Through the examination of five contemporary television and five movie characters portrayed with autism or autistic-like symptoms, they concluded that in most situations the characters were “viewed as inspirational and exceptional, without the reality of exceptionally challenging behaviours, except when presented in a comical manner” (Belcher & Maich, 2014, p. 105). In other words, the reality of the meltdowns, tantrums, and socially repercussive behaviour is seldom exposed.

The clinical side of autism is rarely presented in textual and visual media. The danger of visual media and the stereotypes that it portrays is that its main purpose is to entertain and evoke emotional response without time to allow viewers to reflect, discuss, or fill in the blanks with their own understanding. With contemporary culture becoming less unidirectional in terms of communication, education, and media, researchers such as Neil Postman have urged educators and researchers to be fully aware of the effects of media and not simply think with our eyes (Postman, 1995). Draaisma (2009) examined stereotypes of autism and how media may be creating misrepresentations within the general public. Draaisma argued, “visual media tends to
educate through stereotyping, providing a limited perception of the whole and commercial success, in many ways, outpaces authenticity” (p. 1475).

What Postman and Draisma found was that media has a tremendous impact in creating and reinforcing autism stereotypes within our culture, much more so than actual research (Young, 2012). As we often see on television, characters are portrayed as exaggerated caricatures of the extreme ends of the spectrum. They are either exceedingly disabled or they play the savant/hero figures who entertain us with their eccentricities, rare and genius madness, or visual flair with hand flapping, rocking, and meltdowns that provide titillating visual stimulation for viewers (Murray, 2008). With technology being a catalyst for media distribution of the future, our culture is being exposed to more prolific stereotypes than ever before, targeting an even greater breadth of consumers. These stereotypical representations “perpetuate incorrect and unrealistic notions of attributes and attitudes of characters reflecting ASD, including a glamorized or mythical view” (Belcher & Maich, 2014, p. 109).

With social constructs of autism being reflected through stereotypes in the media, the term “autistic” is developing a descriptive connotation in and of itself. Situations are now being referred to as being “autistic” in the sense that they are seen as being odd or abnormal (Murray, 2008). In fact, any type of action or behaviour that is seen as being socially odd, erratic, or having obsessive behavioural qualities is now described as being “autistic” (Murray, 2008, p. 9). The term is now becoming synonymous with socially inept and odd or eccentric. As a social construct, then, that is indeed “timeless and contemporary,” people are looking back through history to try to identify historical figures who may fit this mutated description of the disorder. “Albert Einstein, Andy Warhol and Stanley Kubrick – are ‘outed’ as individuals with autism through a reading of their characters and actions” (Murray, 2008, p. 10). This need to
generalize, categorize, stereotype, and eventually identify with characters who may portray
autistic virtues can cause serious problems for the reality that is faced by our autistic community
and those who work to support them. Individuals on the spectrum may feel the need to aspire to
the levels of greatness that are highlighted and idealized in this attempt to create positive role
models and examples of success.

Stereotypes versus Reality

When walking into any book store, the parent, guardian, or loved-one of an individual
with autism is bombarded by self-help, pop-psychology, and how-to books on overcoming the
“catastrophe” which is autism. The thousands of resources that exist all seem to address the
issue of autism in a way that seems contrary to the stereotypes that the public is provided. Oddly
enough, there are very few books about My Son the Savant, How to Enjoy the Humorous and
Quirky Side of Autism, or Autism in the Classroom, the Wonder and Beauty of Disability.
Instead, parents and educators are instructed in the multitude of ways to survive the incredibly
difficult and challenging diagnosis. This reality, which is based on social need, would imply that
parents and caregivers have a much more realistic view of this disorder. The danger of having
overly positive and unrealistic stereotypes permeating our culture is that the sense of urgency
surrounding this incredibly important issue is diminished. With autism diagnoses on the rise and
with no real sense of a cause, researchers are operating under a sense of urgency to try to account
for this dramatic rise, which still has not been adequately accounted for by any combination of
environmental factors, genetic factors, brain development, and/or improved assessment and
diagnostic procedures (Weintraub, 2011).

As part and parcel of these rising rates of ASD come the added comorbid conditions and
factors that often accompany such diagnoses. Increased rates of obsessive compulsive disorders,
anxiety, depression, and eating disorders among individuals with autism can complicate and
intensify the needs related to support and treatment (Farber, 2008; Gillot & Standen, 2007; Nasir & Tahir, 2012; Robinson, Curwen, & Ryan, 2012). Most disturbing is the statistical likelihood that individuals with autism will more likely than average be subjected to verbal, emotional, physical, and sexual abuses over the course of their lives, due in part to their social, communicative, and sometimes cognitive impairments (Coorg & Tournay, 2012).

The ASD community relies on the policies and programs that society creates in order to educate and support them. As such, stereotypes that belittle or understate the serious nature of the disorder serve to undermine the efforts of those supporters who aim to create awareness and generate funding opportunities for autism research, treatment, and support. The “agenda-setting” capacity of the media is doing a great disservice to the issue of autism by promoting inaccurate, false-positive stereotypes (Cook et al., 1983). People may be far less likely to donate money for autism research when they have a preconceived notion of Sheldon Cooper in their minds as the brilliant, successful, independent, and savant-like genius from television’s The Big Bang Theory (McGrath, 2014).

Educational Implications of Diagnosis

Within the context of the classroom, students with autism are “20 times more likely to feel excluded from school than their peer groups: one in five (21%) are excluded at least once, compared with approximately 1.2% of the total student population” (Bernard et al., 2000, as cited in Humphrey & Lewis, 2008, p. 24). With an admitted lack of relevant studies in the area of autism perceptions in education, studies have indicated that the autism population can be “considered a marginalized group in educational and social contexts” (Billington, 2006; Osler & Osler, 2002, as cited in Humphrey & Lewis, 2008, p. 26).
Through the use of semi-structured interviews with 20 individuals diagnosed with Asperger Syndrome, Humphrey and Lewis (2008) were able to construct a framework of themes relevant to each student account. What they concluded is that these students felt that they were more likely to be bullied and exploited by other students than were their peers. They had an overall negative self-concept, considering themselves freaks and/or retarded and generally preferring that other students not know about their diagnosis so as not to draw unnecessary attention to themselves (Osler & Osler, 2002, as cited in Humphrey & Lewis 2008). Students also had a considerably negative view of school and were ambiguous as to whether or not their needs were being met by the school and its staff.

Another study published in July of 2011 examined the social networks and friendships of students with autism within the context of the regular classroom (Kasari, Locke, Gulsrud, & Rotheram-Fuller, 2011). Results indicated that students with autism “were often on the periphery of their classroom social networks. Their social networks are smaller than those of their typical classmates, the friendships they identify are less often reciprocated, and the quality of their friendships is poorer” (2011, p. 540). As such, the regular classroom and the experience of school can create, a situation rife with challenges, isolation, anxiety, and stress for students with ASD.

If we are to subscribe to the current media-fed autism stereotypes that we see on television and in movies, we will never truly understand that what these individuals seem to want more than anything is to fit in and be normal. In studies examining perceptions of students with autism in the classroom, teachers have also reflected some negative associations with autism in the sense that they feel a general lack of confidence, skill, and understanding when dealing with the needs of this population (Brownell, Adams, Sindelar, Vanhover, & Waldron, 2006;
McGregor & Campbell, 2001; Robertson et al., 2003). Some of the social, communicative and behavioural issues that general educators must contend with in the classroom include, but are not limited to:

- Communication and/or language issues and delays
- Social difficulties
- Stemming: repetitive, stereotyped, and sometimes self-injurious behaviours
- Restricted interests: obsessions, “special topics,” and attention deficits
- Insistence on sameness
- Sensory issues: seeking and/or avoiding
- Mood instability and meltdowns
- Sleep issues
- Motor skill issues
- Executive function issues
- Activities of daily living. (Hayes, 2014, pp. 30-33)

Educators have an incredible opportunity and capacity for affecting positive change in the classroom, and their attitudes and perceptions can greatly influence how successfully students with ASD are welcomed and integrated into the classroom. The theory of growth mindset tells us that we are able to develop our skills and abilities by exposing ourselves to new situations and information (Dweck, 2015). With this theory in mind, educators can facilitate growth and development in the classroom by furthering their own training and experience. The first step in addressing issues of misconception is acknowledging their existence, recognizing the need for further education, and creating opportunities for discussion and growth.
Conclusions

Based on information in the preceding sections, the search of the literature yielded an incomplete and unbalanced body of knowledge about the extent to which educators (a) have a general level of understanding of ASD, (b) feel prepared to work with ASD students in regular classrooms or school, (c) feel they have sufficient training/experience to understand ASD, and (d) have an awareness that ASD training is necessary and desirable. The purpose of this survey study, therefore, was to explore these four areas of concern.

As it currently stands, a case can be made that social and contemporary media have reflected and represented a nonrealistic vision of autism (Garner, 2014). In 2011, assistant University Professor Anne McGuire conducted sociological research from a critical disability perspective to analyze contemporary cultural representations of autism and the production of social norms with regards to violence against disabled people (McGuire, 2011).

My work begins and ends with an understanding that autism is, among many other things, a social identity category and, as such, a viable and valuable way of being in the world. This work is theoretically located in the field of disability studies, which considers disability through a social model (Oliver, 1990). Instead of understanding disability as a medical condition located in individual bodies, the social model locates disability in the physical and social environments and in inter-subjective relations that work to disable impaired bodies. Disability becomes politicized as a category of social oppression and material disadvantage. In the social model, disability shifts from being what someone has to who someone is. (McGuire, 2011, p. 63)
From this perspective and according to this article, changing the definition of autism through the DSM-5 will affect not only how autism is diagnosed but also how it is socially, educationally, and emotionally identified and represented (McGuire. 2011). Now that the psychological and behavioural descriptors of autism have changed, a socially constructed view of autism must in fact reflect the social factors and conditions that have elicited those changes (Nadesan, 2005). What are the new factors that will determine how these individuals and their families make their way in the world? McGuire’s and Nadesan’s assertions seem to indicate that autism is a medical diagnosis wrapped in a social construct. In 2002, researchers Molloy and Vasil from the University of Singapore conducted a critical examination of Asperger syndrome (AS) and its definition within a medical and a social paradigm. What they concluded was that the “diagnostic category of AS has been socially constructed because of its value as a category of special education” (p. 659). As such, Molloy and Vasil contend that the institution of school plays a pivotal role in the construction of autism. To what end does the diagnosis serve, and how do these social institutions, such as schools, reflect and create the concept and perception of ASD?

It was evident in the findings in the literature that many educators are feeling inadequately prepared to deal with some of the challenges given their current levels of training and professional development. Changes in the definition of autism and what children present in the classroom have further complicated educators’ responses to the inclusion of children with autism in classrooms, which is compounded by the creation of a single range of diagnosis based on severity and level of support required. Specific to the problem addressed in this study, autism in is a social and educational enigma that professional educators are poorly prepared to assess or manage.
Summary

Based on the conclusions, a survey study was conducted to determine responses to the four areas of interest detailed above. Changing the definition of autism through the DSM-5 will affect not only how autism is diagnosed but also how it is socially, educationally, and emotionally identified and represented (McGuire, 2011). The following chapter describes the methods that were used to conduct the study.
CHAPTER THREE: METHOD

The focus of this research was concentrated on an inquiry into educators’ perceptions of autism. The rationale behind this inquiry was to examine the nature of educator perceptions and understanding with the intent of identifying any positive or negative positions between experience and perception. A survey questionnaire was implemented that contained questions related to job experience, education and training, history of work experience with ASD students, feelings of preparedness, and examination of factors that may contribute to perceptions of autism. With a better understanding of what perceptions and possible misconceptions exist, the data can be used as a baseline for further inquiry and educator training (Yazan, 2015).

Appropriateness of the Research Method and Design

Creswell (2014) described the only three basic methods for conducting research: qualitative, quantitative, and mixed methods. Each method has more than one design; in the case of the present study, a survey method with an exploratory design was deemed appropriate because the survey questionnaire contained both Likert-type questions with a scale of possible responses and an open-ended question requiring a written response. The method was also selected due to the inherent capability of it to illuminate the level of understanding of autism diagnosis and management in an educational setting. The ability of a survey method to reduce the problem under study to answerable research questions by developing measured data that can be analyzed was deemed an appropriate approach. The research design was chosen based on the purpose of the research, which was to better understand the range of educators’ beliefs, understanding, and perceptions of autism in the classroom.

Groves et al. (2009) asserted the importance of statistical data gained from survey questionnaires as a way to describe a section of a population by asking questions. They
identified the use of surveys as having a rapid turnaround in data collection, economy of design, and the ability to utilize a small sample for assumptions about a larger group. Results provided insights into the thoughts, feelings, experiences, and beliefs of accounting students about ethics (Groves et al., 2009). The use of an open-ended question on the survey provided an opportunity to explore the perceptions, attitudes, and lived experiences of the participants (Yin, 2012). Although the open-ended qualitative questions in this study were few, they provided a unique opportunity for participants to freely express their thoughts.

The purpose of the current study is not to generalize with regards to educator perceptions and understanding of autism but rather to explore analytical generalizations within the data provided by the respondents within the context of their experiences. According to researchers Marshall and Rossman (2014) a study should have certain qualities: it has specificity, it is descriptive, it is inductive, has boundaries, and it should have willing participants. Regarding specificity, the current study was defined according to the parameters outlined in the survey referred to as educators within the Lakeside District School Board (Appendix D). In particular, educators were categorized within the following groups: (a) educational assistant; (b) elementary teacher; (c) secondary teacher; (d) special education teacher, and, (e) vice-principal or principal. One of the limitations of this particular grouping is that some teachers fall inside the description of more than one category: Elementary teacher as well as special education teacher. Instructions included in the survey to select one appropriate and more specific term were not clear. The boundaries and description of the study were outlined via email and the survey tool. Participants were given 36 days to complete the survey in order to make use of two staff meetings during which administrators could discuss the survey with staff. During the 36
days, and 13 days prior to the outlined closing date, one reminder email was sent to administrators.

**Setting and Participants**

Ontario, Canada, is the country's most populous province by a margin of 40%. It is one of 13 provinces and territories of Canada and located in east-central Canada. It is also home to the nation's capital, Ottawa. Ontario had a population of 12,851,821 in the 2011 census. The majority of the population is made up of English, Scottish, and Italian descent. A little less than 5% are French-speaking people of French descent, but the total population of French descent is 11%.

For purposes of confidentiality, the name of the school board in this study will be referred to under the pseudonym of Lakeside District School Board, which currently provides educational services to students in 35 elementary schools and 10 secondary schools. There are approximately 1,230 teachers, educational assistants, principals, and vice-principals within the board. These groups made up the target population of the study. Lakeside District School Board covers approximately 14,800 square kilometers in Ontario and provides both English and French immersion programming to over 14,350 students.

**Procedure**

The implementation of the study proceeded as follows. First, permission to conduct the study was obtained from the Nipissing University Ethics Review Committee (Appendix A). Permission was also obtained from the Lakeside District School Board Ethics Committee (Appendix B) and from all participants. A convenience sampling technique was used because the sample was readily available, convenient, and access to contact information was easily used.

Convenience sampling (also known as Haphazard Sampling or Accidental Sampling) is a
type of nonprobability or nonrandom sampling where members of the target population that meet certain practical criteria, such as easy accessibility, geographical proximity, availability at a given time, or the willingness to participate are included for the purpose of the study. (Etikan, Musa, & Alkassim, 2016, p. 2)

The survey questionnaire was distributed by SurveyMonkey®, a service for the electronic collection of data. Administrators were given a digital letter of consent, which outlined the nature of the survey and the link to the online survey tool (Appendix C). Administrators forwarded the digital letter to staff, and then educators then had the option to participate in the survey. Participation in the survey was anonymous, confidential, and completely voluntary.

**Instrumentation**

Content from three surveys was adapted to address the research objectives. Some questions were drawn from the *Autism Inclusion Questionnaire* (AIQ) which was developed by Matthew Segall in 2007 for the implementation of his Masters of Arts thesis research at the University of Virginia (Segall, 2007). Segall cited the 2003 Praisner study as well as the 2001 McGregor and Campbell study as sources used to adapt the questions for the AIQ (Segall, 2007). Additional questions for the current study were adapted from the Autism Inclusion Survey (Hayes, 2014) and the Autism Attitude Scale for Teachers (Olley, Devellis, McEvoy-Devellis, Wall, & Long, 1981). The Autism Attitude Scale for Teachers was published in 1981 with a deliberate focus on developing an assessment tool that could be used to accurately predict behaviours toward children with autism.

The processes used in the development of the AAST (Autism Attitude Scale for Teachers) have yielded a scale that (a) is brief, (b) is reliable, (c) can be used as two alternate forms of a single extended form, (d) is highly representative of the types of
questions experts consider appropriate for assessing attitudes toward autistic children in public schools, and (e) accurately reflects known differences in attitudes. (Olley et al., p. 8)

The questions were answered using Likert-type scales regarding knowledge of autism in three distinct areas: educator experience and training, understanding of autism, and educator practice dealing with autistic students. Demographic questions were included to determine work experience and educator preparedness for dealing with ASD in the classroom. Answers were used to develop a picture of the participants. Some questions were open-ended and called for written responses from the participants (Appendix D). Upon completion of the study, participants will be provided access to the results of the research upon request as well as administrators and trustees of the Lakeside District School Board.

Data Analysis

Once the survey questionnaires were distributed and results were available, quantitative data analysis was completed by means of Dedoose®, an online statistical software used to analyze qualitative and mixed method research, as well as datacracker®, an online tool used for analyzing survey data, through the auspices of SurveyMonkey®. The diagnostic results from each question with Likert-type response items were assessed to determine how results compared with respect to understanding autism and educator preparedness. Individuals were asked to respond to a variety of statements regarding educator practice and to indicate their level of agreement with each corresponding statement. These ordinal level data were then summatively compiled and examined using descriptive statistics. The section of the survey related to understanding of autism spectrum disorder which required participants to answer true, false or don’t know, was designed to determine general understanding based on answers that the
researcher considered to be valid or based on facts according to recent and relevant research. For example, according to recent and relevant information, autism spectrum disorder is a lifelong condition (American Psychiatric Association, 2013; Lohr & Tanguay, 2012); therefore based on the APA definition of ASD in the Diagnostic and Statistical Manual 5th ed., answering true to the statement “ASDs exist only in childhood” would be considered a false response. Those items that called for written responses were assessed in terms of possible repeated key terms and phrases as well as general themes. Because the survey contained both quantitative and qualitative questions, the description of findings, Chapter Four, was divided into two parts: quantitative and qualitative results.

**Ethical Considerations**

All responses to the survey questionnaire remained anonymous to all but this researcher. Only this researcher had access to the data used for data analysis, and participant responses will be kept confidential in perpetuity. A random numeric identifier was assigned to participants to ensure the anonymity of their responses throughout the research process. The contact email distributed by SurveyMonkey® clearly indicated that participants would remain anonymous indefinitely.

Cozby (2004) states, “ethical concerns are paramount when planning, conducting, and evaluating research” (p. 35). This study complied with the Nipissing University Schulich School of Education ethical guidelines and presented minimal risk to participants because it contained no experimental treatment of the participants or exposure to physical or psychological harm. The participants were all employees of the Lakeside District School Board. Care was taken to ensure that participants understood the nature of the study and that participation was entirely voluntary. No sanctions were applied if participants declined or withdrew from the study. No information
regarding participation of any individual was communicated to the school district or schools where they work. These conditions were communicated to all participants at the start of the survey. As with all research with human subjects, Nipissing University Ethics Review Committee approval was obtained before the study was conducted (Appendix A).

**Validity and Reliability**

Drost (2011) identified validity as important to quantitative studies as it is defined as the extent to which an instrument measures what it purports to measure. For the instrument to be utilized and results interpreted with accuracy, validity must be determined. There are many types of validity: content, criterion, and construct. Content validity occurs when questions asked of participants are right for measurement of the latent concept (perception, attitudes, and lived experience of educators toward ASD) that is being measured. Criterion validity occurs when the test is used to anticipate outcomes or to be related to other tests. The two main types of criterion validity are predictive and concurrent. Predictive validity is present when the instrument predicts the expected outcome (Drost, 2011). Applying a previously validated test or tool to the same database or phenomenon and then comparing results achieves concurrent validity of a test or measurement instrument. Construct validity refers to the internal structure of an instrument and the concept it is measuring. The instrument used in this survey was an adaptation of an instrument previously validated, as stated earlier in Chapter Three. However, the adapted instrument was not tested for validity prior to the study, which limits generalizability of the results. Internal validity, which describes “the degree to which the results of a study can be used to make causal influence,” can be identified as a potential weakness of this study, based on the low response rate of the larger population: 118 responses from a pool of 1,230 subjects (Warner, 2013, p. 18).
Reliability is extent to which an instrument produces stable and consistent results that repeatedly have no measurement error (Drost, 2011). The two forms of reliability apply to quantitative research: repeated measurement and internal consistency (Creswell, 2014). Repeated measurement is the ability to measure the same test at two different points across time. Internal consistency refers to instruments that have multiple items and refers to the way in which consistent results exist across items on the same test. Again, the adapted instrument was not pretested; thus, generalizability to wider populations will be limited.

Summary

Chapter Three contains a summary of the research setting and population and the method and design of the study. The procedure was outlined, the instrumentation was described, and ethical considerations were reviewed. Chapter Four contains a summary of the descriptive data, data analysis, and results from the study. Chapter Five contains a synopsis of the study, conclusions that are based on the research questions and the stated gap in the body of knowledge as well as comparison of the findings to the theoretical framework and results of studies cited in the literature review. Recommendations for further research, practice, and implications are included.
CHAPTER FOUR: FINDINGS

The purpose of the present study was to determine levels of understanding and perceptions that educators have about the general level of understanding of ASD. As well, the purpose was to determine if educators believe they are prepared to work with ASD students in regular classrooms. Their training and/or experience with preparedness and understanding of ASD was probed as well as their level of commitment to ASD awareness training and need for teacher preparedness.

Chapter Four is divided into two parts. Part One contains the responses to those questions that had Likert-type responses. Those responses include demographics and questions specific to ASD. Part Two contains the written responses that were entered by the participants in answer to open-ended questions.

Part One: Responses to Descriptive Questions

Demographics of the participants.

Data were gathered between the dates of August 29 and October 3 of 2016. Approximately 1,230 participants were sent the letter of invitation (Appendix C), and 118 completed the online questionnaire. Table 1 contains the age, gender, professional training, and professional role of the participants. Due to low initial response to the primary survey email, a second notification email was sent out on September 26 to generate a greater response.
Table 1

*Age, Gender, Professional Training and Role*

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</table>
Participants in the survey ranged in age from 21 to over 60 years (no responses were indicated for the age category of 20 or under). The majority of participants identified as being female \((n = 86 \text{ of } 103, 83\%)\) and of being between the ages of 31 and 50 years of age \((n = 94 \text{ of } 116, 81\%)\). Almost all of the responding participants \((n = 114 \text{ of } 118, 97\%)\) indicated that they had obtained a college and/or associate degree, a Bachelor degree, and/or a graduate or postgraduate degree (Master or PhD). This is not surprising given the targeted nature of the participants. While 60% of participants indicated that they have received additional and/or specific training in special education, only 32% of participants stated that they had specific training to work with students who had ASD.

**RQ 1: What is the general level of understanding of ASD among educators?**

According to the results of survey question #11, there exists a general understanding of ASD among educators (Appendix E). The majority of participants, \((78\%, 92 \text{ of } 118)\) did not know, or answered incorrectly regarding whether or not the diagnostic criteria for ASD were identical to that of high functioning autism, and yet 92% \((n = 109 \text{ out of } 118)\) of participants were able to identify ASD is not a childhood disease and that they have specific needs that are not all similar to one another (Appendix E). According to previous DSM definitions, Asperger Syndrome was differentiated from high functioning autism by the lack of age-appropriate adaptive behaviour, as well as a verbal or communicative delay (Attwood, 2003). However, more recent literature and research seem to indicate that the two conditions are more alike than they are different (Ozonoff, South, & Miller, 2000), which may explain part of the reasoning behind removing the Asperger’s Syndrome term from the most recent edition of the DSM.

With regards to the cause of ASDs, 51% \((n = 60 \text{ out of } 117)\) of respondents didn’t know whether or not genetic factors play an important role, with 11% \((n = 13 \text{ out of } 117)\) indicating
that genetic factors do not play an important role in the cause of ASDs. Research indicates that while a complete genetic framework has yet to be realized, specific genetic risk genes and patterns of inheritance have been associated with the occurrence of ASD (de la Torre-Ubieta, Won, Stein, & Geschwind, 2016; Robinson, St. Pourcain, Anttila, Kosmicki, Bulik-Sullivan, Grove et al., 2016). Established evidence now supports the claims that genetic factors play an important role in the etiology of ASDs (Murdoch & State, 2013).

Behaviour therapy is a research-based approach to treating individuals with ASD and has been widely accepted as one of the main treatment options for families and educators (Schreibman, 2000). Of the variety of behavioural approaches, early intervention is almost always recommended and comes in some form of applied behavioural analysis (ABA); (Naoi, 2009). According to the Geneva Centre for Autism, ABA is based on an approach towards teaching and learning that involves the principles of behaviour to provide a framework for ongoing learning (Geneva Centre for Autism, 2017). These principles of behaviour can be addressed in numerous ways based on the needs of the individual. Cognitive behavioural therapy can be used to address more specific needs on a short-term basis, attempting to change behaviour and thoughts in order to affect an individual’s feelings (Moree & Davis, 2010). Cognitive behavioural therapy can be particularly beneficial when dealing with individuals who have comorbid conditions such as ASD and anxiety or OCD (Sung et al., 2011). Verbal therapy is a communication therapy based on theories by behaviourist B. F. Skinner that combines language with the purpose of a word, usually with a visual aid (Sautter & Leblanc, 2006). The Picture Exchange Communication System (PECS) is a visual language system that helps to augment the verbal therapy method and is commonly used in ASD classrooms (Tien, 2008). The majority of respondents (66%, n = 78 out of 118) indicated that Behaviour Therapy is an
intervention proven to be effective for children with ASDs. Only 3% \( (n = 4 \text{ out of } 118) \)
indicated that this was false and 31% \( (n = 36 \text{ out of } 118) \) indicated that they didn’t know whether
or not Behaviour Therapy was an effective intervention.

While there is no credible and/or substantiated medical evidence to support that vaccines
and their additives cause ASD, 12% \( (n = 14 \text{ out of } 118) \) of participants believe this to be true,
while 31% \( (n = 37 \text{ out of } 118) \) don’t know. Based primarily on a social belief supported by
media, this may be an indication that at least one of the beliefs held by educators regarding ASD
may be influenced by other sources besides medical and professional information.
### Table 2

**Understanding of Autism Spectrum Disorder (ASD)**

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<th>True</th>
<th>False</th>
<th>Don’t Know</th>
<th>Total</th>
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</thead>
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<td>The diagnostic criteria for Asperger’s Syndrome are identical to High Functioning Autism.</td>
<td>16.10%</td>
<td>22.88%</td>
<td>61.02%</td>
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<td>Genetic factors play an important role in the cause of ASDs.</td>
<td>37.61%</td>
<td>11.11%</td>
<td>51.28%</td>
<td>117</td>
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<td>ASDs exist only in childhood.</td>
<td>0.00%</td>
<td>92.31%</td>
<td>7.69%</td>
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<td>Behaviour therapy is an intervention proven to be effective for children with ASDs.</td>
<td>66.10%</td>
<td>33.9%</td>
<td>30.51%</td>
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<td>Children with ASDs are very similar to one another.</td>
<td>1.69%</td>
<td>91.53%</td>
<td>6.78%</td>
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<td>Early intervention demonstrates little to no additional benefit to children with an ASD.</td>
<td>1.72%</td>
<td>80.17%</td>
<td>18.10%</td>
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<td>Certain vaccine additives have been shown to cause ASDs.</td>
<td>11.86%</td>
<td>56.78%</td>
<td>31.36%</td>
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<td>Medication can alleviate the core symptoms of ASDs.</td>
<td>5.17%</td>
<td>54.31%</td>
<td>40.52%</td>
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<td>Most children with ASDs have cognitive abilities in the intellectually disabled range.</td>
<td>11.97%</td>
<td>57.26%</td>
<td>30.77%</td>
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<tr>
<td>Most children with ASDs have special talents or abilities.</td>
<td>45.76%</td>
<td>32.20%</td>
<td>22.03%</td>
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<td>In most cases, the cause of ASDs is unknown.</td>
<td>68.38%</td>
<td>1.71%</td>
<td>29.91%</td>
<td>118</td>
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<td>The core deficits in ASDs are Impaired Social Understanding, Language Impairment and Impaired Sensory Functioning.</td>
<td>75.42%</td>
<td>2.54%</td>
<td>22.03%</td>
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</tr>
<tr>
<td>Traumatic experience very early on in life can cause an ASD.</td>
<td>1.69%</td>
<td>51.69%</td>
<td>46.61%</td>
<td>118</td>
</tr>
<tr>
<td>Cold or detached parenting can cause an ASD.</td>
<td>0.85%</td>
<td>72.03%</td>
<td>27.12%</td>
<td>118</td>
</tr>
<tr>
<td>With early intervention, most children can outgrow an ASD.</td>
<td>0.00%</td>
<td>76.92%</td>
<td>23.08%</td>
<td>118</td>
</tr>
<tr>
<td>Students with an ASD are more likely to be targets of bullying, harassment and abuse than students without an ASD.</td>
<td>77.12%</td>
<td>5.08%</td>
<td>17.80%</td>
<td>118</td>
</tr>
<tr>
<td>Most students with an ASD come from lower socio-economic families.</td>
<td>0.85%</td>
<td>86.44%</td>
<td>12.71%</td>
<td>118</td>
</tr>
</tbody>
</table>
The nature of the questions that were used to determine understanding among educators was such that there were correct and incorrect possibilities for each, such that incorrect and don’t know answers would be considered a negative understanding. In general, only 27 out of 118 (23%) participants were able to correctly answer all 17 questions. Of these 27 participants, 81% (n = 22 out of 27) indicated that they had “some” to “plenty” of experience working directly with ASD students. This indicates that the majority of individuals who answered all the questions correctly have had direct experience working with ASD students. More specifically, 60% (n = 37 out of 61) educators who indicated that they had “some” or “plenty” of experience working with students who have an ASD agreed that they felt adequately prepared to work with students who have an ASD, whereas 75% (n = 27 out of 36) of educators who responded as having “little” to “no” experience working with students indicated that they did not feel adequately prepared to work with students who have an ASD (Appendix F).

**RQ2: Do LDSB educators believe that they are prepared to work with ASD students?**

According to this survey, 77% of participants (n = 91 out of 118) indicated that they have, at some point in their careers, worked with an individual with ASD. Overall, 40% of educators (n = 46 out of 115) indicated that they feel adequately prepared to work with individuals with ASD (Figure 1), the most significant concern being the behavioral issues that may occur within the classroom (45%, n = 52 out of 115 feel inadequately prepared to deal with behavioral issues). The data also indicate that 37% (n = 43 of 116) of participants feel adequately prepared to deal with the social impairments that may occur while working with students with ASD in the regular classroom (Figure 1). The third column of Figure 1 indicates the response to the question of whether or not educators feel adequately prepared to deal with the communicative issues that individuals with ASD may face in the regular classroom, in which case 53% (n = 61
out of 115) indicated that they did not feel adequately prepared. The fourth column indicates the responses to the question of whether or not educational assistants should accompany students with ASD in the general classroom. Approximately half of participants, 52% \((n = 60 \text{ out of 115})\) indicated that they believe that students with ASD should be supported by an educational assistant within the regular classroom setting. On a positive note, 75% \((n = 86 \text{ out of 115})\) of respondents indicated that their overall experiences with individuals with ASD have been positive.
**Figure 1.** Teacher preparedness.
### Table 3

**Educator Practice**

<table>
<thead>
<tr>
<th></th>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>No Opinion or Neutral</th>
<th>Agree</th>
<th>Strongly Agree</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>I am adequately prepared to work with students who have an ASD.</td>
<td>9.57%</td>
<td>34.78%</td>
<td>15.65%</td>
<td>33.04%</td>
<td>6.96%</td>
<td>115</td>
</tr>
<tr>
<td>I am adequately trained to manage issues related to social impairments that may occur with my students identified with an ASD.</td>
<td>10.34%</td>
<td>39.66%</td>
<td>12.93%</td>
<td>32.76%</td>
<td>4.31%</td>
<td>116</td>
</tr>
<tr>
<td>I am adequately trained to manage issues related to communication and language skill impairments that may occur with students identified with an ASD.</td>
<td>12.17%</td>
<td>40.87%</td>
<td>10.43%</td>
<td>33.04%</td>
<td>3.48%</td>
<td>115</td>
</tr>
<tr>
<td>Students identified with an ASD should have an educational assistant present with them in general education classes.</td>
<td>3.48%</td>
<td>8.70%</td>
<td>33.91%</td>
<td>33.04%</td>
<td>20.87%</td>
<td>115</td>
</tr>
<tr>
<td>My experiences with students identified with an ASD have been positive.</td>
<td>2.61%</td>
<td>5.22%</td>
<td>17.39%</td>
<td>53.04%</td>
<td>21.74%</td>
<td>115</td>
</tr>
<tr>
<td>I am adequately trained to manage behavioral issues that may occur with my students identified with an ASD.</td>
<td>15.65%</td>
<td>29.57%</td>
<td>16.62%</td>
<td>33.91%</td>
<td>4.35%</td>
<td>115</td>
</tr>
</tbody>
</table>
RQ3: Do LDSB educators feel that ASD awareness training is necessary?

According to business and leadership gurus Sophie Kristjansson and David Tashjian, a growth mindset begins with transparency and candor (Kristjansson & Tashjian, 2016). As such, understanding the truth of what is happening in the classroom is the first step in acknowledging the reality about inclusion. The data from this study overwhelmingly support further training and professional development in the area of ASD inclusion in the classroom, with 87% (n = 101 out of 116) of participants indicating that they strongly agree or agree with the statement. A large proportion of educators (67%, n = 77 out of 116) are also expressing that their colleagues within schools work together to support students with ASD.
Table 4

*Desire for Further Professional Development and Training*

<table>
<thead>
<tr>
<th>I would welcome more professional development to help me work effectively with students who have an ASD.</th>
<th>Responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strongly Disagree</td>
<td>2.59%</td>
</tr>
<tr>
<td>Disagree</td>
<td>0.86%</td>
</tr>
<tr>
<td>No Opinion or Neutral</td>
<td>9.48%</td>
</tr>
<tr>
<td>Agree</td>
<td>49.14%</td>
</tr>
<tr>
<td>Strongly Agree</td>
<td>37.93%</td>
</tr>
<tr>
<td>Total</td>
<td>116</td>
</tr>
</tbody>
</table>
PART TWO: OPEN-RESPONSE QUESTION: Please describe one or more of your experiences with ASD inclusion in your school, (if applicable).

Integration and Inclusion

The open-ended question was designed to give participants the opportunity to give context to their experiences. Using a mixed methodology online software program called Dedoose®, answers were catalogued and coded according to key words. Participants explained the nature of their previous experiences working with students with ASD in their schools and classrooms. Contributors spoke of integration and inclusion as being both common and best practice within their schools and communities. The following word cloud (Figure 2) represents the distribution of key terms that were brought up in this question (Data Therapy, 2017).
Figure 2. Word cloud of key terms.
The most significant comments made by respondents who answered this question stated that integration of students with autism was happening at their schools (51%, \( n = 39 \) out of 76). Some of these comments reflected a variety of inclusive settings, such as partial or full integration in a variety of grades (primary to secondary). Partial integration was generally noted to encompass inclusion into the regular classroom with and without educational assistant support, inclusion of school-based activities such as assemblies, events, student council, and so on, as well as partial integration into the regular classroom supported by intensive support programs. Of the respondents who chose to comment regarding inclusion and integration on this open-ended question, 72% \( (n = 28 \) out of 39) of comments stated neutral facts about inclusion and/or integration, comments such as “Students with ASD are integrated in regular classrooms quite frequently.” Also, 15% \( (n = 6 \) out of 39) of respondents made positive remarks about inclusion/integration, 5% \( (n = 2 \) out of 39) made negative comments about inclusion/integration and 8% \( (n = 3 \) out of 39) made a comment that reflected both positive and negative aspects of inclusion/integration.
Figure 3. Integration and inclusion.
Overall, in terms of general experiences with students with autism, most respondents replied with factual accounts of experiences both in and out of the classroom. Of the 76 individuals who commented on this question, 63% (n = 48 out of 76) made neutral comments (n = 4 out of 76 replied as not applicable), while 16% (n = 12 of the 76) indicated that their experiences working with students with autism were positive. Only 7% (n = 5 of the 76) indicated that they had negative experiences and 8% (n = 6 of the 76) of respondents replied that their experiences were both positive and negative. More specifically, the negative comments reflected the experiences that the students had, not the respondent.
**Figure 4.** Experiences.
One respondent indicated feeling that he or she didn’t have the necessary skills to be able to deliver an appropriate educational setting for his or her student. Most of the positive comments indicated that appropriate supports were required to ensure a successful experience for the student. These comments reflect the pattern of answers given in the multiple-choice sections that indicate that most schools are actively integrating their students with autism in varying degrees and forms. According to the survey, only 8% ($n = 9$ out of 118) indicated that they had no experience working directly with ASD students.

With regards to some of the other responses, descriptions of experiences from this question were organized according to generalizability of comments into the following categories; (a) Asperger’s and/or high functioning autism, (b) issues and challenges, (c) supports, (d) experience, (e) integration and inclusion, (f) intensive support programs, and (g) strategies.

**Asperger’s Syndrome and/or High Functioning Autism:**

Of the 76 total responses to the open-ended question, 11% ($n = 8$) comments made direct reference to students with Asperger’s and/or high functioning autism. The comments indicated that these students were more likely to be fully or partially integrated into the regular classroom setting, with or without educational assistant support. There were two specific comments that indicated that they felt that not enough support was being given to these students with regards to their social and/or emotional needs, as long as well as their interactions with classmates. Some respondents used the term Asperger’s in their responses, while other respondents used the term high functioning autism to refer to students they have worked with. It is impossible to determine whether these terms were used interchangeably or if respondents understood the difference between the two terms. In fact, 61% ($n = 72$ out of 118) of respondents indicated (in the questions about general understanding) that they did not know the difference between diagnostic
criteria for Asperger’s syndrome and High Functioning Autism, while 16% \( (n = 19 \text{ out of } 118) \) answered incorrectly as to the differences between the two conditions. Only 23% \( (n = 27 \text{ out of } 118) \) correctly answered that the diagnostic criteria for Asperger’s syndrome and high functioning autism are not identical. Again, this question appears to create some ambiguity since there is some conflicting research as to what differences (if any) exist between the two conditions.

### Issues and Challenges

Several topics were referenced with regards to issues and challenges that students and educators face when working together in inclusionary settings as well as intensive support settings. More specifically, 13% \( (n = 10 \text{ out of } 76) \) of respondents commented on behavioural, social/emotional, academic, and sensory challenges that students and educators faced. Instances of physical outburst, aggression, and the link to sensory stimulation was commented upon by respondents, noting the importance of understanding a variety of factors and stimuli that can affect the triggering of these issues (loud noises, assemblies, lights, acoustics, nonstructured environments). These responses made reference to 14 separate issues and challenges that have been broken down into four categories.
Figure 5. Challenges and issues.
One respondent commented that children in lower grades are perhaps not being identified early enough to receive appropriate support, while another respondent indicated that it took a long time to develop a relationship with the student with ASD but that, with time and a development of coping strategies, the student had made significant progress. There is research regarding theory of mind\(^1\) and emotional intelligence that suggests that educators are able to accurately identify students on the autism spectrum (including Asperger’s and HFA) as having lower emotional intelligence and less developed theory of mind than their neurotypically age-appropriate counterparts (Peterson, Slaughter, & Paynter, 2007). Research has also suggested that the chronological age of individuals with ASD does not consistently match up with their expected level of theory of mind and verbal mental age (Happé, 1995).

Some concerns were also raised regarding comorbidity of conditions that can be an additional stress for educators and students. Respondents specifically mentioned complicating issues such as ADHD (attention deficit/hyperactivity disorder) as well as MID (mild intellectual delay). According to research, there are some conflicting approaches towards whether or not some conditions such as ADHD, anxiety, and depression can be inherently present in various forms of ASD (including Asperger’s/HFA) and should be included in the treatment of the original disorder, or whether or not some conditions exist separately from the ASD spectrum and are representatively higher or the same as in non-ASD individuals (Curwen, Robinson, & Ryan, 2012; Gargaro et al., 2011). According to previous DSM criteria, Autism spectrum disorders and ADHD were exclusionary conditions which resulted in examination and research into the commonalities and differences between the two pure forms; however research into the comorbid

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\(^1\) ‘Theory of mind’ (ToM) describes children’s abilities to ‘mind-read’ by recognizing how people’s mental states (thoughts, intentions, etc.) underpin their overt behavior. Peterson, Slaughter, & Paynter, 2007, p. 1243.
conditions has not yet yielded sufficient conclusions, primarily due to the previous DSM exclusionary criteria (Gargaro et al., 2011). With the changes that have been included in the current DSM-V, further examination into the existence and pervasiveness of comorbid conditions is possible and certainly warranted.

**Professional Supports**

Once again, several respondents alluded to various forms of support to which educators may have access. In some cases (8%, \(n = 6\) out of 76) respondents stated that they have had support from educational assistants (EAs) when working with ASD students, while others did not have support of EAs in the classroom. Of these respondents, all six indicated that the level of EA support was dependent on the need and integration level of the ASD student. In terms of educator support, 4% \((n = 3)\) out of 76) of respondents indicated specifically that they felt that they had inadequate training and/or experience to deliver an appropriate educational experience for their students. One respondent also stated that even with a range and variety of experiences, any support they received helped them to better care for their student(s).

**Intensive Support Programs**

Within the LDSB, special education programming provides several options for resource support. The first level is full integration with resource and special education support with or without periodic withdrawal from the classroom. The special education and classroom teachers are responsible for implementing the program requirements laid out in the student’s education plan. The second level of support for students with more complex needs is a self-contained class, known in the LDSB as the Intensive Support Program (ISP) located within a regular school setting. Within these self-contained classrooms, the ISP teacher is responsible for the programming needs of all the students in his or her classroom, including various levels of regular
classroom integration equaling no more than 49% of their school day. These ISP classes provide opportunities for students of various ages and grades to work on personalized academic, behavioural, social/emotional, and transitional goals. Students in the ISP classes can work towards secondary diplomas or certificates of participation and completion, quite often utilizing alternative curriculum expectations set out by the Ontario Ministry of Education. The self-contained elementary ISP classrooms that exist within the LDSB include: comprehensive class programs, ASD programs, early intervention programs for students with behavioural exceptionalities, section programs for elementary students with behaviour exceptionalities, and the elementary alternative programs. At the secondary level, the ISP classrooms that exist within the LDSB include: transition programs, life-skills programs, ASD programs, section programs for secondary students with behaviour exceptionalities, and the essential workplace skills programs. The goal of the ISP is to provide students with individualized programing that provides opportunities for integration within the regular classroom as well as the community.

The final level of special education support provided by the LDSB is the self-contained school which continues to offer ISP classes within a separate school setting. Once again, the ISP teacher is responsible for programming and integration, this time on a more community-based level that operates in conjunction with local social, workplace, and transition program providers. The self-contained schools often have specialized equipment and facilities required to offer more comprehensive supports and programs for the needs of their students. In the rare case that these levels of support and programming are not sufficient in providing suitable learning conditions, the LDSB will work with a variety of school board staff to find a suitable environment, during which time the student may be offered programming at home until he or she can return to a suitable setting (Lakeside District School Board, 2017).
The ISP was noted in 17% ($n = 13$ out of 76) of comments regarding ASD inclusion in their schools. The statements included personal reflections from ISP educators (5%, $n = 4$ out of 76), administrators who operate schools with ISP classes (1%, $n = 1$ out of 76), and other educators who were aware of ISP programs in their schools and/or school board (9%, $n = 7$ out of 76).

**Strategies**

Of the comments that were made regarding ASD inclusion and integration, 5% ($n = 4$ out of 76) of these stood out as recommendations for strategies that would be helpful when working with students with an ASD. One strategy was to be cognizant of the classroom setting and environment and to understand how sensory issues can affect ASD students in the regular classroom. The second comment related to strategy indicated that it is important to provide support for the classroom teacher as well as the student, in order to help the educator help the individual. The third comment referenced the universal design theory for learning (UDL), specifically stating that strategies that are necessary for some are good for all (colour coding schedules and notebooks). The UDL model is an approach used by educators to provide goals and programs for learning that are equally accessible to all students (Gargiulo & Metcalf, 2017). The fourth comment regarding strategies suggested that there is a need for early screening and intervention, in order to provide more successful programming.
Figure 6. Distribution summary of educator experiences.
CHAPTER FIVE: DISCUSSION AND RECOMMENDATIONS

Research indicates that educators generally hold a positive perception of students with special needs in the classroom, however it is only recently that research has been conducted with a specific focus on students with ASD (Segall & Campbell, 2007). This study was an attempt to examine the degree to which educators felt prepared to deal with the social/emotional, communicative, and behavioural needs that might arise in an inclusive classroom. Results from the survey indicate that while a general understanding of ASD exists among educators, there is still much to be learned and much support to be given. Most participants indicated that at some point in the past or present, they have worked directly with a student who has an ASD. Given the rising statistical rates of ASD and the Ontario Ministry of Education’s mandate to provide inclusive learning environments for all students, these data appear to be reflective of the reality within which educators are finding themselves increasingly more often. Research tells us that teacher training is in fact vital to the effective implementation of policies and strategies in the classroom (Booth & Ainscow, 2002).

In a 1996 study, participants were asked to identify the conditions they felt were critical to the successful implementation of inclusionary programs (Werts, Wolery, Snyder, & Caldwell, 1996). Of the key issues outlined in the survey, sufficient training was the most frequent response (53%), with support from professionals and in-class help and support being the second and third most frequent responses (51% and 47%). In this same study, “lack of training” and “insufficient knowledge in special education” was listed as the main problems facing teachers in the regular classroom when confronted with teaching students with disabilities (p. 13). Further research into the effective implementation of inclusion strategies for individuals with ASD would greatly impact a school board’s ability to help train and support their educators.
and to determine the nature of the disconnect (if any) between agreed-upon best practices for inclusion and the actual implementation of these practices.

Regarding the presence of EAs in the classroom, 54% of respondents indicated that students identified with an ASD should have an educational assistant present with them in general education classes. There are many possible reasons for this answer, some of which could be lack of confidence that teachers might have in working with students with ASDs in the regular classroom, or the desire to provide students with all the supports they need to be successful, or that it is the job of the educational assistant to work directly with students with ASD and special needs, and not that of general educators. At this point, a conclusion cannot be made regarding the nature of this response, but it certainly warrants further investigation.

**Significance of the Results**

In the future, the DSM-V will provide both researchers and clinicians support for developing and refining the diagnostic tools for optimal diagnosis and treatment of autism. The supporting role of physicians, clinicians, educators, and parents will be to provide vigilant advocacy and education to those individuals and families living with autism (Halfon & Kuo, 2013). During this time of change, there is vulnerability and concern within the autism population, particularly among families (Halfon & Kuo, 2013). It is clear that future research would benefit greatly from quantitative, qualitative, and mixed methods studies that could examine educator preparedness, perceptions, and efficacy with regards to autism inclusion. With a better formula for diagnosis comes a clearer picture of the required support and services needed.
References


Rhodes, T. (2015, January 1). A study of the regular educators’ preparedness to educate students with autism spectrum disorder. *ProQuest LLC.*


Appendix A

Nipissing University Ethics Review Committee

Letter of Permission to Proceed

On Fri, Apr 22, 2016 at 10:17 AM, <unnamed> wrote:
April 21, 2016

Ms. Andrea Therrien
Schulich School of Education
Nipissing University

Expiry Date: April 21, 2017

Dear Andrea,

It is our pleasure to advise you that the Research Ethics Board (REB) has reviewed your protocol titled 'A Survey of Educators' Perceptions of Autism.' and has granted ethical approval. Your protocol has been approved for a period of one year.

**Modifications:** Any changes to the approved protocol or corresponding materials must be reviewed and approved through the amendment process prior to its implementation.

**Adverse/Unanticipated Event:** Any adverse or unanticipated events must be reported immediately via the Research Portal.

**Renewal/Final Report:** Please ensure you submit an Annual Renewal or Final Report 30 days prior to the expiry date of your ethics approval. You will receive an email prompt 30 days prior to the expiry date.

Wishing you great success on the completion of your research.

Sincerely,

*Dana R. Murphy, PhD*
Chair, Research Ethics Board
Appendix B

Rainbow District School Board Ethics Committee

Letter of Permission to Proceed

July 8, 2016

Andrea Therrien

Dear Andrea:

The purpose of this letter is to inform you that your Research Project Proposal entitled "A Survey of Educators' Perceptions of Autism" is approved.

This letter permits you to contact the school(s) in order to present your proposal. The principal has the final authority to allow research in his/her school.

The Education Research Council would appreciate receiving a copy of your completed research project so that we might ascertain its impact in our school system.

Sincerely,

Lesleigh Dye
Superintendent of Schools
Appendix C

Letter of Introduction for Prospective Participants

You are being invited to participate in a survey that asks educators about their perceptions and experiences with students who have been diagnosed with an Autism Spectrum Disorder. We hope that this study will result in relevant data that can help to support educators in the classroom. If you agree to participate we ask that you complete the following survey that will take about 10—15 minutes to complete (details below). Your answers will be kept confidential and anonymous, and the results of the research will be made available to Rainbow District School Board upon completion of the report.

Participation in this study is voluntary. You may choose not to participate, refuse to answer any questions, or withdraw at any time. If you do not wish to respond to particular questions, please skip over them. Completion of the survey indicates your consent to participate in this research. There is no remuneration for participation in this survey.

There may be questions in this survey that are sensitive in nature and may elicit some psychological discomfort. You are free to skip questions or withdraw your participation at any time. Please do not feel obliged to continue the survey if you feel uncomfortable in any way.

If you would like more information about the survey or how the data will be used, please contact primary researcher, Andrea Therrien, at the following email address:

Thank you very much for your cooperation.

Andrea Therrien
Appendix D

Survey Instrument

Students With Autism Questionnaire

Welcome to My Survey

You are being invited to participate in a survey that asks educators about their perceptions and experiences with students who have been diagnosed with an Autism Spectrum Disorder. We hope that this study will result in relevant data that can help to support educators in the classroom.

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If you would like more information about the survey or how the data will be used, please contact primary researcher, Andrea Therrien at the following email address: [email protected]

Thank you very much for your cooperation.

Andrea Therrien

1. To which gender do you identify?

2. To which age group do you belong?
   - 21 - 30 years of age
   - 31 - 40 years of age
   - 41 - 50 years of age
   - 51 - 60 years of age
   - 60 + years of age

3. What is the highest level of school you have completed or the highest degree you have attained?
   - Some college but no degree
   - College and/or Associate degree
   - Bachelor degree
   - Graduate degree (Masters or PhD)
4. What is your current job role?
- Educational Assistant
- Elementary Teacher
- Secondary Teacher
- Vice Principal or Principal

5. What would you rate your level of experience working directly with ASD students? Please select one of the following statements that best applies to you.
- No experience working directly with ASD students.
- Limited experience working directly with ASD students.
- Some experience working directly with ASD students.
- Plenty of experience working directly with ASD students.

6. Please describe one or more of your experiences with ASD inclusion in your school. (If applicable)

7. How long have you been an educator?
- 0 - 10 years
- 11 - 20 years
- 21 - 30 years
- 31 + years

8. I have taught/worked with, or am currently teaching/working with student(s) with an Autism Spectrum Disorder (ASD).
- yes
- no

9. Do you have additional qualifications or specific training in special education?
- yes
- no

10. Have you ever received specific training to work with students who have an Autism Spectrum Disorder (ASD)?
- yes
- no
11. Understanding of Autism Spectrum Disorder (ASD) - Please indicate TRUE or FALSE for the following statements, based on your current knowledge of ASDs. Please, DO NOT GUESS. If you are unsure of an answer, please select DON'T KNOW.

<table>
<thead>
<tr>
<th>Statement</th>
<th>True</th>
<th>False</th>
<th>Don't Know</th>
</tr>
</thead>
<tbody>
<tr>
<td>The diagnostic criteria for Asperger’s Syndrome are identical to High Functioning Autism.</td>
<td>☐</td>
<td>☒</td>
<td>☒</td>
</tr>
<tr>
<td>Genetic factors play an important role in the cause of ASDs.</td>
<td>☐</td>
<td>☒</td>
<td>☒</td>
</tr>
<tr>
<td>ASDs exist only in childhood.</td>
<td>☐</td>
<td>☒</td>
<td>☒</td>
</tr>
<tr>
<td>Behaviour therapy is an intervention proven to be effective for children with ASDs.</td>
<td>☐</td>
<td>☒</td>
<td>☒</td>
</tr>
<tr>
<td>Children with ASDs are very similar to one another.</td>
<td>☒</td>
<td>☐</td>
<td>☒</td>
</tr>
<tr>
<td>Early intervention demonstrates little to no additional benefit to children with an ASD.</td>
<td>☒</td>
<td>☐</td>
<td>☒</td>
</tr>
<tr>
<td>Certain vaccine additives have been shown to cause ASDs.</td>
<td>☒</td>
<td>☐</td>
<td>☒</td>
</tr>
<tr>
<td>Medication can alleviate the core symptoms of ASDs.</td>
<td>☒</td>
<td>☐</td>
<td>☒</td>
</tr>
<tr>
<td>Most children with ASDs have cognitive abilities in the intellectually disabled range.</td>
<td>☐</td>
<td>☒</td>
<td>☒</td>
</tr>
<tr>
<td>Most children with ASDs have special talents or abilities.</td>
<td>☒</td>
<td>☐</td>
<td>☒</td>
</tr>
<tr>
<td>In most cases, the cause of ASDs is unknown.</td>
<td>☒</td>
<td>☐</td>
<td>☒</td>
</tr>
<tr>
<td>The core deficits in ASDs are Impaired Social Understanding, Language Impairment and Impaired Sensory Functioning.</td>
<td>☒</td>
<td>☐</td>
<td>☒</td>
</tr>
<tr>
<td>Traumatic experience very early on in life can cause an ASD.</td>
<td>☒</td>
<td>☐</td>
<td>☒</td>
</tr>
<tr>
<td>Cold or detached parenting can cause an ASD.</td>
<td>☒</td>
<td>☐</td>
<td>☒</td>
</tr>
<tr>
<td>With early intervention, most children can outgrow an ASD.</td>
<td>☒</td>
<td>☐</td>
<td>☒</td>
</tr>
<tr>
<td>Students with an ASD are more likely to be targets of bullying, harassment and abuse than students without an ASD.</td>
<td>☐</td>
<td>☒</td>
<td>☒</td>
</tr>
<tr>
<td>Most students with an ASD come from lower socio-economic families.</td>
<td>☒</td>
<td>☐</td>
<td>☒</td>
</tr>
</tbody>
</table>
12. Educator Practice - Please indicate which response best describes how you feel about the following statements:

<table>
<thead>
<tr>
<th>Statement</th>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>No Opinion or Neutral</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>I am adequately prepared to work with students who have an ASD.</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>I am adequately trained to manage issues related to social impairments that may occur with my students identified with an ASD.</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>I am adequately trained to manage issues related to communication and language skill impairments that may occur with students identified with an ASD.</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Students identified with an ASD should have an educational assistant present with them in general education classes.</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>My experiences with students identified with an ASD have been positive.</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>I am adequately trained to manage behavioural issues that may occur with my students identified with an ASD.</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
</tbody>
</table>

5 / 7 71%
13. Staff at my school work together to support students with an ASD.

- Strongly Disagree
- Disagree
- No Opinion or Neutral
- Agree
- Strongly Agree

14. I would welcome more professional development to help me work effectively with students who have an ASD.

- Strongly Disagree
- Disagree
- No Opinion or Neutral
- Agree
- Strongly Agree

6 / 7 86%

Thank you for taking the time to complete this survey. Your contributions are valuable and very much appreciated. Please remember that your responses are anonymous and confidential and that results of this survey will be provided to the Rainbow District School Board upon completion of the research report.

7 / 7 100%
Appendix E

Results Summary Graphs

Understanding of Autism Spectrum Disorder (ASD)
Correct Responses

<table>
<thead>
<tr>
<th>Description</th>
<th>True</th>
<th>False</th>
<th>Don’t Know</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>ASCs only exist in childhood</td>
<td>0.00%</td>
<td>92.31%</td>
<td>7.69%</td>
<td>117</td>
</tr>
<tr>
<td>Behaviour therapy is an intervention proven to be effective for children with ASDs</td>
<td>66.10%</td>
<td>3.39%</td>
<td>30.51%</td>
<td>118</td>
</tr>
<tr>
<td>Children with ASDs are very similar to one another</td>
<td>1.61%</td>
<td>91.53%</td>
<td>6.86%</td>
<td>118</td>
</tr>
<tr>
<td>Early intervention demonstrates little to no additional benefit to children with ASDs</td>
<td>1.72%</td>
<td>90.17%</td>
<td>8.10%</td>
<td>118</td>
</tr>
<tr>
<td>Certain vaccine additives have been shown to cause ASDs</td>
<td>11.86%</td>
<td>56.78%</td>
<td>31.36%</td>
<td>118</td>
</tr>
<tr>
<td>Medication can alleviate the core symptoms of ASD</td>
<td>5.17%</td>
<td>54.31%</td>
<td>40.52%</td>
<td>116</td>
</tr>
<tr>
<td>Most children with ASDs have cognitive abilities in the intellectually disabled range</td>
<td>11.97%</td>
<td>57.26%</td>
<td>30.77%</td>
<td>117</td>
</tr>
<tr>
<td>In most cases, the cause of ASDs is unknown</td>
<td>68.38%</td>
<td>1.71%</td>
<td>29.91%</td>
<td>117</td>
</tr>
<tr>
<td>Traumatic experiences very early on in life can cause an ASD</td>
<td>1.69%</td>
<td>51.69%</td>
<td>46.61%</td>
<td>118</td>
</tr>
<tr>
<td>Cold or detached parenting can cause an ASD</td>
<td>0.85%</td>
<td>72.03%</td>
<td>27.12%</td>
<td>118</td>
</tr>
<tr>
<td>With early intervention, most children can outgrow an ASD</td>
<td>0.00%</td>
<td>76.92%</td>
<td>23.08%</td>
<td>117</td>
</tr>
<tr>
<td>Students with an ASD are more likely to be targets of bullying, harassment and abuse then students without an ASD</td>
<td>77.12%</td>
<td>5.08%</td>
<td>17.80%</td>
<td>118</td>
</tr>
<tr>
<td>Most students with an ASD come from lower socioeconomic families</td>
<td>0.85%</td>
<td>86.44%</td>
<td>12.71%</td>
<td>116</td>
</tr>
</tbody>
</table>

*Boxes highlighted in green indicate a correct response, whereas red indicates a significant response.

Results II

Examination of Survey Data

Understanding of Autism Spectrum Disorder (ASD)
Incorrect - Don’t Know

<table>
<thead>
<tr>
<th>Description</th>
<th>True</th>
<th>False</th>
<th>Don’t Know</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>The diagnostic criteria for Asperger’s Syndrome are identical to High Functioning Autism</td>
<td>16.10%</td>
<td>22.88%</td>
<td>61.02%</td>
<td>118</td>
</tr>
<tr>
<td>* Most children with ASDs have special talents or abilities</td>
<td>45.76%</td>
<td>32.20%</td>
<td>22.03%</td>
<td>118</td>
</tr>
<tr>
<td>The core deficits of ASDs are Impaired Social Understanding, Language Impairment and Impaired Sensory Functioning</td>
<td>75.42%</td>
<td>2.54%</td>
<td>22.03%</td>
<td>118</td>
</tr>
</tbody>
</table>
Results III
Examination of Survey Data

Educator Practice

<table>
<thead>
<tr>
<th>Description</th>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>No Opinion Neutral</th>
<th>Agree</th>
<th>Strongly Agree</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>I am adequately prepared to work with students who have an ASD.</td>
<td>9.57%</td>
<td>34.78%</td>
<td>15.65%</td>
<td>33.04%</td>
<td>6.96%</td>
<td>115</td>
</tr>
<tr>
<td>I am adequately trained to manage issues related to social impairments</td>
<td>10.34%</td>
<td>39.66%</td>
<td>12.93%</td>
<td>32.76%</td>
<td>4.31%</td>
<td>116</td>
</tr>
<tr>
<td>that may occur with my students identified with an ASD.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I am adequately trained to manage issues related to communication and</td>
<td>12.17%</td>
<td>40.87%</td>
<td>10.43%</td>
<td>33.04%</td>
<td>3.48%</td>
<td>115</td>
</tr>
<tr>
<td>language skill impairments that may occur with my students identified with</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>an ASD.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Students identified with an ASD should have an educational assistant</td>
<td>3.48%</td>
<td>8.70%</td>
<td>33.91%</td>
<td>33.04%</td>
<td>20.87%</td>
<td>115</td>
</tr>
<tr>
<td>present with them in general education classes.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>My experiences with students identified with an ASD have been positive.</td>
<td>2.61%</td>
<td>5.22%</td>
<td>17.39%</td>
<td>53.04%</td>
<td>21.74%</td>
<td>115</td>
</tr>
<tr>
<td>I am adequately trained to manage behavioural issues that may occur with</td>
<td>15.65%</td>
<td>29.57%</td>
<td>16.52%</td>
<td>33.01%</td>
<td>4.35%</td>
<td>115</td>
</tr>
<tr>
<td>my students identified with an ASD.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Boxes highlighted in green indicate a positive response, whereas red indicates a negative response.

Results IV

I would welcome more professional development to help me work effectively with students who have an ASD.

Answered: 116  Skipped: 2

87.07% of respondents indicated that they would welcome more professional development.

<table>
<thead>
<tr>
<th>ANSWER CHOICES</th>
<th>RESPONSES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strongly Disagree</td>
<td>2.59%</td>
</tr>
<tr>
<td>Disagree</td>
<td>8.86%</td>
</tr>
<tr>
<td>No Opinion or Neutral</td>
<td>9.49%</td>
</tr>
<tr>
<td>Agree</td>
<td>49.14%</td>
</tr>
<tr>
<td>Strongly Agree</td>
<td>37.93%</td>
</tr>
<tr>
<td>TOTAL</td>
<td>116</td>
</tr>
</tbody>
</table>
Appendix F

Discussion Graph of Educator Practice

<table>
<thead>
<tr>
<th>Description:</th>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>No Opinion Neutral</th>
<th>Agree</th>
<th>Strongly Agree</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>I am adequately prepared to work with students who have an ASD.</td>
<td>4.92%</td>
<td>34.43%</td>
<td>0.00%</td>
<td>47.54%</td>
<td>13.11%</td>
<td>61</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Description:</th>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>No Opinion Neutral</th>
<th>Agree</th>
<th>Strongly Agree</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>I am adequately prepared to work with students who have an ASD.</td>
<td>22.22%</td>
<td>52.78%</td>
<td>0.00%</td>
<td>25.00%</td>
<td>0.00%</td>
<td>36</td>
</tr>
</tbody>
</table>
SCHOOL OF GRADUATE STUDIES
THESIS/DISSERTATION CERTIFICATE OF EXAMINATION

Certificate of Examination

Supervisor(s):
Dr. Thomas G. Ryan

Examiner(s):
Dr. Sonia Mastrangelo

Supervisory Committee:
Dr. Carlo Ricci

The Thesis by
Andrea Therrien

entitled
A SURVEY OF EDUCATORS' PERCEPTIONS OF AUTISM

is accepted in partial fulfillment of the requirements for the degree of
Master of Education

December 19, 2017
Date

Dr. Kurt Clausen
Chair of the Examination Committee

(original signatures on file)
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<table>
<thead>
<tr>
<th>Family Name:</th>
<th>Given Name, Middle Name (if applicable):</th>
</tr>
</thead>
<tbody>
<tr>
<td>Therrien</td>
<td>Andrea Dawn</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Full Name of University:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nipissing University</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Faculty, Department, School:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Schulich School of Education</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Degree for which thesis was presented:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Masters of Education</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Date Degree Awarded:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dec 19 / 2017</td>
</tr>
</tbody>
</table>

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Given Name: Andrea

Department: Education

Degree for which Major Research Paper/Thesis was awarded: Masters of Education

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