AN EXAMINATION OF PARENTS’ AND EDUCATORS’ BELIEFS ABOUT THE EXPECTED ACADEMIC AND SOCIAL OUTCOMES OF INCLUSION FOR STUDENTS WITH AUTISM SPECTRUM DISORDER

By

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A DISSERTATION

Submitted to
Michigan State University
in partial fulfillment of the requirements
for the degree of

School Psychology - Doctor of Philosophy

2015

ABSTRACT

AN EXAMINATION OF PARENTS' AND EDUCATORS' BELIEFS ABOUT THE EXPECTED ACADEMIC AND SOCIAL OUTCOMES OF INCLUSION FOR STUDENTS WITH AUTISM SPECTRUM DISORDER

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This dissertation examines the beliefs about inclusion held by educators and parents of children with Autism Spectrum Disorder (ASD). As a result of global inclusion initiatives, parent advocacy, and federal legislation, students with ASD are increasingly receiving at least some portion of their education in general education classrooms (United States Department of Education, 2012). Research has suggested that beliefs "permeate one's perception of a concept" (Stoiber, Gettinger, & Goetz, 1998, p. 109) and influence behavior (e.g., educational practice use), thereby shaping student outcomes (Pajares, 1992; Schommer, 1994). As such, beliefs are likely to figure prominently in the educational decision-making processes and to influence decisions about how best to include a child (Sansosti, 2008; Stoiber et al., 1998).

Several studies that have examined the beliefs about inclusion held by parents of children with disabilities and by educators have found mixed results (see de Boer, Pijl & Minnaert, 2010; Scruggs & Mastropieri, 1996 for reviews). However, very few studies have directly compared parents' and educators' beliefs about inclusion, and few have focused specifically on beliefs about the inclusion of students with ASD. Research suggests that the parents of children with ASD may have different beliefs about inclusion compared to parents of children with other disabilities (Bitterman, Daley, Misra, Carlson, & Markowitz, 2008; Kasari, Freeman, Bauminger, & Alkin, 1999). Evidence also suggests that many educators may not feel prepared to work with children with ASD, and perceive them as requiring greater accommodation in order to be included in the general education environment, compared to children with other disabilities (Stoiber, et al., 1998). Thus their beliefs may not be adequately captured within the broader literature investigating beliefs about inclusion for children with disabilities in general.

The current study addressed several gaps in the literature by measuring and comparing parents' and educators' beliefs about the expected academic and expected social outcomes of inclusion for children with mild ASD and borderline moderate ASD. Data were collected using an online survey consisting of demographic sections, vignettes depicting two different children with ASD, and belief scales designed to measure participants' beliefs about the expected academic and social outcomes of inclusion. The analyzed sample consisted of 89 parents of children with ASD who attended mainstream elementary schools, and 102 elementary school educators.

The data were analyzed using a mixed, between- and within-subjects repeated measures ANOVA to examine the effects of group membership (parent of a child with ASD or educator), severity of disability (mild and borderline moderate ASD) and type of expected outcome (academic and social) on participants' beliefs about inclusion. The results suggested that both the severity of ASD and the type of expected outcomes affected participants' beliefs. Participants, on average, reported less positive beliefs about the expected outcomes of inclusion for the child described as having borderline moderate ASD symptoms, compared to the child with mild ASD symptoms. Participants also reported significantly more positive beliefs about the expected social outcomes, compared to their beliefs about the expected academic outcomes, of inclusion. No significant effects of group membership or interactions were found. The practical implications of these findings as well as suggestions for future research are discussed in the final chapter.

To my fiancé, Brian Trimble.
To my parents, Ken and Patricia Fortain.

ACKNOWLEDGEMENTS

I would like to thank my advisor, Dr. Sara Witmer, for all of her time, support, and guidance throughout my entire graduate school career. She spent several hours helping me develop and refine my research skills, reviewing drafts and providing constructive feedback. I would also like to thank my other dissertation committee members - Dr. John Carlson, Dr. Summer Ferreri, and Dr. Brooke Ingersoll - for providing support and guidance whenever I needed it during the dissertation process. Finally, I am so very thankful for my parents, Ken and Patricia Fortain, and for my fiancé Brian Trimble, for their endless love, support and encouragement. This research was supported in part by grants from the Michigan State University College of Education, the School Psychology Program and the Michigan State University Graduate School.

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KEY TO ABBRIEVIATIONS

APA	American Psychological Association
ASD	Autism Spectrum Disorder
ANOVA	Analysis of variance
CDC	Centers for Disease Control
DS	Down syndrome
DSM-5	Diagnostic and Statistical Manual of Mental Disorder (5th ed.)
EO	Expected outcome
GLM	General linear model
IDEIA	Individuals with Disabilities Education Improvement Act
IEP	Individualized Education Program
LRE	Least Restrictive Environment
MANOVA	Multivariate analysis of variance
MTAI	*My Thinking About Inclusion* survey
MTAI-EO	*My Thinking About Inclusion – Expected Outcomes* subscale
NRC	National Research Council
ORM	*Opinions Relative to Mainstreaming* scale
PATI	*Parent Attitudes Toward Inclusion* scale
Type of EO	Type of expected outcome
USDOE	United States Department of Education

CHAPTER I: INTRODUCTION

The purpose of this study is to gain a greater understanding of the beliefs about inclusion held by educators and parents of children with Autism Spectrum Disorder (ASD). In particular, this study measured and compared their beliefs about the expected academic and social outcomes of inclusion for children with mild and borderline-moderate ASD. The extent to which group membership (i.e., parent vs. educator), severity of ASD, and type of expected outcome effect participants' beliefs was investigated.

Background

In the past several decades, students with disabilities have increasingly been educated with their typically-developing peers in regular schools and in the general education classroom (McLeskey, Henry, & Hodges, 1999; United States Department of Education [USDOE], 2010). For example, in 1989, approximately 32% of all students with disabilities served by public schools spent 80% or more of their time in the general education classroom, compared to approximately 60% of all students with disabilities in 2009 (USDOE, 2011). The term "inclusion" is often used to refer to the "educational programming provided for students in these [general education] settings" (Ryndak, Jackson, & Billingsley, 2010, p. 102).

The growing emphasis on inclusive approaches to educating children with disabilities has been attributed to several factors. These factors include the global human rights agenda and inclusion movement (United Nations Ministry of Educational, Scientific and Cultural Organization [UNESCO], 1994), the advocacy efforts of parents and professional organizations (Erwin & Soodak, 1995; Ryndak, Downing, Jacqueline, & Morrison, 1995), and the passage of federal education policies and laws (Kavale & Forness, 2000). Within the United States, the Individuals with Disabilities Education Improvement Act (IDEIA) of 2004 is the most recent revision of Public Law 94-142 (the Education for All Handicapped Children Act of 1975). IDEIA (2004) legally mandates that students with disabilities be provided educational services in the least restrictive environment (LRE). Specifically, Section 612-5A of the federal statute requires “to the maximum extent appropriate, children with disabilities, including children in public or private institutions, are educated with children who are not disabled” (IDEIA, 2004, p. 118). It is important to note that IDEIA (2004) does not actually use or define the term “inclusion,” and that the broad nature of LRE provision allows room for interpretation. As a result, “differences of opinion abound on the appropriateness and interpretation of this [LRE] requirement” (Simpson, de Boer-Ott, & Smith-Myles, 2003, p. 117).

One group of students for whom the appropriateness of inclusive educational programming has been questioned is students with Autism Spectrum Disorder (ASD) (Mesibov & Shea, 1996). According to the *Diagnostic and Statistical Manual of Mental Disorders* (5th ed.; *DSM-5*; American Psychological Association [APA], 2013, para. 1 and 6), children with ASD display “persistent deficits in social communication and social interaction across multiple contexts” and “restricted, repetitive patterns of behavior, interests or activities.” The severity and manner in which impairments in these core impairments are expressed by individuals with ASD can vary tremendously, however, both within and between individuals, as well as over the course of one’s lifetime (APA, 2013; National Research Council [NRC], 2001). The complex pattern of skill deficits and commonly associated behavioral characteristics associated with ASD can have profound implications for students’ lives and development, including unique challenges in their development of academic and social skills (VanMeter, Fein, Morris, Waterhouse, & Allen, 1997). Moreover, the nature of the disorder and the variability of students on the spectrum can make educating these students in the general education setting – where instruction is typically provided in a group format – particularly challenging.

Research investigating the effects of inclusion generally suggests that some degree of inclusion can have positive effects on the social and academic outcomes for children with ASD (Chamberlain, Kasari, & Rotheram-Fuller, 2007; Dahl, 2003; Kurth, 2008). However, negative effects – such as social isolation – have also been reported in the literature (Orsmond, Krauss, & Seltzer, 2004). As noted by Handleman, Harris and Martins (2005), only a limited number of studies have investigated the effects of inclusion for students with ASD specifically, and thus conclusions about the effectiveness of inclusion must be made with caution.

Despite mixed research findings about the outcomes of inclusion for students with ASD, many of these students are likely to continue to be served in schools via some degree of inclusive programming, given the current educational climate. Researchers and scholars in the field have suggested that several factors are critical in supporting inclusion efforts, and in promoting positive student outcomes as a result of inclusion. Among these factors are positive beliefs and attitudes about inclusion, and strong, collaborative home-school partnerships (Handleman, et al., 2005; Simpson, et al., 2003).

Rationale

Research has suggested that beliefs "permeate one's perception of a concept" (Stoiber, et al., 1998, p. 109). As such, beliefs figure prominently in educational decision-making processes and they influence decisions about how best to include a child (Sansosti, 2008; Stoiber, et al., 1998). In addition, beliefs have also been suggested to shape educational practices and outcomes (Pajares, 1992; Schommer, 1994) (See Figures 1 and 2). For these reasons, researchers and scholars have stressed that educators having positive beliefs and attitudes about inclusion is critical for supporting the "success of inclusion reforms" (Forlin, Earle, Loreman, & Sharma, 2011, p. 51) (Avramidis & Norwich, 2002; Chow & Winzer, 1992; Hastings & Oakford, 2003).

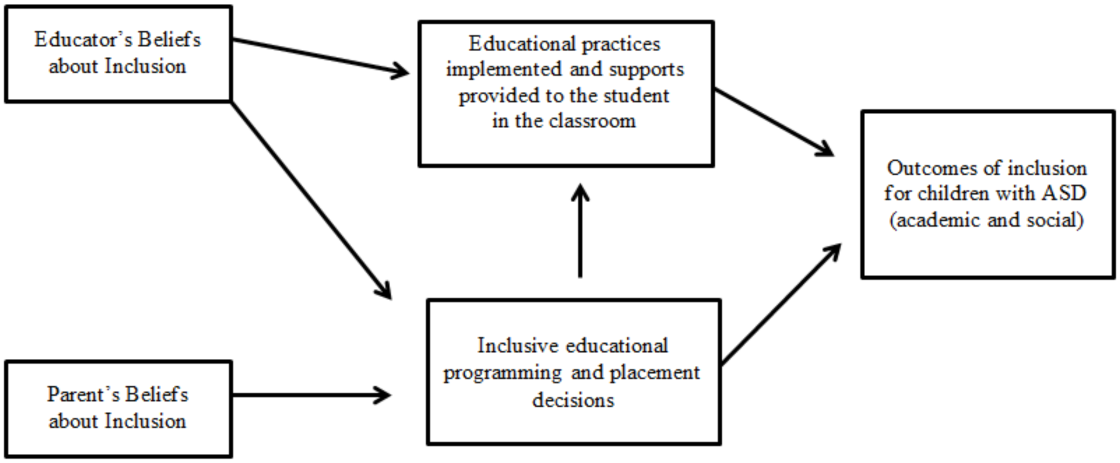

Figure 1. Broader Study Context.

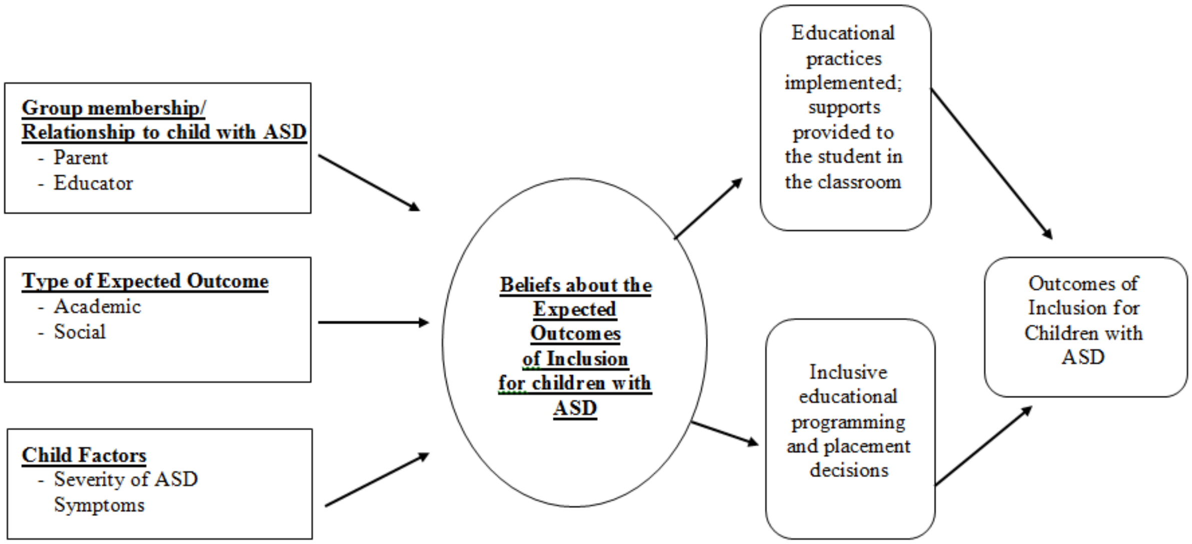

Figure 2. Visual-Conceptual Framework.

Few studies have investigated educators’ beliefs about the inclusion of children with ASD specifically, and those that have done so have resulted in mixed findings about their beliefs. For example, although some research indicates that the majority of educators tend to hold positive beliefs about inclusion for students with ASD (Park & Chitiyo, 2011; Sansosti & Sansosti, 2012; Segall, 2008; Segall & Campbell, 2012), educators also have reported many concerns about meeting the needs of students with ASD, and they do not appear to believe that inclusion is appropriate for all students on the spectrum (Segall, 2008; Segall & Campbell, 2012; Stoiber, et al., 1998).

Educators are not the only stakeholder’s in a child’s education, however. Federal law mandates parent involvement in the development of the child’s individualized education program (IEP), and parents have the ultimate say in the educational programming for their child. The findings of studies investigating the beliefs of parents of children with ASD about inclusion suggest that they may have mixed beliefs about the extent to which inclusion has positive effects on the social and academic development of children on the spectrum (Li, 2002; Sansosti, 2008). Research also suggests that parents and educators often report conflict with one another during to educational programming and decision-making for students with ASD (Bitterman, Daley, Misra, Carlson, & Markowitz, 2008; Mandlawitz, 2002; Sansosti, 2008). Although few studies have examined both parents’ and educators’ beliefs about inclusion, a recent study conducted by Sansosti (2008) found evidence suggesting that educators’ and parents’ frequently report differing beliefs about inclusion. Thus, given that both parents’ and educators’ are stakeholders in a child’s education, and that their beliefs about inclusion play an important role in shaping educational decision-making and in contributing to the success of inclusion efforts, there is a need to explore their beliefs simultaneously in greater depth.

Significance of Study

The findings of the current study may provide a greater understanding of parents' and educators' beliefs about the expected academic and social outcomes of inclusion for children with ASD symptoms of varied severity levels. Given that both parents' and educators' beliefs about inclusion play an important role in shaping educational decision-making and in contributing to the success of inclusion efforts, there is a need to explore their beliefs in greater depth. Specifically, the findings of the current study may provide insight into why some parents and educators advocate for more or less inclusive placements for children with ASD. For example, one common inclusive programming model seen in schools is children with disabilities attending non-academic subjects (like art, physical education, etc.) with their general education peers, but receiving academic instruction in a resource room/self-contained special education classroom. If parents or educators tend to hold very positive beliefs about the social expected outcomes of inclusion, but also hold negative or more neutral beliefs about the expected academic outcomes, they may be more likely to advocate for, or be in favor of, the aforementioned programming, over other more, or less, restricted programming options. By contrast, parents or educators who believe a high degree of inclusion is likely to be highly beneficial at promoting both social and academic outcomes may be less likely to support such programming, and instead prefer the child to be in the general education setting for all academic and non-academic instruction.

Previous research has suggested that beliefs can operate as powerful influences over behavior, particularly with respect to the use of educational practices (Pajares, 1992). Therefore, the findings of the current study may provide insight into whether there is a need to aid parents and educators in developing more positive beliefs about the expected outcomes of inclusion, in order potentially to encourage their use of evidence-based interventions and best practices teaching strategies. Such support could be provided through the dissemination of examples of students with ASD achieving high academic and social outcomes when provided with the necessary supports in the inclusive classroom, for example. Finally, by examining the beliefs held by parents of children with ASD, and by educators about the expected academic and social outcomes of inclusion for children on the spectrum, the current study findings may help identify a potential source of conflict that could impede collaborative educational decision-making and the success of inclusion efforts for students on the spectrum.

Summary of Research Questions

In the current study, parents' and educators' beliefs about the expected academic outcomes and expected social outcomes of inclusion for students with ASD were investigated. Specifically, the effects of group membership (parent of an elementary-school-age child with ASD or elementary school educator), severity of disability (mild ASD vs. borderline moderate ASD) and type of expected outcome (academic vs. social) on participants' expected outcome beliefs were examined.

CHAPTER II: LITERATURE REVIEW

The current study draws on several bodies of research. This section begins by first reviewing the current issues surrounding inclusion, including discussions of the various definitions of inclusion, models of inclusion, and outcomes of inclusion for students with disabilities. Next, the current status and nature of inclusion for students with ASD will be highlighted. Then, the remainder of this chapter focuses on reviewing the literature examining beliefs about inclusion. Within the "Beliefs about Inclusion" section, the studies examining the beliefs of parents of children with disabilities and the studies examining the beliefs of parents of children with ASD are reviewed first. Next, the literature exploring educators' beliefs about the inclusion of these groups of students is described. Beliefs about the inclusion of students with ASD are the primary focus of this study; however, this chapter includes a review of the studies examining both parents' and educators' beliefs about children with disabilities in general, in order to provide the reader with a broader understanding of their beliefs about inclusion, and to highlight variables that appear to be related to these beliefs. Finally, existing research studies that have directly compared parents' and educators' beliefs about inclusion are reviewed, because they provide the specific context for the research questions addressed in the current study.

Inclusion

Several researchers and scholars in the field of education have stated that many different definitions, conceptualizations, and uses of the term "inclusion" exist within the literature (Handleman, et al., 2005; Ryndak, Jackson, & Billingsley, 2010). There is also substantial on-going debate about models of inclusion, particularly between those who support a "full-inclusion" model and those who support a "continuum of services" model. The purpose of this section is to describe the ways in which inclusion is commonly defined and measured within the literature, to highlight briefly the key aspects of the debate surrounding full-inclusion, and to summarize the literature on the outcomes of inclusion for children with disabilities.

Defining Inclusion

As noted by Ryndak, Jackson, and Billingsley (2010), “inclusion” is often used to refer to the “educational programming provided for students in these [general education] settings” (p. 102). However, many different definitions and interpretations of the term “inclusion” are apparent within the existing literature (Handleman, et al., 2005; Ryndak, et al., 2010). Thus it appears that the field has not reached consensus as to what inclusion actually means or encompasses. For example, Handleman et al. (2005) provided a broad definition of inclusion for children with ASD in their review of strategies for supporting the inclusion of these students: “Any situation that brings children with autism together with their peers for specific educational purposes” (p. 1029). By contrast, Farrell (2004) put forth a more nuanced and demanding definition of inclusion that stresses the presence, participation, acceptance, and achievement of students as essential components of inclusion. He emphasized that in order for an educational environment to be “truly inclusive,” all four components must be present. That is, the child must be present in the general education settings, must be accepted by others as a full member of the school/classroom community, must participate actively in school/classroom activities, and must achieve growth and learning (Farrell, 2004, p. 8). Although these are only two examples of the definitions of inclusion, they illustrate the wide variation in inclusion definitions apparent within this body of literature.

A review of the literature revealed that despite many differing definitions, the specific components of these definitions of inclusion appear generally to fall into three categories. These categories include components that refer to placements (e.g., where the student receives instruction), components that refer to the manner in which the curriculum is taught (e.g., practices implemented, activities used, supports in place), and components that focus on a student with a disability's role in the placement or the instructional activities (e.g., engagement, participation, membership) (Ryndak, et al., 2010). However, these components do not appear equally within the literature. Components of inclusion definitions and measures of inclusion that refer to placements (e.g., amount of time spent in the general education classroom; current placement in special or general education) are observed much more frequently in the literature than the other two types of components (Middleton, 2005; Sansosti, 2008). In the current study, which included two vignettes depicting male children with ASD, inclusion is defined for participants as follows: "The child spends at least 90% of his time at school in the general education classroom. Specifically, he receives instruction in all academic skill areas (reading, math, writing, science, social studies) in a general education classroom and attends all non-academic subjects such as art, music, and gym with his classmates. Outside of the general education classroom he receives the following special education services each week: one hour of speech and language services, one hour of occupational therapy, and one hour of physical therapy. Visual supports, social stories, and a positive behavior reinforcement system are in place to support the student throughout the school day." This will reduce the likelihood that participants are responding to the survey items with different interpretations of inclusion in mind.

Models of Inclusion: Full-Inclusion Versus Continuum of Services

Inclusion continues to be a debated topic, and several different models of inclusion are discussed within the educational literature (Harrower, 1999; Kavale & Forness, 2000; Simpson, et al., 2003). Although other, more specific models of inclusion exist (see Guralnick, 2001 for a review), the greatest debate is between those who advocate for full inclusion and those who support a continuum of services. Researchers and scholars who advocate “full-inclusion” emphasize the need for the restructuring of schools and the elimination of special education classrooms/services (Lipsky & Gartner, 1991). Full-inclusion models such as these have been reported to arise out of the broader human rights agenda (Stainback & Stainback, 1996). It has further been noted that many individuals who support these models perceive the categorical grouping of students – which is a component associated with the opposing “continuum of services” views of inclusion models – “to be problematic for moral reasons” (Harrower, 1999, p. 215). Research questioning the effectiveness of special education in supporting positive long-term outcomes for students with disabilities also appears to have played a role in shaping such views on full inclusion, as noted by Jindale-Snape, Douglas, Topping, Kerr & Smith (2005).

By contrast, other researchers and scholars have “called for a more cautious approach” to inclusion and advocate for “continuum of services” models of inclusion within schools (Kavale & Forness, 2000, p. 282). Proponents of these models of inclusion advocate for the preservation of special education classrooms and services. In general, proponents of continuum of services models of inclusion view “full-inclusion” as a one-size-fits-all model that may overlook the individual needs of a child and how those needs can best be met within the educational setting. Additionally, as suggested by Kavale and Forness (2000), proponents of the continuum of services models point to the lack of convincing empirical evidence to suggest that all students with disabilities benefit from full inclusion.

At the core of the debate is the interpretation of the LRE and the “free and appropriate education” (FAPE) requirements of IDEIA (2004). Supporters of full-inclusion models tend to view the least restrictive environment as synonymous with full-time placement in the general education classroom. That is, “No students, including those with disabilities, are relegated to the fringes of the school by placement in segregated wings, trailers, or special classes" (Stainback & Stainback, 1992, p. 34). Further, they argue that a continuum of placements and services model "do not today promote the full inclusion of all persons with disabilities in all aspects of societal life" (Lipsky & Gartner, 1991, p. 52). In contrast, supporters of continuum of services models of inclusion tend to view the least restrictive environment not as a particular placement, but rather focus on issues of FAPE as a reason for needing a continuum of services and placements (Kavale & Forness, 2000). That is, proponents of continuum of services conceptualizations of inclusion have questioned the empirical support for full-inclusion for all students, and they note the lack of research documenting that FAPE services are implemented successfully in inclusive settings for all students with disabilities (e.g. Baker & Zigmond, 1995; Harrower, 1999; Mesibov & Shea, 1996).

Outcomes of Inclusion for Students with Disabilities

In general, research about the outcomes of inclusion for children with disabilities has yielded inconsistent findings (Harrower, 1999; Katz & Mirenda, 2002; Park & Chitiyo, 2011; Ruijs & Peetsma, 2009). Some research suggests that participation in inclusive classrooms can have positive effects on children with disabilities (Buysse, Goldman, & Skinner, 2002; Hunt & Goetz, 1997; National Professional Development Center on Inclusion, 2009). For example, Burack and Volkmar (1992) found that students in inclusive placements had better communication and social interaction skills, and they were better equipped to develop meaningful friendships, than their peers with disabilities in segregated placements. By contrast, minimal differences in outcomes for students with disabilities in inclusive compared to segregated settings have been found in other studies. Specifically, studies have suggested that students with developmental disabilities show improvements in language skills, cognitive skills, and motor skills that are comparable to the gains made by their peers in separate special education placements (McGee, Morrier, & Daly, 1999; Odom, 2000; Peck, Odom, & Bricker, 1993). Additionally, Ferrell (1997) reviewed the outcomes of full inclusion for students with disabilities and concluded that there was inconclusive evidence in support of full inclusion.

Conceptual and methodological differences have been suggested as reasons for the variation in findings about the outcomes and effects of inclusion (Katz & Mirenda, 2002; Ruijs & Peetsma, 2009). For example, inclusion is often described and implemented in very different ways across studies (Odom, 2000). Given that there are several different broad models of inclusive education programs, and considerable variability in service delivery arrangements within programs, findings about the effectiveness of one program may not generalize to all inclusion models. Additionally, experimental designs – which would allow for one truly to understand the effects of inclusion and facilitate the generalization of the findings – are not possible, given that it is unethical to randomly assign students to be fully included or not fully included. Given this ethical limitation, researchers have attempted to draw conclusions about the effectiveness of inclusion using a variety of different comparison groups. For example, as noted by Harrower (1999), some studies have compared students with disabilities in inclusive placements to their peers with disabilities in segregated special education placements, whereas other studies compare the outcomes of students with disabilities in included settings to those of their typically-developing peers. Still other studies lack any type of comparison, which further limits the conclusions that can be drawn, as noted by Ruijs and Peetsma (2009). Finally, very few studies have directly compared full inclusion (i.e., 100% of the time in general education, with any/all additional services provided in that setting) with other models of inclusion, such as the continuum of services models discussed previously. Therefore, researchers often must draw conclusions about the effectiveness of inclusion based on the results for students who have experienced varying degrees of inclusion.

Students with Autism Spectrum Disorder (ASD) and Inclusion

Researchers have questioned the extent to which inclusion is appropriate for students with different specific disabilities. In particular, concerns about whether the needs of students with Autism Spectrum Disorder (ASD) can be met in inclusive settings have been noted (Mesibov & Shea, 1996). In recent years, the prevalence and diagnosis of ASD has been increasing. According to a collaboration project by researchers at the Centers for Disease Control (CDC) and the Health Resources and Services Administration (HRSA), the prevalence of autism has increased 289.5% during the 12 year span between 1997 and 2008 in the USA (Boyle, Boulet, Schieve, Cohen, Blumberg, Yeargin-Allsopp, et al., 2011). The most recent overall estimated prevalence of ASDs in the United States, which is based on data obtained in 2010, is 1 in 68 births (or 14.7 per 1,000 eight-year-old children) (Centers for Disease Control and Prevention [CDC], 2014). This estimate is approximately 30 percent higher than the previous estimate reported just two years ago in 2012.

Children with ASD display impairments in social communication as well as the presence of excessively stereotyped patterns of behavior (APA, 2013; Mash & Barkley, 2006). However, the manner and severity in which impairments in these core areas are expressed by individuals with ASD can vary greatly, both within and between individuals, as well as over the course of one’s lifetime (National Research Council [NRC], 2001). For example, in terms of communication behaviors, children with ASD typically display impairments in the development of spoken language (both expressive and receptive verbal communication skills), with some children never developing verbal language skills.

Evidence suggests that the complex pattern of skill deficits and commonly associated behavioral characteristics of ASD can have profound implications for students' lives and development, including unique challenges in academic and social skill development (VanMeter, Fein, Morris, Waterhouse, & Allen, 1997). Students with ASD often struggle in many academic areas, especially with comprehending written text and applying problem solving skills as a result of their limited communication behaviors (e.g., impaired language skills) and rigid thought processes (USDOE, 2006). Research suggests that there is a strong positive correlation between cognitive functioning and academic achievement for students with disabilities, including students with ASD (U.S. Department of Education, 2006). However, it has been noted that even students with ASD who do not display significant cognitive impairment often still struggle with academic skill development as a result of difficulties with organization, inflexible problem solving skills, and inattention (Sansosti & Powell-Smith, 2006). In addition, impairments in social interaction skills, such as impaired use and interpretation of nonverbal behaviors (e.g., eye contact, facial expressions or gestures), minimal levels of social-emotional reciprocity, as well as difficulties using language to initiate and sustain conversations, can impede friendship development. Furthermore, restricted interests, including obsession and preoccupation with specific objects or topics, can further hinder friendship development. Related challenges can be particularly the case for students with Asperger's syndrome, who may display only mild language impairments but still struggle with peer relationships (Sansosti & Powell-Smith, 2006).

Given the socially-interactive nature of instruction in schools, in which teachers and students communicate with one another in an often highly language-based manner, social and communication deficits may make learning in the classroom particularly challenging for students with ASD. In addition, children on the spectrum also often display comorbid behavioral symptoms such as “hyperactivity, short attention span, impulsivity, aggressiveness, self-injurious behaviors” (APA, 2000, p. 72). However, many general education teachers have reported little training in behavior management (Study of Personnel Needs in Special Education, [SPeNSE] 2001). Moreover, typically within general education classrooms, much of the instruction is presented in a group-based format; thus, the aforementioned behavioral challenges may present additional challenges when including students with ASD in general education classrooms.

Current Status of Inclusion for Students with ASD

Along with the increasing prevalence rate of ASD in the U.S. population, schools have seen a rise in the number of students with ASD receiving services. Specifically, it has been reported that there has been a “35-fold increase in the number of students receiving special education services under the Autism category” (Sansosti & Sansosti, 2012, p. 917-8). The number of students with ASD (ages 3-21) who were served in federally-supported programs during the 1999-2000 school year was approximately 65,000 (USDOE, 2012). Ten years later, during the 2009-2010 school year, approximately 378, 000 students with ASD were served (USDOE, 2012). Moreover, data reported by the US Department of Education indicate that 90.5% of students (ages 6-21) with ASD who received educational services under IDEIA, Part B, in 2009 were served in regular public schools. These data suggest that the vast majority of students with ASD are attending public schools with their typically developing peers. In the remainder of this section, the current status of inclusion for students with ASD (i.e., time spent in the general education classroom, traits of students who are included, and the outcomes of inclusion for students on the spectrum) is discussed.

Time spent in the general education classroom. The increasing prevalence rate and number of students qualifying for educational services under the category of autism, combined with the emphasis on inclusive education, has resulted in an increasing number of students with ASD being present in general education classrooms, for at least part of the day. Data from 2009 indicate that of the 90.5% of all students with ASD ages 6-21 served under IDEIA, Part B, approximately 37.4% of students with ASD were reported to spend 80% or more of their time in the general education classroom; 18.3% of students with ASD were reported to spend 40-79% of time in the general education classroom; and 34.8% were reported to spend less than 40% of the time in the general education classroom (USDOE, 2012). In addition, the proportion of students with ASD spending the majority of their time in the general education classroom appears to have risen quite substantially in the past twenty years: The U.S. Department of Education reported that only 9% of all students with ASD spent 80% or more time in the general education classroom during the 1992-1993 school year, compared to 37.4% of all students with ASD in the 2009-2010 school year (USDOE, 2010; 2012).

Characteristics of included students with ASD. The findings of the few studies that have investigated the relationships between educational placements and child-characteristics suggest that students with ASD who are placed in general education classrooms may share some common characteristics. For example, White, Scahill, Klin, Koenig, and Volkmar (2007) found that students with ASD who had higher IQ scores and greater communication skills tended to be placed in general education classrooms most often. In contrast, those with lower IQ scores and lower communication skills tended to spend more time in pull-out special education classrooms. Similar findings were also reported by Eaves and Ho (1997). These findings should be interpreted with caution, however, given the variability in inclusion definitions present within the literature.

Outcomes of inclusion for students with ASD. The majority of studies suggest that some degree of inclusion has positive effects on various social outcomes and aspects of the social development of students with ASD. For example, studies have found that students with ASD who are included exhibit better social engagement in social interaction skills (Dahl, 2003). Chamberlain et al. (2007) found that included students with ASD had larger peer networks as a result of inclusive settings. Yet there are some findings which suggest less positive social outcomes for students with ASD as result of inclusion. Orsmond, Krauss, and Seltzer (2004) found that students with ASD had fewer friendships and were less accepted by peers - suggesting that students with ASD may not be appropriately socially-integrated into the regular education classroom. In addition, some research suggests that students with disabilities also may encounter increased rejection and isolation when in the general education environment (MacMillan, Gresham, & Forness, 1996).

A limited body of research examining the academic outcomes of inclusion for students with ASD exists, and scholars have noted a need for additional related research (Sansosti & Sansosti, 2012). However, some studies have pointed to positive academic outcomes for children with ASD who have been included. For example, Downing, Eichinger, and Williams (1997) found increases in academic progress and in academic behaviors (e.g., participation and engagement in the classroom) in their study. Handleman et al. (2005) also concluded that inclusion may be appropriate for some higher functioning students with autism, and that some may benefit from full-day participation in general education due to enhanced curriculum access. Kurth (2008) investigated the academic outcomes of 15 adolescents with ASD who had received their education in inclusive and non-inclusive settings. The findings indicated that there were significant differences in standardized academic achievement test scores. Those students who received their education in the general education setting out-performed their peers in non-included settings on the Woodcock-Johnson III Tests of Achievement. Students who were included were also reported to have greater access to the general education curriculum; however, no significant differences were reported for IQ or for adaptive behaviors.

In summary, the majority of studies that have investigated the social and academic outcomes of inclusion for children with ASD suggest positive results (Chamberlain, et al., 2007; Dahl, 2003; Downing et al., 1997; Kurth, 2008). However, conclusions about the effectiveness of inclusion for children with ASD must be made with caution, because only a limited number of studies have investigated the effects of inclusion for students specifically with ASD, as noted by Handleman, et al. (2005). Additionally, conclusions should be drawn tentatively because some scholars have concluded that full-time placement in the general education classroom appears to have little positive effects above and beyond special education placements or resource room supports (Harris, Handleman, Kristoff, Bass & Gordon, 1990; Mesibov & Shea, 1996). Moreover, as noted by McGregor and Campbell (2001), a number of conceptual and methodological differences in the studies (e.g., different models or definitions of inclusion used, lack of comparison groups or control students) make it difficult to effectively summarize and interpret the results.

Beliefs about Inclusion

In this section, the literature examining the beliefs about inclusion held by parents of children with disabilities is reviewed briefly first. The beliefs of parents of children with ASDs are discussed at length in the second section. Then, educators' beliefs about inclusion for children with disabilities in general and for children with ASD specifically are reviewed. Finally, the studies that have compared parents' and educators' beliefs about inclusion are summarized.

Research has suggested that parents' and educators' beliefs are complex and multi-dimensional in nature (Green & Stoneman, 1989; Hyson & Lee, 1996; Palmer et al., 1998; Sigel, McGillicuddy-DeLisi, & Goodnow, 1992; York & Tundidor, 1995). Therefore, in an effort to capture the multi-dimensionality of the beliefs about inclusion held by individuals belonging to the aforementioned groups, subheadings are included within each section.

Beliefs about Inclusion Held by Parents of Children with Disabilities

Research investigating the beliefs about inclusion held by parents of children with disabilities has resulted in mixed findings. Specifically several studies indicate that in general, parents of children with disabilities report holding positive beliefs about inclusion and are generally supportive of inclusion (Bennett, DeLuca, & Bruins, 1997; Fisher, Pumpian, & Sax, 1998; Guralnick, 1994; Guralnick et al., 1995; Rafferty, Boettcher, & Griffin, 2001; Rafferty & Griffin, 2005; Ryndak et al., 1995; Yasutake & Lerner, 1997). For example, Leyser and Kirk (2004) found that more than 85% of the 437 parents of children with disabilities reported strong beliefs in support of the general philosophy of inclusion. That is, the vast majority of participants reported agreement with the following two statements comprising the fourth and final factor on the Opinions Relative to Mainstreaming scale (ORM; Antonak and Larrivee; 1995) used by Leyser and Kirk (2004): "Special needs students should be given every opportunity to function in the regular classroom setting where possible"; "I feel my child with a disability should have the same privileges and advantages as my other children have in school" (p. 277). The results of other studies have also suggested that parents of children with disabilities tend to hold similarly positive global attitudes toward opportunities for inclusion (Miller et al., 1992; Rafferty et al., 2001).

On the contrary however, several of these same studies have noted that parents of children with disabilities also report many concerns about inclusion and inclusive educational placements. For example, in the same study discussed previously, Leyser and Kirk (2004) found that parents reported concerns about several different practical aspects of inclusion: educators' attitudes, training, and skills; the quality and individualization of instruction; and support from school staff and/or other parents. Similarly, the results of other studies have found evidence suggesting that parents of children with disabilities have concerns about inclusion. In particular, the research indicates that parents of children with disabilities are concerned about teachers' training and their preparedness to teach students with disabilities (Bailey & Winton, 1987; Blacher & Turnbull, 1982; de Boer et al., 2011; Garrick-Duhaney & Salend, 2000; Guralnick, 1994; Guralnick, Connor, & Hammond, 1995; Fisher, Pumpian, & Sax, 1998; Reichart, Lynch, Anderson, Svobodny, Di Cola, & Mercury, 1989; Turnbull & Ruef, 1997; Turnbull & Winton, 1983; Yasutake & Lerner, 1997); the availability and quality of specialized services and individualized instruction (Green & Shin, 1994; Guralnick, 1994; Guralnick, et al., 1995; Hanline & Halvorsen, 1989; Yasutake & Lerner, 1997); the implementation of the child's Individualized Education Program (IEP) in an inclusive setting (Palmer et al., 1998); the attitudes of teachers/staff or other students (Hanline & Halvorsen, 1989); and their child's physical or emotional safety in inclusive placements (Reichart et al., 1989).

Nevertheless, the authors of several other empirical studies and literature review studies have found evidence suggesting that many parents of children with disabilities believe that inclusive placements are ideal for their child. For example, as part of their larger review study, Garrick-Duhaney and Salend (2000) reviewed 11 empirical studies investigating the beliefs about inclusion held by parents of children with disabilities. The authors concluded that "a majority of parents of children with disabilities support inclusion" (p. 125). However, it has also been noted that a "sizeable minority" of parents prefer segregated or special education placements for their child with a disability (Westling, 1996, p. 13) (McDonnel, 1987, Palmer et al., 1998; Palmer et al., 2001). For example, in 1996, Westling examined the findings of five studies about the beliefs of parents of children with moderate or severe disabilitiesabout the type of setting they wanted their child educated in, as part of a larger synthesis of the literature. Westling (1996) concluded that "while many parents were in favor of integrated and inclusive settings [for their child with a disability], others were not" (p. 12). In these studies, parents reported their beliefs about children with a wide range of disabilities and severity levels. Although the effects of diagnosis and severity were not directly investigated in the aforementioned studies, the mixed findings may possibly be due to differences in the children's diagnoses and severity. Other research has suggested that parents believe the severity of a child's disability is an important factor to take into account in educational planning and decision-making (Middleton, 2005); thus there is a need to explore the extent to which different severity levels influence parents' beliefs about inclusion.

In summary, the findings presented in this section suggest that despite the majority of parents reporting positive beliefs about inclusion and supporting inclusive placements for their child, many parents also have reservations and concerns about inclusive educational placements.

Beliefs about the effects and outcomes of inclusion for children with disabilities. In general, the literature suggests that parents of children with disabilities believe inclusion can have both positive and negative effects on several aspects of children with disabilities' development and functioning. Specifically, several studies have indicated that parents believe inclusion has positive effects on the social (Gibb et al., 1997; Lowenbraun, Madge, & Affleck, 1990; Palmer et al., 1998; Yasutake & Lerner, 1997), communication (Ryndak et al., 1995), behavioral (Bennett et al., 1997), and academic (Gibb et al., 1997; Lowenbraun et al., 1990; Ryndak et al., 1995) skills and functioning of children with disabilities. Beliefs about inclusion helping to prepare children with disabilities for the real world and aiding in promoting increased acceptance of children with disabilities have also been suggested in the literature (Guralnick, 1994; Leyser & Kirk, 2004).

However, parents of children with disabilities also appear to have concerns about the potential for inclusion to have negative effects on children with disabilities. For example, concerns about their child being socially isolated (Leyser & Kirk, 2004), or experiencing rejection or mistreatment from their typically developing peers have been reported in several studies (Guralnick, 1994; Guralnick, et al., 1995; McDonnel, 1987). In addition, Leyser and Kirk (2004) found that approximately 40% of the sample thought that the academic skills of children with disabilities develop more quickly in special education classrooms than in general education classrooms – suggesting that some parents may have concerns about the extent to which their child may benefit academically from inclusive placements.

Very few studies have directly compared parents' beliefs about the effects of inclusion on different aspects, or domains, of the skill development of students with disabilities. Two examples of such different domains include beliefs about academic outcomes versus social outcomes of inclusion for children with disabilities. One study that investigated specific domains, however, was conducted by Palmer, Borthwick-Duffy, and Widaman (1998). Their findings suggest that parents of children with disabilities may be more positive about some effects of inclusion compared to others. Using the 11-item Parent Attitudes Toward Inclusion (PATI) scale, they examined the beliefs of parents of children with significant cognitive disabilities about the effects of inclusion on three outcomes for their own child. The PATI comprises three factors: Quality of Educational Services, Mutual (social) Benefits of Inclusion (for children with and without disabilities), and Child Acceptance and Treatment (coefficient alphas: .80, .82, and .66, respectively). Items are rated using a six-point Likert-type scale, with higher scores reflecting more positive attitudes. They found that the parents of children with significant cognitive disabilities held more positive perceptions about the effects of inclusion on mutual social benefits (M = 4.01) and the acceptance/treatment of their child (M = 3.62), compared to the effects of inclusion on the quality of the education their child would receive (M = 2.80). Additionally, this finding appears consistent with previous research indicating that parents may have concerns about the availability of individualized support and services in the general education setting – and perhaps greater concerns about academic skill growth in the general education setting – as reflected by lower scores on the Quality of Educational Services factor.

Variables related to parents' beliefs about inclusion. The literature also suggests that the beliefs about inclusion held by parents of children with disabilities may be influenced by, or related to, a number of child-related, parent-related, and "experience with inclusion" variables. For example, in 1998, Palmer, Borthwick-Duffy, Widaman, and Best investigated the extent to which several child-related, parent-related, and educational placement history variables predicted the beliefs about five aspects of inclusion held by parents of children with cognitive disabilities (i.e., their beliefs about the effects of inclusion on the quality of their child's education, mutual social benefits, acceptance of their child, beliefs about full inclusion for children in general, and full inclusion for their child). Their findings indicated that the following variables were most frequently found to predict more positive beliefs about various aspects of inclusion among parents of children with severe disabilities: valuing socialization as a goal of education, having children who display greater cognitive skills and fewer problem behaviors, and having children who spend a greater amount of time in the general education classroom. Conversely, having a child spend more years in a special education classroom was found to be related to less positive beliefs. These variables reflect parent-related variables, child-related variables, and "experience with inclusion" as potentially being important predictors of parents' beliefs about inclusion. The next section explores these variables in greater depth.

***Child variables*.** Research suggests that the severity of a child's disability may be related to parents' beliefs (Leyser & Kirk, 2004; Palmer, et al., 2001; Rafferty, et al., 2001). Based on participants' self-reports of the severity of their child's disability, Leyser and Kirk (2004) found that parents of children with mild disabilities reported significantly more positive beliefs about the benefits of inclusion and about teachers' abilities to educate students with disabilities, compared to parents of children with moderate and severe disabilities. Rafferty et al. (2001) found that parents of children with disabilities enrolled in a community-based pre-school program strongly supported the inclusion of children with mild disabilities, supported the inclusion of children with moderate disabilities, and were neutral in their support for the inclusion of children with severe disabilities. The participants were also least positive about the inclusion of children with autism, cognitive impairments, and emotional/behavioral disorders, but the mean survey responses for these children fell in the neutral range, with rather large standard deviations, suggesting considerable variability in these beliefs among the participants.

The relationship between a child's age and parents' beliefs has also been investigated frequently; however, these studies have yielded mixed findings. For example, Leyser and Kirk (2004) found that parents of younger children (ages 0-5 and 6-12) reported significantly more positive beliefs about educators preparedness to teach students with disabilities, compared to parents of older children (ages 13-18+). Similar findings were reported by Turnbull and Ruef (1997). In contrast, Ryndak et al. (1995) concluded that all 13 of the parents of children with moderate/severe disabilities included in their qualitative study reported positive perceptions about inclusive general education settings “regardless of the age of their child” (p. 147).

Parent variables. The results of several studies have found evidence indicating that parents with higher education levels (college degrees or beyond) report more positive beliefs about inclusion than those with less education (Leyser & Kirk, 2004; Palmer, et al., 1998; Stoiber, et al., 1998).

“Experience with inclusion” variables. In general, the findings of a few studies indicate that parents with greater experience with inclusion report more positive attitudes about inclusion and favor inclusive placements for their children (Palmer, et al., 1998; Williams, Fox, Thousand, and Fox, 1990). These findings indicate that parents want their child’s current placements to continue. However, parent advocacy may have shaped the child’s (current and/or past) educational placements. Thus the full nature of the relationship between these variables is not clear: Is it the child’s placement that is influencing the parents’ beliefs about inclusion, or have parents’ beliefs about inclusion played a large role in influencing the child’s educational placement? In other words, some parents may have advocated for inclusive placements *because* they held strong positive beliefs about inclusion, and thus, now that their child is in an inclusive setting, they want that placement to continue and may continue to have positive beliefs about inclusion. It seems likely the relationship is bidirectional, and perhaps influenced by other variables as well. Additional research is needed to clarify this relationship; however, this is beyond the scope of this study.

Conclusions. The review of the existing research examining the beliefs about inclusion held by parents of children with disabilities' indicates that parents tend to hold positive beliefs about inclusion, yet have many concerns about inclusion, too. They also report believing inclusion can have a number of positive effects on children with disabilities (and their typically-developing peers), but they have concerns about the potential for inclusion to have negative effects on children as well. Additionally, the research indicates that the severity of a child's disability may be related to their beliefs about inclusion.

Beliefs about Inclusion Held by Parents of Children with ASD

Despite a rather large body of literature examining the beliefs about inclusion held by parents of children with various disabilities, relatively few studies have explored the beliefs about inclusion held by parents of children with ASD specifically. As noted by Kasari, et al. (1999), the need to examine the beliefs held by parents of children with specific types of disabilities is important because a child's diagnosis is likely to influence "how parents view their children and their educational experiences" (p. 297). That is, the specific nature of a child's disability may shape parental beliefs and perspectives about their child's educational needs, educational goals, and the manner in which these needs and goals can be addressed and achieved within educational settings. Furthermore, research suggests that the parents of children with ASD may hold some unique beliefs about various aspects of inclusion, compared to parents of children with other disabilities (Bitterman et al., 1998; Kasari, et al., 1999; Starr, Foy, Cramer, & Singh, 2006). Thus, their beliefs may not be fully captured within the existing literature, and this is an area in need of additional research.

In this section, the literature examining the beliefs about inclusion held by parents of children with ASD is presented. Their beliefs about several aspects of inclusion are reviewed in the following order: general beliefs about inclusion, beliefs about the ideal inclusive educational placements for children with ASD, beliefs about factors necessary for successful implementation of inclusion, and finally, beliefs about the benefits or outcomes of inclusion for children with ASD.

General beliefs about inclusion held by parents of children with ASD. The results of one dissertation study conducted by Middleton (2005) suggest that, on average, parents of children with ASD hold neutral attitudes towards the inclusion of students with disabilities in the general education setting (N = 278; Mean score = 3.98; SD = 1.08 on the 16 item “Appropriateness of General Education” factor; coefficient alpha reliability = .88). Participants rated the items on a seven-point Likert-type scale with higher scores reflecting more positive attitudes. The results of MANOVA analyses revealed statistically significant effects of the severity of a participant’s child’s disability and participants’ experience with inclusion on their beliefs about inclusion. Parents of children who displayed any of three challenging behaviors (i.e., self-injurious behavior, tantrums, or aggression) were coded as “severe,” and they reported less positive beliefs about inclusion, compared to those parents who reported that their child displayed no challenging behaviors. Parents of children who had “experience with inclusion” (i.e., those with children who had received any of their education in a general education classroom) reported more positive beliefs about inclusion than those participants who reported their child had never been educated in a general education setting. However, small effect sizes of 5% and 7% respectively were found, and this led the author to conclude that these were not “meaningful” findings (Middleton, 2005, p. 100). Despite the small effect sizes, the findings of this study suggest that the severity of a child’s disability and parents’ experiences with inclusion may be related to their beliefs about inclusion.

Beliefs about inclusive educational placements for children with ASD. Research indicates that parents of children with ASD may support models of inclusion that embrace a continuum of placements and services over full-inclusion models that propose the elimination of special education (Kasari et al., 1999; Middleton, 2005; Waddington & Reed, 2006). In other words, parents of children with ASD do not appear to believe that full-time placement in the general education setting is appropriate for all students on the spectrum. For example, in the second part of her dissertation, Middleton (2005) asked participants to select one of eight educational placement options as the ideal placement for the six male children with ASD described in vignettes. The children depicted in the six vignettes varied in age (4, 9, or 15 years of age) and severity (mild or severe). In the severe symptom vignettes, the child was described as having limited verbal communication, displaying aggressive or self-injurious behaviors, achieving academically several grade levels below his peers, and demonstrating difficulty with social interactions even with the presence of supports. The children in the mild symptom vignettes were described as being able to communicate verbally and as lacking aggressive and self-injurious behaviors, but still presenting academic achievement several grade levels below their same-age peers, and difficulty with social interactions even with the presence of supports. The descriptive statistics revealed that the participants selected less restrictive placements as ideal for the mild students, and more restrictive placements as ideal for the severe students. The lower standard deviation obtained for the mild severity vignettes also suggests a greater level of agreement among the participants on ideal educational placement decisions for children with mild severity, compared to their placement decisions for children depicted as severe. Specifically, the results indicated that for each of the three “severe” severity vignettes, the greatest percentage of participants (36-49%) selected the second *most* restrictive option available on the survey that still included the child at the school one would attend if one did not have a disability (i.e., “instruction in a self-contained/special education class in a public school and integration with nondisabled students during non-academic subjects and activities”). In contrast, for the children described in the “mild” severity vignettes, the majority of participants (58-67%) selected one of the two *least* restrictive placement options available on the survey as ideal (i.e., “instruction in a general education classroom with additional support services provided in the general education classroom” or “instruction in a general education classroom with additional support services provided in a separate location”) (Middleton, 2005, p. 66).

Additionally, Middleton’s (2005) findings suggest that two variables may be related to the beliefs about ideal inclusive educational placements held by parents of children with ASD: the severity of the child’s disability and the parents’ experience with inclusion. Specifically, the results of ANOVA analyses indicate that these two variables accounted for 83% and 15% of the variance in parents’ placement choices. As previously noted, participants were more likely to choose less restrictive placements for the children described in the “mild” severity vignettes, compared to the children described in the “severe” severity vignettes. Participants who had “experience with inclusion” (i.e., those who reported that their children had received any of their education in a general education classroom) were found to be more likely to choose less restrictive placements, compared to participants who reported that their children had received the entirety of their education in segregated placements. The age of the child described in the vignette accounted for 10% of variance in parents’ placement choice, but was reported by Middleton (2005) to be lacking meaningful significance. The pattern for age, however, was not consistent across the three ages included in the vignettes: participants chose significantly more restrictive placements for the vignettes describing both the four-year-old child and the fifteen-year-old child than they did for the nine-year-old child. Thus the findings suggest that participants believed less restrictive environments were ideal for elementary age children (i.e., the nine-year-old child vignette) than for preschool-age children or high-school-age children.

Similar to Middleton (2005), the results of other studies have also suggested that parents of children with ASD may not perceive full-time placement in the general education classroom to be appropriate for children with ASD. In 1999, Kasari, Freeman, Bauminger, and Alkin compared the beliefs held by parents of children with ASD and the beliefs held by parents of children with Down's syndrome (DS), about the ideal inclusive educational program for *their* child, using an author-developed survey (N = 113 and 149 for parents of students with ASD and Down's syndrome, respectively). Kasari et al. (1999) found that the parents of children with DS were 72% *more* likely to choose full-time placement in a general education class with additional specialized services, and 135% *less* likely to choose one of the two part-time general education placements, as the ideal choice for their child compared to the parents of children with ASD (odds ratio [OR] = 1.72, $p < .01$; OR = -.35, $p < .001$) (p. 301). This suggests that parents of children with ASD may be less supportive of full-time placements in the general education setting for their child, compared to parents of children with DS. Additionally, analysis of written comments revealed that over 50% of the parents of children with ASD noted that they did not believe that their child's educational needs could be sufficiently addressed in the inclusive setting (i.e., full-time placement in the general education classroom as defined in Kasari et al., 1999), compared to only approximately 25% of parents of children with DS reporting this same belief.

Together, these findings suggest that parents of children with ASD may have unique perceptions about inclusive educational placements compared to parents of children with DS, and that a child's disability may influence parents' perceptions about such placements. Furthermore, the fact that at least some parents of children with ASD in the study did not believe that their child's learning needs could be addressed adequately through full-time placement in the general education classroom raises questions about parents' beliefs about the benefits or outcomes of various educational placements. It seems plausible that parents of children with ASD may have particularly high concerns about their child's social development compared to parents of children with DS, given the differences in the nature of these disabilities. Children with DS and children with ASD substantially differ in many ways, and perhaps the most notable difference may be social behaviors and functioning (e.g., social-emotional reciprocity, social skills, etc.). Children with ASD display impaired social communication as an essential feature of the disability and diagnostic criteria (APA, 2013). Down's syndrome is a genetic disorder that results in mental retardation and developmental delays (Mayo Clinic, n.d.). Although children with DS certainly may need support in developing appropriate social skills as well, this is not a defining feature of the disorder, because it is primarily considered a cognitive disorder. Anecdotally, children with DS are often reported to show interest in peers, and they typically are rather sociable with their peers, whereas children with ASD "often avoid interacting with others, giving the impression of being disinterested" (Kasari et al., 1999, p. 298). Thus one could argue that children with ASD may have greater needs in terms of social skill development than children with DS, given characteristics associated with each disorder. Parents of children with ASD may not perceive full-time general education placements (which may allow greater access to the general education academic curriculum) to be able to provide direct and explicit instruction in social skills or to provide the necessary social supports. There is a need, however, to explore directly parents' beliefs about both the social and academic outcomes of inclusion in order to evaluate this possibility further.

With regard to variables affecting parents' beliefs about the ideal inclusive educational programs for their children, Kasari et al. (1999) also examined the effects of the participants' child's current educational placement and the child's age on the participants' perceptions about the ideal inclusive education program for their child. The results were significant; parents of pre-school and elementary school children were "108% and 51% respectively" more likely to choose placement in the general education classroom as ideal, compared to parents of older students (OR = 2.0, $p < .001$; OR =1.51, $p < .05$; p. 301). Parents of children currently placed in general education (with or without additional services) were 312% more likely than parents of children in special education (i.e., full time placement in special education, or mainstreamed spending part-time in the general education context) to choose placement in a general education class as the ideal program for their child (OR = 4.13, $p < .001$). Thus, in addition to diagnosis, a participant's experience with inclusion (i.e., children whose current placement is in general education) and the child's age may play important roles in shaping parents' of children with ASDs' perceptions about the ideal inclusion programming for their child.

The findings of Bitterman et al. (1998) also suggest that some parents of *young* children with ASD want their children to spend more time in the general education setting with typically-developing peers while at school. In Bitterman et al. (2008), the satisfaction ratings of parents of preschool-age children with ASD with school services were compared to parents' of children with other disabilities, using data collected as part of the Pre-Elementary Education Longitudinal Study (2003-2004 cohort subsample). The results indicated that "more than one fourth of parents of children with ASD felt their child did not spend enough time with typically developing peers, compared to 12% of parents of other children" (Bitterman, et al., 2008, p. 1513). Even after the percentage of time spent in the general education setting was included as a covariate, this finding remained significant (OR = 2.1, $p < .05$) (Bitterman, et al., 2008).

Similar to Kasari et al. (1999), the findings of Bitterman et al. (2008) suggest that parents of children with ASD may have unique concerns about inclusion compared to parents of children with other disabilities, specifically about the time spent with typically-developing peers. It is possible that these findings may also suggest that parents of young children with ASD value and recognize the importance of early social experiences and learning opportunities with typical peers in supporting positive outcomes for students with ASD (Handleman et al., 2005; NRC, 2001).

Beliefs about the factors needed to support successful inclusion of students with ASD. Few studies appear to have investigated the beliefs held by parents of children with ASD about what supports are needed to facilitate the successful inclusion of children on the spectrum. In one study specifically investigating this topic, Jindal-Snape, Douglas, Topping, Kerr and Smith (2005) found that parents believed educators having ASD-specific training and making adaptations/modifications to the general education curriculum in order to increase accessibility were essential in the creation of successful inclusive programs. Middleton (2005) also found that the parents of children with ASD included in her study reported high levels of agreement on two survey items pertaining to factors critical to the success of inclusion: The parents reported high levels of agreement with items referring to both educators having positive attitudes towards inclusion and the need for collaboration amongst parents and educators as necessary for successful inclusion (M = 6.94, SD =.32; M = 6.93, SD =.27). Participants responded to these items using a seven-point Likert-type scale, where higher scores indicated stronger agreement with the survey item. Similar to the findings of Jindal-Snape et al. (2005), several researchers have found evidence indicating that parents believe that educators' knowledge of ASD and having ASD-specific training are critical to providing an "appropriate education" for students with ASD (Batten, Corbett, Rosenblatt, Withers, & Yuille, 2006; Jackson Brewin, Renwick, & Fudge Schormans, 2008; Starr, Foy & Cramer, 2001; Starr et al., 2006; Starr & Foy, 2012; Whitaker, 2007). Although these studies investigated parents beliefs about what supports are needed to provide an "appropriate education" more generally for children with ASD - without specific reference to inclusion or an appropriate education within inclusive settings - they provide some insight into the types of supports parents may believe are necessary for supporting students with ASD. Arguably, then, these studies may also provide some insight into what supports parents of children with ASD may believe are minimally necessary in order for children with ASD to receive an appropriate education within inclusive settings as well.

Beliefs about the benefits and outcomes of inclusion for students with ASD. The research described below in this section suggests that parents of children with ASD believe inclusion can have a number of positive effects on the development of children on the spectrum (Li, 2002; MacLeod, 2001; Sansosti, 2008). In particular, this research indicates that they believe that inclusion can be beneficial in terms of children's social and communication skill development, and to a lesser extent, their academic skill development. For example, in a dissertation study conducted by Li (2002) semi-structured interviews were used to investigate the beliefs of five parents of children with ASD whose children (ages 2-20) were in "full inclusion" placements. Full inclusion was defined as placement in "the general education setting a student would attend if not disabled, with the provision of appropriate aids and supports," with less than 90 minutes of the school day spent removed from the general education classroom if "necessary for reasons of privacy or need for behavioral or community-based interventions" (Li, 2002, p. 25). Li (2002) reported that all the participants "cited many benefits of full inclusion," including the potential for increases in the social skills, cognitive skills, and communication skills of children with ASD (p. 30). In particular, participants stressed the increased opportunities to learn social and communication skills from observing and interacting with typically developing peers in the general education classroom. The parents also reported that both the students with ASD and their typically-developing peers could benefit from the increased contact with diverse individuals afforded by full inclusion settings – suggesting that they believe that inclusion can promote increased tolerance or acceptance of individual differences among all students.

In contrast, the parents also reported somewhat mixed beliefs about academics. For example, increased access to the grade-appropriate general education curriculum was reported to be a potential benefit for children with ASD; however, the participants also indicated that children with ASD may broadly "learn better" in segregated special education placements because of the specialized services and individualized attention afforded by such placements (Li, 2002, p. 31). This suggests that parents of children with ASD may have more diverse beliefs about the extent to which full inclusion can facilitate positive academic skill development for students on the spectrum, compared to special education placements.

Sansosti (2008) investigated the beliefs of 10 parents of children with ASD about the effects of inclusion on *their own child's* progress and development in five domains (i.e., behavioral/social emotional functioning, communication, academics, recreational/leisure skills, and community integration), using semi-structured interviews. All of the participants' children were included in the general education classroom for at least 80% of the school day. The findings revealed that the parents believed inclusion facilitated the most growth in their child's social functioning and communication skills. Some parents also reported that they believed the increased challenge of the general education setting was generally beneficial for their child, but the specific areas of academic growth reported (e.g., math skills, reading skills) varied considerably. Moreover, the largest academic skill gains were believed to be in skill areas that were already areas of strength for their child, as opposed to areas of academic skill weakness.

Although the research suggests that parents of children with ASD believe inclusion can have a number of positive effects on social skills, communication skills, and academic skills, it also indicates that they believe inclusion can possibly have negative effects on children on the spectrum in these same skill areas. For instance, the parents in Li (2002) reported concerns about full inclusion having negative effects on the social development of students with ASD. Specifically, concerns about social isolation and peer rejection resulting from the child's peers not being "adequately prepared for the placement," or teachers not being sufficiently trained to create socially-inclusive classrooms, were noted (p. 30). Beliefs that the availability of specialized services may be limited in full inclusion programs were also reported by parents. In Sansosti (2008), specific concerns were not reported; however, it was noted that despite the majority of parents believing that his or her child had benefitted from inclusion in at least one aspect of functioning, one parent reported believing his child had made minimal progress in all areas. This suggests that this particular parent did not believe inclusion had been beneficial for his child. Thus it appears that some parents of children with ASD may not believe inclusion has been, or perhaps could be, beneficial for all children on the spectrum, and they may have concerns about the extent to which it could have negative effects.

Within this body of literature several limitations are apparent. For example, beliefs about the effects of inclusion have primarily been investigated with regards to children with ASD *in* *general* (e.g., Li, 2002), or their beliefs about the *perceived* effects of inclusion on *their* individual child with ASD (e.g., MacLeod, 2001; Sansosti, 2008). Given the variability amongst children with ASD, however, it is possible that the beliefs reflected in the literature do not fully capture those of all parents of children with ASD. Moreover, the parents in these studies had children who were spending the vast majority of the school day in the general education setting. In light of the research discussed previously, suggesting that parents' experience with inclusion may shape their beliefs about ideal educational placements (Kasari et al., 1999; Middleton, 2005), it seems likely that parents of children with ASD who are included less or are in segregated placements may have quite different beliefs about the effects of inclusion than those reported by Li (2002) and Sansosti (2008). Finally, these qualitative studies provide some detailed information about parents' beliefs; however, they do not allow for direct comparisons of parents' beliefs about the academic and social effects of inclusion, nor do they allow for systematic investigation into the effects of the severity of the child's disability in the same manner that vignettes do in the current study.

Conclusions. This review of the existing literature revealed that in general, few studies have examined the beliefs about inclusion held by parents of children with ASD. The majority of studies that have been conducted with this population have investigated their beliefs about specific aspects of inclusion, such as their beliefs about the ideal inclusive educational placement for children with ASD (or for their child) (Kasari, et al., 1999; Middleton, 2005), or beliefs about what is necessary for successful implementation of inclusion (Jindal-Snape, et al., 2005; Middleton, 2005). These studies suggest that parents of children with ASD may support continuum of services models of inclusion, as opposed to full-inclusion models that eliminate special education services. Teacher training in ASD and collaboration appear to be elements parents believe to be critical to the successful inclusion of children on the spectrum. Additionally, a couple of studies have examined their beliefs about the effects of inclusion on the development and functioning of children with ASD (Li, 2002; Sansosti, 2008). These studies suggest that many parents recognized the potential beneficial effects of inclusion on children's social and communication skills. Positive effects on academic skills were less salient, but also reported occasionally by parents. Concerns about the potential for inclusion to have negative effects were also reported in these same areas of development, suggesting that parents may have mixed beliefs about the extent to which inclusion has positive effects on the social and academic development of children on the spectrum.

Educators' Beliefs about Inclusion

Several researchers and scholars perceive educators' beliefs and attitudes about inclusion to be a critical element in the success of inclusive education initiatives (Handleman et al., 2005; Meijer, 2003; Simpson, de Boer-Ott, & Smith-Myles, 2003). For example, as noted by Avramidis & Norwich (2002), "It is argued that teachers' beliefs and attitudes are critical in ensuring the success of inclusive practices since teachers' acceptance of the policy of inclusion is likely to affect their commitment to implementing it" (p. 130). In addition, studies have found evidence indicating that educators with more positive beliefs about inclusion report greater use of effective inclusive practices and supports than those with less positive attitudes (e.g., Bender, Vail, & Scott, 1995). These findings provide support for the link between educators' beliefs and their (self-reported) practices in the classroom. As a result of these practical implications, numerous studies have examined educators' beliefs and attitudes about the inclusion of students with disabilities. Additionally, several reviews – both qualitative literature reviews (Avramidis & Norwich 2002; de Boer, Pijl, & Minnaert, 2011) and quantitative syntheses (Scruggs &

Mastropieri, 1996) – have been conducted in attempts to synthesize the findings of this large body of literature. Mixed conclusions have frequently been reported, making it difficult to draw definitive conclusions about educator's beliefs about inclusion.

In this section, educators' beliefs about several aspects of inclusion for children with disabilities are reviewed first. These aspects of inclusion are as follows: beliefs about the philosophy, or concept, of inclusion; beliefs related to the implementation and practice of inclusion; and beliefs about the effects and outcomes of inclusion for students with and without disabilities. The purpose of the aforementioned subsections is to provide the reader with a general understanding of the larger context of educators' beliefs about inclusion. Then, in the next section, the literature on educators' beliefs about inclusion *for students with ASD* in particular will be reviewed in greater depth, because they are most relevant to the current study's focus.

Beliefs about the concept of inclusion. Researchers and scholars investigating educators' beliefs about inclusion have reported inconsistent findings and have drawn different conclusions about whether educators hold positive, neutral, or negative attitudes and beliefs about inclusion. For example, a recent review conducted by de Boer, Pijl, and Minnaert (2011) concluded that educators held "undecided [neutral] or negative" beliefs about inclusion in general (p. 343), whereas the authors of two different earlier reviews of the literature concluded that educators held generally positive beliefs about inclusion (i.e., Avramidis & Norwich, 2002; Scruggs & Mastropieri, 1996). Specifically, de Boer, Pijl, and Minnaert (2011) drew their conclusions based on their quantitative review of 26 studies published during 1998-2008. Nineteen of the 26 studies specifically included surveys or survey items measuring educators' beliefs (as opposed to their feelings or behavioral intentions) about inclusion. In contrast, based on their quantitative synthesis of 28 studies published during 1958 – 1995, Scruggs and Mastropieri (1996) identified eight survey studies that included survey items or subscales investigating the extent to which educators agreed with the concept of inclusion or mainstreaming. They found that 65% of the 7385 educators surveyed reported positive beliefs about, or support for, the "general concept of mainstreaming/inclusion" (Scruggs & Mastropieri, 1996, p. 71). Similarly, based on their qualitative review of studies published between 1980 and 2000, Avramidis and Norwich (2002) concluded that educators held positive beliefs about "the general philosophy of inclusive education" (p. 142).

These discrepant conclusions about educators' beliefs about inclusion may be due to differences in how the empirical studies' data were analyzed and interpreted by the authors of the reviews. For example, had the criteria used by deBoer et al. (2011) for interpreting the findings of individual studies as "positive" been applied to the other review studies, the overall conclusions may have been similar for these different reviews.

Despite mixed conclusions about teachers beliefs about inclusion in general, the authors of each of the review studies previously described (i.e., Avramidis & Norwich, 2002; de Boer et al., 2011; Scruggs & Mastropieri, 1996) found evidence suggesting that educators beliefs about inclusion may be related to, or influenced by, the nature and severity of the included child's disability. Specifically, the authors concluded that there is considerable evidence suggesting that teachers hold more negative beliefs about the inclusion of students with emotional and/or behavioral difficulties (Avramidis, Bayliss, & Burden, 2000; Berryman & Berryman, 1981 as cited in Scruggs & Mastropieri, 1996) and students with moderate/severe intellectual disabilities (Center & Ward, 1987; Forlin, 1995; Soodak, Podell, & Lehman, 1998; Ward, Center, & Bochner, 1994). In contrast, it appears that educators may hold more positive beliefs about the inclusion of students with mild physical, sensory impairments (i.e., hearing or visual impairments) or medical disabilities (Berryman & Berryman, 1981 as cited in Scruggs & Mastropieri, 1996; Center & Ward, 1987, Soodak et al., 1998; Wilczenski, 1992). It has been suggested that these findings may reflect the perception that the former students required greater accommodation than the latter (Scruggs & Mastropieri, 1996). Moreover, these findings indicate that the severity and nature of a child's disability are variables that influence educators' beliefs about inclusion. Very few of these studies appear to have included students with ASD – or specifically asked about educators' beliefs about the inclusion of students with ASD specifically. However, Stoiber et al., (1998) found that the greatest proportion of early educational professionals in their survey reported that students with ASD require the greatest amount of accommodations. Given the unique learning challenges, wide range of skill deficits, and the varied levels of co-morbid behavioral issues displayed by children with ASD, it therefore seems plausible that educators may also hold more negative beliefs about the inclusion of students with ASD. This is not clear, however, based on this existing literature, and thus there is a need to investigate educators' beliefs about inclusion for children with ASD.

Beliefs related to the implementation and practice of inclusion. Although educators' beliefs about the overall concept of inclusion generally appear to be neutral to positive, the extent to which they have positive beliefs towards the actual implementation of inclusion is a slightly different question requiring additional investigation. Several researchers have found evidence indicating that educators have many concerns related to implementing inclusion, indicating that they believe there are many barriers to inclusion. In addition, they have reported several "needs" in order for inclusion to be successful. Specifically, both general education and special education teachers have indicated concerns about whether general education teachers have adequate preparation, expertise, training, and teaching skills to implement inclusion and successfully educate children with disabilities in an inclusive setting (Avramidis & Norwich, 2002; Bennett, et al., 1997; Houck & Rogers, 1994; Gans, 1985; McGregor & Campbell, 2001; Scruggs & Mastropieri, 1996; Vaughn, Schumm, Jallad, Slusher, & Saumell, 1996). Teacher attitudes have also been reported as a barrier and area of concern in some studies (McGregor & Campbell, 2001; Stoiber et al., 1998). Concerns about having adequate time (e.g., planning, preparation or consultation time) to carry out the successful implementation of mainstreaming or inclusion (Bennett et al., 1997; Everington, Stevens, & Winters, 1999; Scruggs & Mastropieri, 1996; Stoiber et al., 1998) and having adequate material and personnel support (e.g., instructional materials; opportunities to collaborate with other educators or obtain support from special education teachers; assistance from teaching aides or paraprofessionals) (Everington, et al., 1999; Gans, 1985; Scruggs & Mastropieri, 1996; Stoiber, et al., 1998; Vaughn, et al., 1996) have also been reported in many studies. In addition, concerns about class size and the need for class sizes to be reduced in order for inclusion to be successful have also been reported (Everington et al., 1999; Gans, 1985; Rose, 2001; Vaughn et al., 1996). The research has also indicated that many educators do not feel competent or confident in their skills to implement inclusion successfully (see de Boer et al., 2011 for a review).

Beliefs about the effects and outcomes of inclusion. The research described previously suggests that educators generally hold neutral to positive beliefs about the concept of inclusion, but that they also may have concerns related to the implementation of inclusion. In this section, the findings of studies examining educators' beliefs about the effects of inclusion are reviewed.

Research suggests that educators hold varied beliefs about the effects of inclusion. In particular, the results of quantitative studies suggest that many (but not all) believe it can generally be beneficial for students with disabilities and their typically-developing peers. Far fewer, however, report positive attitudes about the extent to which inclusion can have specific benefits, such as in gains in students' social or academic skill domains. For example, as part of their larger quantitative synthesis of the literature examining educators' beliefs about inclusion, Scruggs and Mastropieri (1996) found that only 54.4% of the 3,348 educators surveyed in 15 studies "agreed with general statements that students with and/or without disabilities could benefit from mainstreaming/inclusion experiences" (Scruggs & Mastropieri, 1996, p. 65). A greater proportion of special education teachers, compared to general education teachers, however, believed that mainstreaming/inclusion "could provide at least some benefits" to students with and/or without disabilities (66% of special education teachers and 50.8% of general education teachers believed this) (Scruggs & Mastropieri, 1996, p. 65).

General education teachers' beliefs were also reported to vary depending on the wording of the survey items. It was also noted that far fewer general education teachers reported positive beliefs about the specific benefits of inclusion: That is, the proportion of general educators who responded positively to survey items that referred to specific benefits of inclusion (such as those items mentioning academic or social benefits, or items referring to the general education setting as the optimal for promoting the development of these skills) was much lower than the proportion who reported positive beliefs about items referring to inclusion as beneficial in general (33% compared to 67.5%, respectively). These findings suggest that in general, although many educators agree that inclusion can be beneficial in some way for students with or without disabilities, approximately half of all the educators surveyed reported neutral or negative beliefs about the effects of inclusion on children with or without disabilities. They also indicate that general education teachers in particular may vary more in their beliefs about the benefits of inclusion and hold less positive beliefs overall about inclusion having specific benefits for students.

The results of other studies that have investigated educators' beliefs about the specific effects of inclusion indicate that educators tend to hold more neutral beliefs about the effects of inclusion on the social and academic skills of children, with or without disabilities (Garvar-Pinhas & Schmelkin, 1989; McLeskey, Waldron, So, Swanson, & Loveland, 2001). That is, the findings indicate that educators do not report clearly positive or clearly negative beliefs about the effects of inclusion. McLeskey et al. (2001) examined educators' beliefs about various aspects of inclusion for children with mild disabilities (defined by the authors as learning disabilities and mild cognitive impairment). The primary purpose of the study was to compare the beliefs of teachers who were "currently teaching in well-designed inclusion programs with teachers who have not worked in inclusive settings, and who [were] currently teaching in schools where traditional, pull-out special education programs [were] employed" (p. 109; N = 78 and 84 respectively). Two of the 30 items on the author-developed Inclusive School Program (ISP) Survey asked about the effects of inclusion for students with mild disabilities. Participants responded, using a five-point Likert-type scale with higher ratings, reflecting more positive attitudes. With respect to the specific benefits of inclusion, educators with experience implementing inclusion programs reported significantly more positive beliefs than those without that experience on the two items referring to specific effects of inclusion: academic progress and reduced (social) stigmatization. However, clearly positive beliefs were not found for either group. In fact, despite the significant differences, careful analysis of the means suggest that both groups were rather neutral (i.e., ratings fell near three – the neutral rating - on the five-point Likert-type scale) in their reported beliefs about whether students with disabilities can make “adequate academic progress” in the general education setting (M = 3.46 for inclusion group and 2.79 for non-inclusion group), and whether students are less stigmatized as a result of inclusion in the general education setting (M = 3.40 for the inclusion educators and 2.65 for the non-inclusion educators). These results should be interpreted with caution, however, because McLeskey et al., (2001) did not report the standard deviations for any of the items, and thus it is not clear if the means truly capture the participants’ beliefs on these items, or whether there was considerable variability in responses.

In general, the results of several qualitative studies have also suggested that many educators believe that inclusion can provide some benefits to students with and without disabilities. In particular, these studies provide greater insight into educators’ beliefs about the social benefits of inclusion. For example, research has suggested that educators believe inclusion can be beneficial for students with disabilities primarily in the social domain, by providing increased opportunities to interact with typically-developing peers, and to observe peer models in included settings (Leiber, Capell, Sandall, Wolfberg, Horn, & Beckman, 1998; Marchant, 1995; McGregor & Campbell, 2001). Additionally, educators have reported beliefs about inclusion having positive effects on the language, communication and cognitive skills of students with disabilities (Seery, Davis, & Johson, 2000). Educators have also been found to believe that inclusion can aid students without disabilities in learning about individual differences and becoming more accepting of such differences; in becoming more compassionate and empathetic individuals; and in recognizing the needs of others and helping others (Leiber et al., 1998; Peck, Carlson, & Helmstetter, 1992).

Several limitations are apparent within this body of literature examining educators’ beliefs about the effects of inclusion for children with and without disabilities. For instance, one critical limitation apparent within this body of survey literature pertains to the level of investigation and analyses conducted. The studies that have examined educators' beliefs about the benefits of inclusion have primarily done so by using surveys – surveys that only included one or a few items pertaining to benefits, within the larger measures of attitudes or beliefs about inclusion. Very few studies have investigated beliefs about the effects of inclusion as the primary focus or purpose of the study, using a technically adequate scale. Thus the conclusions drawn by Scruggs and Mastropieri (1996) and other studies about educators' beliefs about the effects of inclusion have primarily been based on individual survey items - which can only provide a very limited understanding of their beliefs about the benefits of inclusion.

Furthermore, direct comparisons of educators beliefs about the academic and social benefits of inclusion are absent from the literature. This may be due to the fact that methodologically it would be inappropriate to conduct such comparisons using participants' responses to a single survey item, because it is unlikely that one survey item fully captures their beliefs about the benefits of inclusion in either the social or academic domain. For example, in McLeskey et al. (2001), the social item pertains to reduced stigmatization, which is only one element of the social domain. Individual survey items also lack the internal consistency that tools designed specifically to measure beliefs about the effects of inclusion in both domains would add to the literature base. A survey designed with similar questions about the academic and social outcomes of inclusion would allow for a direct comparison of educators beliefs about these two specific types of outcomes.

In addition, the majority of studies that included items about the effects of inclusion referred generally to "handicapped students" or "students with special needs" or "students with disabilities." These are very broad, vague terms that provide essentially no information about the nature or severity of a child’s disability, or one’s associated learning needs. Moreover, it does not appear that any studies have provided participants with vignettes or behavioral descriptions of a student with “special needs” or “handicaps” to use as a referent while completing the surveys. Although children with the same disability do not necessarily have the same learning needs (i.e., individual differences exist within groups of students with the same disability), without vignettes or any description of the children being referred to, it seems highly likely that educators may have been responding to the survey items with very different conceptualizations of a “child with a special needs” or “mild disability” in mind. The use of vignettes could help ensure educators are reporting their beliefs about similar children. This may explain the varied results across studies – particularly about the specific benefits of inclusion. In light of the literature suggesting that disability type and severity may be related to educators’ attitudes and beliefs about the broader concept of inclusion (e.g., Avramidis & Norwich, 2002; Scruggs & Mastropieri, 1996; Soodak et al., 1998), it seems plausible that these variables may also be related to their beliefs about specific aspects of inclusion, such as the expected social or academic effects and outcomes of inclusion.

Educators’ Beliefs about the Inclusion of Students with ASD

Given the unique characteristics and challenges associated with the education of students with ASD, the current section seeks to build upon the previous section about educators’ beliefs about students with disabilities in general by exploring educators’ beliefs specifically about the inclusion of students with ASD. Several studies indicate that the majority of educators tend to hold positive beliefs about inclusion for students with ASD (Park & Chitiyo, 2011; Sansosti & Sansosti, 2012; Segall, 2008; Segall & Campbell, 2012). However, educators also have reported many concerns about meeting the needs of students with ASD, and they do not appear to believe inclusion is appropriate for all students on the spectrum (Segall, 2008; Segall & Campbell, 2012; Stoiber et al., 1998). In this section, the research supporting the aforementioned findings studies are reviewed first, and then educators' beliefs about the effects and outcomes of inclusion for students with ASD and their typically-developing peers are reviewed.

Beliefs about the inclusion of students with ASD. Segall and Campbell (2012) surveyed 196 educational professionals using an updated version of the *Autism Inclusion Questionnaire* (*AIQ*; Segall, 2008); they found that 92% of the participants reported positive attitudes about the inclusion of students with ASD. The remaining 8% of participants reported neutral attitudes. A seven-point Likert-type scale was used, and total scores of 35 or higher indicated positive attitudes, 22-34 indicated neutral attitudes, and scores 21 or below indicated negative attitudes. Despite the majority of participants reporting positive attitudes, significant differences were found among the groups of participants included in the sample: special education teachers (*M* = 42.4, *n* = 69) reported significantly more positive attitudes than both the administrators (*M* = 39.9, *n* = 39) and general education teachers (*M* = 38.9, *n* = 50). The school psychologists (*M* =41.6, *n* = 31) were significantly more positive in their ratings than the general education teachers. In another study, based on the comments provided by 15 educational professionals during focus groups and individual interviews, Sansosti and Sansosti (2012) concluded that "educators spoke in mostly positive terms about inclusive education" (p. 924).

Despite reporting generally positive attitudes towards the inclusion of students with ASD, the results of other studies suggest that educators may have some unique beliefs and concerns about including students with ASD, compared to including students with other disabilities. Stoiber et al. (1998) found that early educational professionals in their survey reported that students with ASD require the greatest amount of accommodations in order to be successful in inclusive early childhood settings. As a group, the early childhood professionals also reported that they felt the least prepared to serve children with brain injuries/neurological deficits, visual impairments, and autism, out of the 12 disability types presented to them. Special education teachers within the sample, however, reported greater levels of competence in serving children with autism compared to general education teachers ($F = 2.72$, $p <.05$). In addition, 10 of the 15 participants in Sansosti and Sansosti (2012) reported believing that inclusion “was different” for students on the spectrum (p. 923). They noted that for inclusion to be successful for students with ASD, increased collaboration among educators is likely to be needed to ensure proper supports are in place, and they believe students with ASD require many supports that are unique to their disability, such as social skills instruction, sensory supports, and individual visual schedules.

The literature also suggests that educators do not appear to believe that inclusion is appropriate for all students with ASD. The participants in Segall and Campbell’s (2012) survey on average, were found to be neutral ($M = 4.3$) in response to the following item: ‘‘All students with an ASD should be included in general education settings” (p. 1163). However, group differences were found, with special education teachers reporting greater agreement with that statement than general education teachers. The participants in Sansosti and Sansosti (2012) stressed that inclusion should be made on a case-by-case basis, and they stressed that how a child is included may differ from student to student, particularly with respect to the amount of time the child is in the general education setting.

In summary, the literature suggests that although many educators may hold generally positive beliefs about the inclusion of students with ASD, many also appear to have concerns related to inclusion for these students. Additionally, it would appear educators are more likely to support a continuum of services models of inclusion (rather than models that eliminate special education classrooms), because the literature suggests they do not believe inclusion is appropriate for all students with ASD.

Beliefs about the effects and outcomes of inclusion for students with ASD. Similar to the findings within the broader literature examining educators' beliefs about the effects of the inclusion of students with various disabilities, the results of ASD-specific studies suggest that many educators appear to believe that inclusion can have at least some generally beneficial effects on students with ASD. In Segall's (2008) unpublished master's thesis study, two of the eight items on the author-developed *Autism Inclusion Questionnaire* scale pertained to the effects of the inclusion of students with ASD specifically. Of the 47 educational professionals (i.e., special education administrators, special education teachers, and general education teachers) included in the study, 81% disagreed with the following statement: "Students with classic autism are too impaired to benefit from the activities of a regular school" (p. 68). Although the term "classic autism" may have been interpreted differently by participants, and "the activities of a regular school" also allows for a great deal of interpretation as to what degree or how a child may be included within the regular school, this finding indicates that the majority of the participants believed that students with "classic autism" could benefit in some unspecified way from being included in "the activities" of a regular school. In addition, 89% of the participants agreed that typically-developing students could "benefit from contact with students with an ASD" (p. 68). Together, these findings suggest that many educational professionals may believe that the inclusion of students with ASD can have at least some general (unspecified) positive effect(s) on students with ASD and on their typically-developing peers.

The findings of two qualitative studies investigating educators' beliefs about the inclusion of students with ASD provide insight into their beliefs about the more specific benefits of inclusion for students on the spectrum and their typically-developing peers. In particular, these studies suggest that development in the social domain is believed to be the most salient benefit of inclusion for children with ASD. For example, Sansosti and Sansosti (2012) conducted two focus groups and an individual interview with 15 educational professionals in their study. The sample included eight special education teachers (six taught self-contained classrooms, and two were inclusion resource teachers), three general education teachers, one principal, one assistant principal, one behavior specialist, and one school psychologist. All served students in pre-school or elementary (kindergarten to fifth) grade levels. The authors reported that the participants' comments indicated that they believed inclusion accelerated the development of students with ASD. In particular, the most frequently cited benefits of inclusion were increases in the social and communication skills of students on the spectrum. It was further noted that the participants believed that most of the positive effects were the result of the increased opportunities for social interactions with typically-developing peers and the increased access to peers' modeling of appropriate social or classroom behaviors in the general education environment.

In 2001, McGregor and Campbell investigated the beliefs about inclusion held by three different groups of educators in Scotland: 23 special education teachers, 22 general education teachers who had experience teaching at least one child with ASD ("experienced" general education teachers), and 27 general education teachers who did not have any experience teaching any children with ASD ("inexperienced" general education teachers). Their findings indicate that educators in all three groups reported beliefs about the social benefits of inclusion for students with ASD similar to those reported in Sansosti and Sansosti (2012). Most prominently noted were the increased opportunities to socialize with typical peers and to learn from peers as role models for appropriate social behavior. However, the participants appeared to differ in their beliefs about academic skill growth as a potential benefit of inclusion for students on the spectrum. A small proportion of general education teachers with experience teaching at least one child with ASD reported gains in academic skills as a specific benefit, but none of the inexperienced general education teachers or the special education teachers reported believing this to be a benefit. This finding suggests that many educators may not believe academic skill gains can be supported in the general education context for students with ASD.

Educators generally appear to believe that the inclusion of students with ASD can be beneficial for their typically-developing peers as well. For example, in McGregor and Campbell (2001), the majority of educators reported believing that typically-developing children can become more tolerant and more accepting of others when children with ASD are included in the mainstream school. Similar to the findings within the broader disabilities literature, the educators in McGregor and Campbell (2001) also indicated that inclusion can support the development of caring and empathetic attitudes in typically-developing children.

Conclusions. In conclusion, the studies examining educators' beliefs about the effects of including students with ASD in the general education environment suggest that many believe it can be beneficial for students on the spectrum, particularly in terms of social development. Academic gains appear to be less salient in general, and experience teaching students with ASD may be related to more positive beliefs about the academic benefits for students on the spectrum. However, very few studies have directly investigated or compared educators' beliefs about the social and academic benefits of inclusion, suggesting this is an area in need of additional research. For the typically-developing peers of included students with ASD, the findings suggest that educators generally do report beliefs about the benefits that are similar to those in the broader literature.

Comparison Studies: Parents' and Educators' Beliefs about Inclusion

Beliefs figure prominently in educational decision-making processes, influence decisions about how best to include a child (Sansosti, 2008; Stoiber, et al., 1998) and have also been suggested to shape educational practices and outcomes (Pajares, 1992; Schommer, 1994). Researchers and scholars have also stressed that educators having positive beliefs and attitudes about inclusion is critical for supporting the "success of inclusion reforms" (Forlin, Earle, Loreman, & Sharma, 2011, p. 51). Educators, however, are not the only stakeholder's in a child's education: Parents are stakeholders too. IDEIA (2004) mandates parent involvement in the development of the child's Individualized Education Program (IEP), and parents have the ultimate say in the educational programming for their child. Research however has indicated that IEPs for students with ASD are among the most disputed by parents (Yell, Katsiyannis, Drasgow, & Herbst, 2003), suggesting that parents and educators may hold different beliefs about appropriate inclusive educational programing and placements for children on the spectrum. Additionally, in a more recent study, parents and educators "described conflict situations in which they each saw situations very differently or found they had different beliefs, priorities, or goals for inclusion" (Sansosti, 2008, p. 276). Thus, it appears that parents and educators of children with ASD may hold differing beliefs about various aspects of inclusion. Given that *both* parents' and educators' beliefs are likely to play an important role in shaping educational decision-making and to contribute to the success of inclusion efforts, there is a need to simultaneously explore both groups' beliefs in greater depth.

The current section reviews the literature that has investigated the beliefs about inclusion held by both parents of children with disabilities and educational professionals. Studies that have included both parents of children with disabilities and parents of children without disabilities will also be reviewed where necessary, with the primary emphasis of this review being on those findings pertaining to parents of children with disabilities. Throughout this section, the studies that have specifically focused on the beliefs of parents of children with ASD or on educators' beliefs about the inclusion of students with ASD will be discussed in greater depth because they are most relevant to the current study.

Beliefs and attitudes about inclusion. In general, the studies that have examined the beliefs about inclusion held by parents and educators of students with disabilities have reported inconsistent findings about the nature of their beliefs and mixed findings about who holds more positive beliefs about inclusion. For example, Bennett et al. (1997), found that the teachers surveyed in their study reported significantly *less* positive attitudes about the concept of inclusion for all children compared to the parents of children with disabilities surveyed in their study (N = 84 and 48 respectively) ([t (123) = 6.98, $p < .01$]). Specifically, the teachers reported neutral or uncertain attitudes, whereas the parent participants on average reported positive attitudes towards the concept of inclusion for all children (Teachers: $M = 3.84$, $SD = 1.58$; Parents: $M = 5.54$, $SD = 1.13$) (Bennett et al., 1997, p. 124). The sample in Bennett et al. (1997) included 84 teachers of students in grades preschool through third grade, and 48 parents of 60 children with disabilities in grades preschool through 7th grade. The majority were parents of children with cognitive impairment or behavior disorders who were included in the general education classroom to "varying degrees" (p. 118). The subscale required participants to indicate the extent to which they agreed with each of the items using a seven-point Likert-type scale (higher scores indicated greater agreement and more positive attitudes toward the concept of inclusion). Thus, the findings of Bennett et al. (1997) suggest that teachers may hold less positive beliefs about the concept of inclusion than do parents of children with disabilities.

In contrast to the results of Bennett et al. (1997), the findings of two studies investigating the beliefs about inclusion held by parents and educational professionals of preschool-age children found that the educational professionals reported significantly *more* positive global attitudes toward inclusion (Rafferty & Griffin, 2005), and significantly more positive core beliefs about the concept of inclusion (Stoiber et al., 1998) than parents. In Rafferty and Griffin (2005) the findings indicated that as a group, the educational professionals (N = 118) reported significantly more positive general attitudes towards inclusion than both the parents of children with disabilities (N = 161) and the parents of children without disabilities (N = 76) included in the sample.

In 1998, Stoiber, Gettinger and Goetz developed and used the *My Thinking About Inclusion* (*MTAI*) scale to investigate the beliefs held by educators and parents of preschool children about three aspects of inclusion. Specifically, Stoiber et al. (1998) examined the participants' core beliefs about the concept of inclusion, beliefs about the expected outcomes of inclusion for children with and without disabilities, and beliefs about classroom practices related to inclusion. The results of t-test analyses of the brief 12-item version of the scale indicated that the educators reported significantly more positive beliefs about inclusion compared to the parent participants overall, and on each of the three subscales (t (525) = 4.40, 5.04, 4.07, 2.92, for Total Scale, Core Perspectives, Expected Outcomes, and Classroom Practices, respectively, all ps < .01) (Stoiber et al., 1998, p. 118). The sample in Stoiber et al., (1998) included 150 parents of children with disabilities, 260 parents of young children without disabilities, and 128 early childhood educational practitioners.

In summary, the literature indicates that there are mixed findings regarding parents' and educators' beliefs about inclusion. The findings of Bennett et al. (1997) suggest that parents of children with disabilities may hold more positive beliefs about the philosophy or concept of inclusion than teachers. In contrast, Stoiber et al. (1998) and Rafferty & Griffin (2005) found evidence suggesting that educational professionals may hold more positive beliefs about the concept of inclusion (Stoiber et al., 1998) and more positive global attitudes toward inclusion (Rafferty & Griffin, 2005) than parents of children with and without disabilities. It seems plausible that these mixed findings may be the result of differences in the samples of the studies: the sample in Bennett et al. (1997) predominantly consisted of parents and teachers of elementary school-age children, whereas the latter two studies focused solely on parents and educational professionals of preschool-age children. Whether these different findings reflect true differences in the beliefs about inclusion held by parents and educators of preschool-age children, compared to elementary-age children, is not clear, however.

In addition to their findings pertaining to participants' core beliefs about the concept of inclusion, the findings of Stoiber et al. (1998) suggest that educators of preschool-age children may hold more positive beliefs about other aspects of inclusion - the expected outcomes of inclusion and the classroom practices used to facilitate inclusion - than parents. Other research also suggests that specific identifiable domains of beliefs exist (Hyson & Lee, 1996; Sigel, McGillicuddy-DeLisi, & Goodnow, 1992; York & Tundidor, 1995). Examining their beliefs about these other aspects of inclusion – as opposed to their beliefs about the overall concept of inclusion or global attitudes toward inclusion – may provide a greater understanding of why some parents or educators want a child included whereas others may be more reluctant about inclusion. One area that may be particularly important to investigate further are the beliefs of educators and parents about the expected outcomes (or effects) of inclusion on students with disabilities. This is the focus of the next section.

Beliefs about the effects and outcomes of inclusion. The literature comparing parents' and educators' beliefs about the effects of inclusion suggests that they believe inclusion can have positive effects on children with and without disabilities. For instance, Stoiber et al. (1998) found that early childhood educational professionals were significantly more positive than parents of preschool-age children (with and without disabilities) on the four-item brief version of the Expected Outcomes subscale of the *My Thinking About Inclusion (MTAI*) measure described previously ($t(525) = 4.07$, $p < .01$). Although the means and standard deviations for the total subscale were not reported by the authors, the four item-level means indicate that both groups held generally positive beliefs about the expected outcomes of inclusion, with educators reporting more positive responses on each item. The items on this short-version of this subscale reference various potential positive and negative effects of inclusion on both children with and without disabilities and thus it appears to be a general measure of beliefs about the effects and outcomes of inclusion.

By examining participants' beliefs about the benefits and risks of inclusion separately, the findings of Rafferty and Griffin (2005) provide additional insight into their beliefs about the effects of inclusion. Similar to the sample in Stoiber et al. (1998), Rafferty and Griffin (2005) also investigated the beliefs held by preschool educational professionals (teachers, assistant teachers, and related service providers; N = 118) and parents of preschool-age children with disabilities (N = 161) and without disabilities (N = 76). Specifically, participants' beliefs were investigated using two different short surveys developed by Rafferty et al. (2001): the *Impact of Inclusion on Children with Disabilities Scale* (13 items) and the *Impact of Inclusion on Typically Developing Children Scale* (12 items). Each survey contained two subscales: one measuring beliefs about the benefits of inclusion and the other measuring beliefs about the potential risks (or negative effects) of inclusion for that group of children. The findings of Rafferty and Griffin (2005) indicate that the educational professionals and both groups of parents believe inclusion to have many benefits for children both with and without disabilities. ANOVA analyses revealed no significant differences between the three groups on either of the benefits subscales. However, parents reported significantly greater beliefs about the potential risks of inclusion for both children with and without disabilities than did the educational professionals (F = 16.02, $p < .001$; F = 11.53, $p < .001$ respectively). For children with disabilities, the greatest percentages of participants in both groups agreed that teachers not being properly trained for inclusion were a risk, and that the potential for limited individualized attention/instruction in the included settings was also a risk.

Thus, these findings of Rafferty and Griffin (2005) suggest that parents and educators may share similar concerns about the nature of the potential negative effects of inclusion, but that these beliefs about the risks may be greater for parents than for educational professionals. Further, they may help explain why Stoiber et al. (1998) found that parents were less positive about the expected outcomes of inclusion than educational professionals, given the brief, general nature of the scale.

One limitation to these quantitative studies is that these studies provide little information about their beliefs about specific types of effects or outcomes of inclusion. In general, the findings suggest that parents and educators believe inclusion can generally be beneficial, but they also indicate that parents in particular may have (greater) concerns about potential negative effects of inclusion. However, in order to identify what they believe those potential effects of inclusion to actually be, these studies rely on item-level analysis. For example, the “Risks” scales used in Rafferty and Griffin (2005) measured participants’ beliefs about the risks of inclusion as they relate to various aspects of children's development. Specifically, some items measured beliefs about the social risks of inclusion (e.g., rejection), some were about the academic risks of inclusion (e.g., loss of individualized supports; access to materials and resources), and still others were about behavior-related risks (e.g., too many behavior problems, may learn negative behaviors)

My review of the literature revealed one qualitative study that provides greater insight into the beliefs about the specific effects of inclusion held by parents and educators of children with ASD. Waddington and Reed (2006) used focus groups to explore perceptions about the advantages and benefits of inclusion held by parents of children with ASD and local authority workers who had "experience working with children with ASD" in South East England (n = 23 and 25 respectively; p. 152). The purpose of this study was to obtain a greater understanding of both groups' beliefs about the advantages of inclusion. Inclusion was defined in Waddington and Reed's (2006) study as the placement of a child with ASD in the school he or she would attend if the child did not have a disability (i.e., the "mainstream" school), as opposed to placement in a separate school for children with disabilities.

The results of Waddington and Reed (2006) indicate that both the parents and educators of children with ASD reported believing that increases in the child's social skills and increases in the likelihood of the child having a "normal life" were benefits of mainstream school placements for students with ASD. However, the extent to which the parents and educators focused on these two types of benefits differed. For example, the greatest percentage of educator responses pertained to social skill benefits, indicating that the educators viewed increased social skills to be very important benefits of including students with ASD in their mainstream schools (58% of educator responses; 25% of the parent responses). By contrast, the parents emphasized improving the child’s chances of having a normal life as the most important benefit of inclusion for children with ASD (42% of parent responses; 14% of educator responses). These findings suggest that the parents and educators may have prioritized, or valued, these reported benefits of inclusion differently.

The participants in Waddington and Reed (2006) also differed in terms of their reported perceptions about the benefits of an essential area of educational focus, academic skills. Specifically, 14% of educator responses included academic skill growth as a benefit of mainstream school placements for students with ASD. In contrast, none (0%) of the parent responses in the study indicated that they believed academics to be an advantage of such placements. Despite the fact that none of the parents in this sample reported academics to be a potential benefit of inclusion, these findings do not necessarily mean that parents of children with ASD do not believe that students with ASD can benefit academically from inclusive school settings. A limitation to the focus group methodology employed in this study is that participants were not directly asked about their perceptions of the academic benefits of inclusion. Instead, they were asked a broad question about their beliefs about the advantages of inclusion in mainstream schools. Therefore, a more appropriate conclusion about what the findings of this study suggest is that the academic benefits were (much) less salient for parents, compared to the other benefits that they did mention (e.g., social benefits, improved chances of a “normal life”). It also suggests that the academic benefits of inclusion may be less salient for parents of children with ASD than for educators. However, the focus group methodology again does not allow for testing significant differences between parents and educators. Thus, based on these focus group findings, parents and educators’ beliefs about the academic effects of inclusion on students with ASD are not clear. The current study seeks to fill this gap in the research by using surveys designed specifically to elicit their beliefs about the academic and social outcomes of inclusion, and to allow for direct comparison of their beliefs about these outcomes.

Beliefs about factors that support or hinder successful inclusion. Waddington and Reed (2006) also examined participants' perspectives about what factors they believed supported and hindered the successful inclusion of students with ASD. The results indicated that parents and educators shared similar beliefs about the important role of school-related factors in supporting successful inclusion: Both parents and educators most frequently indicated that school factors (e.g., the school's openness and willingness to include students with disabilities, and the school's commitment to inclusion) were critical in facilitating the success of inclusion (42% and 38% of responses respectively). However, the participants differed in their beliefs about the roles of child-related factors and Local Education Authority (LEA) factors in supporting or hindering successful inclusion. Specifically, the educators focused much more on child-related factors, whereas the parents prioritized LEA-related factors. Child factors were the second most commonly reported factor supporting the success of inclusion identified by educators (26% of responses), and nearly 50% of the educational professionals' dialogue focused on child factors as hindering successful inclusion. These child factors included individual traits such as limited language and social skills, as well as the presence of challenging behaviors. In contrast, only 7% of parent responses focused on child factors as supporting inclusion, and only 12% of their responses focused on child factors as hindering successful inclusion. Parents instead emphasized LEA factors – such as funding and teacher training – as elements supporting the success of inclusion (38% of parent responses), and *limited* funding and/or teacher training as the key reasons for the failure of inclusion efforts (70% of parent responses compared to 31% of educator responses).

These findings suggest that parents and educational professionals may have some different beliefs about how various factors affect the success of inclusion of students with ASD in mainstream schools. Moreover, the LEA workers' emphasis on child factors may indicate that, given their experiences with various individuals with ASD, they were considering the wide range of skills and variability amongst students on the autism spectrum during the focus group sessions. In general, parents may be less likely to have exposure to and experience with other children with ASD on a regular basis, compared to educators. Thus it seems plausible that parents did not place the same emphasis on child-factors as the educators did, because they may have only been thinking about their individual child, as opposed to the range of skills and variability among students with ASD.

These potentially different reference points for responding to the focus group questions suggested by the findings of Waddington and Reed appear to be a limitation of the focus group methodology. The current study seeks to gain greater insight into parents' and educators' beliefs about the role of child-factors – particularly the severity of the child's disability – by using a survey and vignettes. By using this more structured survey methodology, complimented by vignettes describing children with varied levels of severity of ASD, the current study will allow for more direct testing of the role of the severity of a child's disability, and whether parents and educators considered severity (one child-factor) to be important to take into account when thinking about successful inclusion.

Research Questions and Hypotheses

The current study addressed the following research questions.

1. Do participants differ in their beliefs about the expected social outcomes of inclusion, compared to their beliefs about the expected academic outcomes of inclusion, for students with ASD?

It was hypothesized that participants would report more positive beliefs about the expected social outcomes of inclusion than the expected academic outcomes of inclusion for students with ASD. The findings of several studies have indirectly suggested that both parents and educators may believe inclusion to have greater social benefits than academic skill benefits (McGregor & Campbell, 2001; McLeskey et al., 2001; Palmer, Borthwick-Duffy, & Widaman, 1998; Waddington & Reed, 2006). For example, Waddington and Reed (2006) found that a greater proportion of the focus group dialogue of both the parents and the educators of students with ASD were about the social benefits of inclusion, compared to the academic benefits. Moreover, students with ASD by definition display deficits in social skills and interactions. With appropriate interventions and supports in place to facilitate skill development, maintenance, and generalization, interacting with typically-developing peers is generally considered important for students with ASD (Handleman et al., 2005; Schwartz and Davis, 2008). Inclusion in a general education classroom or mainstream school may create greater opportunities for students with ASD to interact with their typically-developing peers. These increased opportunities perhaps may be a more easily recognizable potential benefit of inclusion than academic outcomes for both parents and educators. For the aforementioned reasons, it was expected that participants would report more positive beliefs about the expected social outcomes of inclusion than they would about the expected academic outcomes of inclusion.

2. Does the severity of a child’s disability (mild or borderline moderate ASD) have an effect on participants’ expected outcome beliefs?

It was hypothesized that there would be an effect of severity on participants' expected outcome beliefs. Specifically, it was expected that participants would report less positive beliefs (regardless of type of expected outcome) for the child described as having mild ASD symptoms, compared to the child with borderline moderate ASD symptoms. Few studies have directly examined the effects of severity on parents' or educators' beliefs about inclusion; however, research suggests that both parents and educators may hold more positive beliefs and attitudes about the inclusion of students with mild disabilities (Leyser & Kirk, 2004; McLeskey et al., 2001; Middleton, 2005; Rafferty et al., 2001; Scruggs & Mastropieri, 1996). In particular, research suggests that educators believe inclusion can have general, unspecified beneficial effects for children with mild disabilities (McLeskey et al., 2001; Scruggs & Mastropieri, 1996). The literature examining the beliefs of parents of children with disabilities has suggested that they report more positive beliefs about the inclusion of students with mild disabilities in general education classrooms (Leyser & Kirk, 2004; Middleton, 2005; Rafferty et al., 2001). For example, Leyser and Kirk (2004) found that parents of children with mild disabilities reported significantly more positive beliefs about the benefits of inclusion and about teachers' abilities to educate students with disabilities, compared to parents of children with moderate and severe disabilities. Rafferty et al. (2001) found that parents of children with disabilities enrolled in a community-based pre-school program strongly supported the inclusion of children with mild disabilities, supported the inclusion of children with moderate disabilities, and were neutral in their support for the inclusion of children with severe disabilities. Middleton (2005) explored the beliefs of parents of children with ASD specifically and found that they tended to choose more restrictive placements for children described as severe and less restrictive placements for children described as mild ASD. This severity variable was also found to account for 83% of the variance in parents' placement decisions. The findings of Middleton (2005) indicate that parents of children with ASD did not believe less restrictive placements for students with severe ASD would be as beneficial as more restrictive placements.

Although the aforementioned studies examined beliefs about inclusion in general, there appears to be little evidence to suggest that the effects of severity on participants' beliefs about expected outcomes (academic or social) would be different from those more general beliefs about inclusion. Moreover, despite the fact that there is a great deal of variability among children with ASD (and the manner in which the disability presents across children), it seems plausible that children with borderline-moderate ASD may be perceived by participants as requiring more individualized instruction, more instructional accommodations, and/or more curriculum modifications in order to access the general education curriculum than their peers with more mild ASD. In addition, given the social nature of learning in the general education classroom and that social deficits are a defining feature of ASD; participants may have greater concerns about the ability of a child with borderline moderate ASD to learn both academically and socially in that setting compared to children with mild ASD.

3. Does the relationship between type of expected outcome (academic vs. social) and expected outcome beliefs vary by group membership type (parent vs. educator)?

It was hypothesized that there would be a significant interaction effect for group membership (parent or educator) and type of expected outcome (academic or social) on expected outcome beliefs. Specifically, it was expected that educators would report less positive beliefs about the expected academic outcomes of inclusion than parents, whereas for beliefs about the social outcomes, it was expected that parents would report less positive beliefs than educators.

Research has suggested that educators have concerns about resources (such as personnel support and time to develop instruction accommodations/modifications), and concerns about the skills needed to make instructional modifications and adaptations (de Boer et al., 2011; Everington et al., 1999; Scruggs & Mastropieri, 1996; Stoiber et al., 1998). Despite reporting generally positive beliefs about the inclusion of students with disabilities, Stoiber et al. (1998) found that the early educational professionals included in their survey reported that students with ASD require the greatest amount of accommodations in order to be successful in inclusive settings. It is not clear in the literature whether this perception is shared by all educators, or educators of older children, yet it seems plausible that the concerns about the time, resources, and skills needed to make such accommodations may negatively influence educators' beliefs about the expected academic outcomes of inclusion for children on the spectrum.

This hypothesis about educators beliefs and academic outcomes may appear to contradict the findings of Waddington and Reed (2006), in which 14% of the focus group dialogue of educators of students with ASD was on academics as a benefit of inclusion, compared to 0% of focus group dialogue of parents of children with ASD. However, one limitation to the focus group methodology employed in that study is that participants were not explicitly asked about their beliefs regarding the *academic* benefits of inclusion, limiting the conclusions one can draw about their beliefs about the academic outcomes of inclusion. When beliefs about the expected academic outcomes of inclusion were directly investigated in the current study, it was expected that educators would report less positive beliefs than parents, due to the aforementioned concerns about resources

In terms of the relationship between parent group status and the social outcomes of inclusion, it was hypothesized that parents of children with ASD would report less positive beliefs than educators. Consistent with the broader literature investigating beliefs about the outcomes of inclusion for children with various disorders (Palmer, Borthwick-Duffy, & Widaman, 1998), the findings of ASD-specific studies suggest that many parents and educators believe inclusion can have positive effects on the social development of students with ASD and on the opportunities for social interactions for students with ASD (Sansosti, 2008; Waddington & Reed, 2006). However, Waddington & Reed (2006) found that a greater proportion of the focus group dialogue of educators of children with ASD focused on social benefits than did the dialogue of parents of children with ASD – suggesting perhaps this was a more salient benefit of inclusion for educators than it was for parents. Parents and educators in that study, however, were not explicitly asked about their beliefs about the social benefits of inclusion, and thus there is a need to explore this further.

In addition, research suggests that parents of preschool children with disabilities may have greater concerns about the risks associated with inclusive placements than educators of preschool-age children with disabilities (Rafferty & Griffin, 2005). Although Rafferty and Griffin (2005) did not specifically investigate beliefs about the *social* benefits and risks of inclusion in their study, the broader literature examining parents of children with various disabilities beliefs about the effects of inclusion suggests that parents often also have concerns about potential negative social effects of inclusion, such as isolation and peer rejection (Guralnick, 1994; Guralnick et al., 1995; Leyser & Kirk, 2004; McDonnel, 1987). It seems plausible that these concerns about potential negative social effects of inclusion – such as peer rejection, and isolation – may be particularly salient for parents of children with ASD, given the social impairments characterizing the disorder. Although it is not clear the extent to which these findings in the broader literature are applicable to parents of children with ASD, it seems plausible that parents of children with ASD may be particularly concerned about their child's social development compared to parents of children with other disabilities, given the nature of ASD. For example, Kasari et al. (1999) found that over 50% of the parents of children with ASD noted that they did not believe that their child's needs could be sufficiently addressed in the inclusive setting, compared to only approximately 25% of parents of children with Down syndrome (DS) reporting this same belief. Arguably, children with ASD may have greater needs related to social skill development than children with DS, given the characteristics associated with each disorder. These findings may suggest that parents of children with ASD may not perceive inclusive placements to be able to provide direct and explicit instruction in social skills or to provide the necessary social supports for one's child with ASD.

4. Is there an interaction effect of group membership (parent vs. educator) and severity of ASD (mild vs. borderline moderate) on expected academic outcome beliefs?

It was hypothesized that there would be an interaction effect such that the severity of the student's disability would be particularly strongly related to expected academic outcome beliefs among educators and less strongly related to expected academic outcome beliefs among parents. Educators were expected to report especially negative beliefs about the academic outcomes of inclusion for students with borderline moderate ASD, because of the extra work and time educators may perceive as being involved in supporting these students academically in the general education setting. Additionally, many general educators have reported receiving little training in behavior management and in adapting instruction for students with disabilities (SPeNSE, 2001); thus, this may contribute to more negative beliefs. Students with ASD have also been reported to be a group of students that educators perceive as requiring a great deal of instructional accommodation (Stoiber et al., 1998). Students with borderline moderate ASD in particular may be perceived by educators as requiring more individualized instruction, more instructional accommodations, and/or more curriculum modifications in order to access the general education curriculum than their peers with mild ASD.

CHAPTER III: METHOD

The current study employed a quantitative, mixed within- and between-subject design to examine the effects of three independent variables (group membership, severity of ASD symptoms, and type of expected outcome) on participants' beliefs about the expected outcomes of inclusion. The "group membership" independent variable had two levels (parent/guardian of an elementary-school-age child with ASD, or an elementary school educator) and was a between-subject variable. The "severity of ASD" and "type of expected outcome" independent variables both had two levels (i.e., mild vs. borderline moderate ASD; and academic vs. social, respectively) and were within-subjects variables. In this section, the procedures used to determine the necessary sample size required to detect significant differences is presented first. Next, the sampling procedures, participant recruitment procedures, and the characteristics of the obtained samples are reported. Then, the study measures and procedures are described, including the expert review and pilot study phases. Finally, the data analyses are presented.

Sample Size and Power

Power analyses were conducted for each of the potential significance tests involved in the planned mixed-design ANOVA data analysis method (i.e., tests of the main effects and interactions), to determine the minimum sample size needed to detect significant results in this study. In order to detect a small effect size, with a significance level of 0.05 and a power of 0.80, a total sample of at least 170 participants (85 parents and 85 educators) was required. A response rate of approximately 30% was expected, and thus it was determined that at least 283 teachers and 283 parents should be invited to participate in the survey.

Sampling Procedures

Given the exploratory and comparative nature of the study, a large, diverse sample of parents of elementary school-age students with ASD and elementary school educators was needed. No database of students with ASD across the state of Michigan exists, and school personnel cannot provide the names of students with ASD (or the names of their parents), because this is confidential information within schools. In addition, rather than having participants report on a child with ASD that they know (which may have led to participants reporting their beliefs about inclusion for very different children with ASD), the current study used two vignettes in order to support participants in reporting their beliefs about inclusion for similar children on the spectrum. For the aforementioned reasons, a convenience sample of parents of elementary school-age children with ASD attending mainstream schools and a random sample of elementary school teachers from school districts across the state of Michigan was obtained using the following procedures.

Parent Sampling Procedures

Parent participants were recruited through partnering with autism advocacy groups and parent organizations throughout the state of Michigan. The parent sampling procedures consisted of two phases to achieve the desired sample size. In total, 15 organizations were invited to participate, and six agreed to support the study and email the survey invitation to their members. Additional details about each phase of the parent sampling procedures are provided below.

In phase one, 10 autism organizations from across Michigan were initially contacted via email to elicit their support for the project and to obtain their agreement to distribute the survey invitation to their members via their listserv. Two follow-up emails and a phone call (when a phone number was available) were made to organizations that did not reply, in an attempt to elicit their participation. Of the ten organizations, three agreed to participate (one declined to participate and five were non-responsive). Because of the low participation agreement rate of the invited organizations and a low survey response rate (n = 22) after approximately three weeks of data collection, an additional five organizations were then contacted to elicit their support for the project in phase two. Three of the five organizations contacted in phase two agreed to distribute the survey invitation to their members via email (the other two organizations were non-responsive after two follow-up emails and a phone call). The parent survey invitation was emailed to a total of at least 570 members from the six organizations.[1]

Educator Sampling Procedures

To create the sampling frame, a list of all the local education agency school districts in Michigan was obtained from the MI School Data website. The districts were then coded and sorted by region of the state (i.e., northern-lower peninsula, thumb/central, southeast, southwest, and Upper Peninsula). Next, the percentage of special education students identified as being students with ASD were obtained using the “MI School Data, Special Education Data Portraits - Disability Reports” tool on the MI School Data website (https://www.mischooldata.org/SpecialEducationEarlyOn/DataPortraits/DataPortraitsOverview.aspx). Districts were coded as having greater than, or less than the statewide average percentage of special education students with ASD (7.90%). Within each region group, the districts were then sorted into two groups based on having greater or less than, the statewide average percentage of special education students with ASD. A random number generator was then used to select two districts from each region (one from the subgroup with the higher percentage of students with ASD and one from the subgroup with the lower percentage of students with ASD)

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[1] Three of the organizations did not provide the total number of members the survey was sent to as planned, despite multiple attempts to obtain the information.

to include in the sample. All the teachers in buildings identified as elementary schools in the selected districts were then invited to participate in the study. Participant emails were obtained from the school and/or district websites. Due to an initially low response rate, the aforementioned process was repeated a second time to ensure that the necessary sample size was obtained. This resulted in teachers from elementary schools in 20 districts being invited to participate in the study.

Participant Recruitment and Characteristics of the Obtained Samples

Parent participants were recruited in late spring of 2014 and were invited to participate in the survey via email through the partnering organizations' list-serves. The parent survey invitation is included in Appendix A. Reminders were emailed to parent participants who had started the survey, but not yet completed it, one week after and two weeks after they had started the survey. The parent data collection period lasted eleven weeks. Educator participants were sent the educator survey invitation via email (see Appendix B), and they were also recruited in late spring of 2014. Reminders were emailed to the potential participants who had not completed the survey one week after and two weeks after the initial survey invitations were sent out. Due to the timing of the data collection being near the end of the school year, a final reminder email was sent to all educator participants who had not completed the survey approximately five weeks after the start of data collection. The educator survey was closed after eight weeks of data collection. Each participant received a $15 Amazon.com gift card electronically via email for completing the survey, as was indicated in the survey invitation email. The funding for these incentives was provided by grants obtained from Michigan State University's Graduate School, the College of Education's Department of Counseling, Educational Psychology and Special Education (CEPSE) and the School Psychology program.

Parent Sample Characteristics

A total of 101 parents started the survey, and 97 parents completed the survey. In order to be eligible for participation in the study and inclusion in the data analyses, individuals had to be a parent or legal guardian of an elementary-school-age child with ASD, who currently attended a mainstream school in Michigan. A response rate for the parent survey could not be calculated because it was not feasible (or possible in many cases) for the organizations to invite only eligible parents to participate in the survey. Many of the organizations did not collect the information necessary to determine study eligibility; thus the survey invitations were sent to all their members, rather than only to eligible participants. Two of the four participants who only partially completed the survey did not view, nor respond to, any items on the survey beyond the consent form. These two participants were removed from the dataset because it could not be confirmed that they were eligible for participation in the study. An additional seven participants were removed from the dataset and excluded from all analyses because they were outside the sampling frame (i.e., their children did not attend mainstream schools with their general education peers, or were not elementary-school-age children based on participant report). In summary, nine of the 101 parent participants who started the survey were excluded from all analyses because they were outside the sampling frame or did not provide any demographic information upon which to confirm they were a part of the sampling frame. The demographic data for the total sample of 92 parent participants is described next and included in Table 1 below.

The obtained parent sample was predominantly Caucasian (87.0%), and it included more females than males (88.0% compared to 12.0%). The average age was 48 years old, and the majority of participants had earned a Bachelor’s degree (37.0%) or Master’s or higher degree

(27.2%). With regard to the severity of their own child's disability, 45.7% of the sample indicated that their child was similar to John, the child described as having mild ASD in the study vignettes, and 29.3% indicated that their child was similar to Mark, the child described as having borderline moderate ASD. Less than one-fifth (18.5%) of the sample indicated that their child displayed more moderate or severe ASD. The majority of participants (50.0%) indicated that their child was currently receiving all instruction in the general education classroom. Additionally, 47.8% of the parents reported that they had not experienced any conflict with educators concerning their child's educational program or inclusion.

Table 1

Parent Sample Demographic Information

Demographic Characteristic	Number of Participants	Percentage of Total Parent Sample
Relationship to Child with ASD		
Biological Father	10	10.9
Biological Mother	78	84.8
Adoptive Mother	4	4.3
Gender		
Male	10	10.9
Female	82	89.1
Age		
30 or younger	7	7.6
31-35	23	25.0
36-40	23	25.0
41-45	25	27.2
46-50	12	13.0
51-55	2	2.2
Race		
African American	4	4.3
American Indian/Alaskan Native	0	0.0
Asian/Asian American/Pacific Islander	3	3.3
Caucasian/White	80	87.0
Hispanic	2	2.2
Other (Arabic)	3	3.3

Table 1 (cont’d)

Highest Education Level Completed		
High School	5	5.4
Some College	17	18.5
Associate’s Degree	11	12.0
Bachelor’s Degree	34	37.0
Master’s degree or higher	25	27.2
Child’s Gender		
Male	77	83.7
Female	15	16.3
Child’s Age		
5- 7	31	33.7
8-11	61	66.3
Child’s Grade in School		
Kindergarten – Second	42	45.7
Third – Fifth	50	54.3
Child’s Diagnosis		
Autism Spectrum Disorder	57	62.0
Autistic Disorder	9	9.8
Asperger’s Syndrome	12	13.0
Childhood Disintegrative Disorder	0	0.0
Rhett’s Disorder	0	0.0
Pervasive Developmental Disorder-Not otherwise specified (PDD-NOS)	13	14.1
Unsure/Don’t know	1	1.1
Child’s Severity		
Mild (Similar to John vignette)	42	45.7
Borderline Moderate (Similar to Mark vignette)	27	29.3
Moderate or Severe (i.e., More severe symptoms than Mark	17	18.5
Unspecified	6	6.5
Child’s Current Educational Placement		
All instruction in GE setting with any additional support services (e.g. speech therapy, social work services) provided in that setting or a separate location	46	50.0
Instruction provided in the general education class with additional academic/skill instruction provided in a separate location (e.g., special education or resource room support)	23	25.0
All academic instruction provided in a self-contained or special education classroom. Child does or does not attend non-academic subjects/activities with general education peers	24	26.0

Table 1 (cont'd)

Experienced Conflict with Educators		
Yes	44	47.8
No	46	50.0
Nature of Partnership with Child's Educators		
Not Collaborative at all/Minimally Collaborative	9	9.8
Collaborative Partnership	26	28.3
Strong Collaborative Partnership	23	25.0
Very Strong Collaborative Partnership	32	34.8

Note. Totals and percentages may not add to 100% due to missing data on some demographic items.

Educator Sample Characteristics

A total of 777 educators were invited to participate in this study. One hundred twenty-seven educators started the survey, resulting in a response rate of 16.3%. One hundred twelve educators completed the survey, resulting in a survey completion rate of 14.4%. Fifteen participants only partially completed the survey. One of these 15 participants did not view, nor respond to, any items on the survey beyond the consent form and this person was removed from the dataset because it could not be confirmed that this individual was currently a teacher of children in grades K – 5. Additionally, five participants who completed the survey were removed from the dataset and excluded from all analyses because, based on their self-report of their primary teaching role or the grade level they were teaching at the time of the survey, they were outside the sampling frame (e.g., two paraprofessionals; one school social worker; two teachers of students in grade six). The demographic data for the total useable sample of 121 educator participants is described next and included in Table 2.

The educator sample (n=121) was predominantly Caucasian (92.6%) and included more females than males (87.6% compared to 12.4%). The mean age was 41 years old, and the majority of participants had earned a Master's degree or higher (73.6%). Most of the educators were general education teachers (81.0%). Approximately one-fourth of the sample (24.8%) had 21 or more years of total teaching experience. Teachers with 1-5 years, 6-10 years, 11-15 years, and 16-20 years of total teaching experience represented slightly less than one-fifth of the total sample each (17.4%, 19.0%, 19.8%, and 17.4%, respectively). In terms of experiences teaching children with ASD, 73.6% indicated that they had experience teaching children who were similar to John (i.e., the mild severity vignette) and 62.8% reported experience teaching children who were similar to Mark (i.e., the borderline moderate severity vignette).

Table 2

Educator Sample Demographic Information

Demographic Characteristic	Number of Participants	Percentage of Total Educator Sample
Gender		
Male	15	12.4
Female	106	87.6
Age		
25 or younger	10	8.3
26-30	10	8.3
31-35	24	19.8
36-40	21	17.4
41-45	17	14.1
46-50	19	15.7
51-55	4	3.3
56-60	12	9.9
60 +	4	3.3
Race		
African American	0	0.0
American Indian/Alaskan Native	1	0.8
Asian/Asian American/Pacific Islander	3	2.5
Caucasian/White	112	92.6
Hispanic	3	2.5
Other	1	0.8

Table 2 (cont'd)

Highest Education Level Completed		
Bachelor's Degree	34	28.1
Master's Degree	86	73.6
Current Teaching Role		
Special Education teacher	23	19.0
General Education teacher	98	81.0
Current Grade Taught		
Kindergarten	21	17.4
First	18	14.9
Second	19	15.7
Third	19	16.5
Fourth	20	16.5
Fifth	14	11.6
Multiple grades K-5	10	8.3
Total Years of Teaching Experience		
1-5	21	17.4
6-10	23	19.0
11-15	24	19.8
16-20	21	17.4
21+	30	24.8
Ever Taught a Child with ASD?		
Yes	108	89.3
No	18	9.9
Experience Teaching Children Similar to John (Mild ASD)?		
Yes	89	73.6
No	18	14.9
Experience Teaching Children Similar to Mark (Borderline Moderate ASD)?		
Yes	76	62.8
No	31	25.6

Note. Percentages may not add to 100% due to missing data on some demographic items

Measures

Participants in the current study completed one online survey (either the parent survey or the educator survey). Both surveys consisted of three sections: a demographic and background information section, an expected outcome beliefs section, and a brief, additional/follow-up background information section. The expected outcome beliefs section was identical on both surveys, whereas the demographic and background information items varied slightly and were tailored to the respective survey respondent group. Prior to conducting the full study, the surveys were piloted with a small sample of parents and educators, to ensure the clarity of the survey items and directions. In addition, the results from the pilot study were used to evaluate the internal consistency reliability of the modified expected outcome belief scale. The revisions made to the two surveys based on the pilot study feedback are reported below in the "Procedures" section. The final parent survey took approximately 25-30 minutes to complete; the final educator survey took approximately 20-25 minutes to complete (see Appendices C & D).

Dependent Variables: Expected Outcome Beliefs

The *Expected Outcomes* subscale of the *My Thinking About Inclusion* survey tool (*MTAI-EO* subscale; Stoiber, et al., 1998) measures beliefs about the expected outcomes of inclusion for children with ASD. Specifically, the *MTAI* survey tool was developed and used by Stoiber, et al. (1998), to investigate the beliefs about three aspects of inclusion held by educators and parents of preschool-age children with and without disabilities. The three subscales examine the participants' core beliefs about the concept of inclusion (Core Concepts subscale), beliefs about the expected outcomes of inclusion for children with and without disabilities (Expected Outcomes subscale), and beliefs about classroom practices related to inclusion (Classroom Practices subscale). The *MTAI* also consists of two versions: a brief form (12 total items) and a long form (28 total items). Principal components analysis confirmed the unidimensional structure of the three subscale belief domains, and moderate intercorrelations among the three subscales were found, which provided support for the "conceptually distinct nature of each subscale" (Stoiber et al., 1998, p. 116) and the appropriateness of using the subscales independently to tap specific belief domains, such as beliefs about the expected outcomes of inclusion. For the *MTAI-*

EO subscale of interest in the current study, a Cronbach's alpha of 0.85 for the 11-item long-version subscale was reported by Stoiber, et al. (1998). These findings suggest that the subscale had adequate internal consistency reliability (Kline, 1999).

In the current study, a revised version of the *MTAI-EO* subscale was used. All participants were asked to complete the modified Expected Outcome (EO) Belief scale four times: once under each of the four within-subject independent variable conditions in the current study (i.e., the Mild ASD – Academic EO condition, the Mild ASD – Social EO condition, the Borderline Moderate. The revisions made to the items are discussed below and the altered wording appears in italics in Appendices C and D. First, seven of the 11 original items were modified to measure participants' beliefs about a specific type of expected outcome of inclusion (i.e., either academic or social expected outcomes). These items were modified by inserting phrases such as "academic," "academic skills," or "academically," or "social," "social skills," or "socially" to the existing original items on the *MTAI-EO* where appropriate. Next, given that the purpose of the current study was to investigate the beliefs specifically as they pertained to students with ASD, generic phrases such as "children with special needs" or "children with exceptional needs" in the original items were replaced with "children with ASD like [name of child in the corresponding vignette]." Additionally, the term "integrated classroom" was replaced with "inclusive classroom" in one item for consistency purposes. By revising the items in this way, each version of the scale presented to participants under each condition had seven items that were nearly identical, with the exception being whether the items referred to the academic or social expected outcomes of inclusion and whether they referred to "John" or "Mark" (i.e., the children described in the vignettes as displaying mild ASD symptoms and borderline moderate ASD symptoms respectively). (Please see the "Severity of ASD" independent variable below for detailed information about the vignettes). This allowed for direct comparisons of parents' and educators' beliefs about both the expected social and the expected academic outcomes of inclusion for students with mild and borderline moderate ASD.

Four items from the original *MTAI-EO* subscale were eliminated from the scale used in this study for the following reasons: Two items (items 16 and 23) pertained to outcomes of inclusion for typically developing peers of students with disabilities (which was not the focus of the current study). For example, item 16 on the original scale read "The presence of children with exceptional education needs promotes acceptance of individual differences on the part of *typically developing students*" (Stoiber, et al., 1998, p. 113). The other two items (items 19 and 20) that were eliminated did not make sense, and lacked face validity when attempting to modify them to tap beliefs specifically about the expected academic or social outcomes for students with ASD. These two items pertained to challenging behavior in the inclusive classroom, and to self-concept development. For example, item 19 read "Children with exceptional needs are likely to exhibit more challenging behaviors in an integrated classroom setting" (Stoiber, et al., 1998, p. 113). This item taps beliefs about challenging behavior in the inclusive classroom – which was not the focus of the current study. Adjusting the item to measure instead beliefs about the expected academic skill or social skill outcomes would have required creating a completely new item, because it was not possible to apply the same item modification procedures described above for the retained items to these two items. Thus they were not included in the modified scale. As a result, the scale used in the current study consisted of seven (modified) items from the original *MTAI-EO* subscale.

As noted by Ryndak, et al. (2000), many studies published in recent years do not provide any definition of inclusion for participants. By leaving inclusion undefined, participants may have been responding to the survey with very different interpretations of "inclusion." To address this potential issue in the current study, inclusion was defined for participants as follows:

> The child spends at least 90% of his time at school in the general education classroom. Specifically, he receives instruction in all academic skill areas (reading, math, writing, science, social studies) in a general education classroom and attends all non-academic subjects such as art, music, and gym with his classmates. Outside of the general education classroom he receives the following special education services each week: one hour of speech and language services, one hour of occupational therapy, and one hour of physical therapy. Visual supports, social stories, and a positive behavior reinforcement system are in place to support the student throughout the school day.

This information was provided to the participants after each vignette, which depicted male children with ASD, as part of the belief scale directions.

Participants were asked to indicate the extent to which they agreed or disagreed with each of the scale items, using a five-point Likert-type scale. Lower scores reflected more positive beliefs about the expected outcome of inclusion (1 = strongly agree; 2 = agree, 3 = neutral/undecided, 4 = disagree, 5 = strongly disagree). Consistent with the original *MTAI-EO* subscale procedures, three of the revised scale items (items 2, 3, and 7) were reverse coded prior to computing the total scale scores, because these items were framed in such a way on the scale that agreement with the statement indicated negative (rather than positive) beliefs about the expected outcomes of inclusion. Total scale scores were calculated by summing participants' responses to the seven scale items presented in each study condition (i.e., the total scale score obtained for the dependent variable in each study condition could range from 7-35).

Independent Variables

Group membership. Each participant only completed one survey (either the parent or educator survey), and thus group membership was considered a between-subjects variable. A dummy variable was computed based on which survey the individual completed and on a review of the demographic items, to ensure that all participants met the inclusion criteria for the study (i.e., currently was a parent/legal guardian of an elementary-school-age child with ASD, or an elementary school teacher). Parent participants were coded as two (2) and teacher participants were coded as one (1) in the dataset.

Severity of ASD. This variable was treated as a within-subject variable: Each participant was presented with both vignettes that were used to manipulate the severity of ASD (i.e., mild vs. borderline moderate ASD) in this study. The vignettes were provided, along with the modified beliefs scales on the survey, and participants were directed to complete the belief scales while thinking about the target child described in the vignette. The vignettes were developed through careful examination of the Diagnostic and Statistical Manual of Mental Disorder (5th ed.; *DSM-5*; APA, 2013) diagnostic criteria for Autism Spectrum Disorder. Specifically, the features of the children with ASD were created to align with those presented in the "Level 1 - Requiring Support" severity level, as defined by the DSM-5 (APA, 2013). The child depicted in the borderline moderate ASD vignette displayed greater impairments in social communication and restricted, repetitive behaviors than the child depicted in the mild ASD vignette; however, the nature of his symptoms were less severe than those described in the DSM-5 as "Level 2 – Requiring Substantial Support" and thus the severity level of the former was considered as "borderline moderate ASD" rather than "moderate ASD." The vignettes were then reviewed by two experts in the field of autism to ensure that they accurately described children with mild and borderline ASD. Suggested revisions were made, and then the vignettes underwent piloting as part of the pilot study. The final vignettes are included in Appendices C and D (i.e., the full surveys), and listed separately in Appendix E.

Both vignettes featured boys with ASD because the disorder is much more prevalent among boys than girls (APA, 2013). Both children were described as being eight years old, because the beliefs of parents and educators of elementary-school-age children is an area in need of additional research (i.e., the majority of research in this area has investigated the beliefs of parents and educators of preschool children). In addition, the vignettes were developed to have a parallel structure and to be similar in length. Three comprehension questions followed each vignette, to aid in ensuring that participants read and understood the information provided in the vignette.

Type of expected outcome (Type of EO). This variable was also treated as a within-subject variable with two levels (academic vs. social expected outcomes). Type of expected outcome was manipulated within the language of the items on the belief scales, as described above. That is, the items on the scales for the academic expected outcome belief scales referred to “academics,” “academic skills,” or “academically” in the scale items. The items on the scales for the social conditions referred to “social,” “social skills,” or “socially” in the scale items where appropriate.

Procedures

Expert Review and Survey Pilot Study

Vignette revisions suggested by the expert reviewers were made, and then the vignettes underwent piloting as part of the survey pilot study. Prior to the full survey administration, a pilot study was conducted with a sample of 14 participants (N = eight educators; N = six parents of children with ASD). Pilot study participants were asked to complete the survey and to provide feedback about the clarity of the survey directions, the survey items, the vignettes and the vignette comprehension questions at the end of each of the three survey sections. Participants were also asked to provide information about how long the survey took to complete. Belief scale responses for each of the four study conditions were examined for internal consistency using Cronbach's alpha. The following alphas were obtained: Mild ASD-Academic EO condition scale: 0.90; Borderline Moderate ASD-Academic EO scale: 0.90; Mild ASD-Social EO scale: 0.92; and Borderline Moderate ASD-Social EO scale: 0.87. Internal consistency estimates of 0.80 or higher are generally considered acceptable and reliable tools within the social sciences (Kline, 1999). Variations in responses were evaluated by examining the frequency distribution of the responses for each item (DeVellis, 2003). The full range of responses was evident on almost all scale items, and no one response on any scale item was selected by 80% or more of the pilot study participants, suggesting adequate variation in responses on the scale items (Rattray & Jones, 2007). Therefore, all items were retained for inclusion in the full study on all scales.

Pilot study participants did not suggest any items be added, deleted, or revised on the belief scales. Feedback about the vignettes was very positive overall (e.g., “These were actually very good, as I felt like you were basically describing my son,” “Transition[s] seem to be a problem with the many of kids with ASD, it's good that it is represented in this survey”). No changes were made to the belief scales or vignettes as a result of the pilot study feedback. Three pilot study participants incorrectly answered two of the six comprehension questions that followed the vignettes. Analysis of the responses revealed that the incorrect multiple choice answer that was selected by the three participants was very similar to the correct answer. The answer choices on the two comprehension questions were revised so that the incorrect answer option was more clearly distinguished from the correct answer choice. A few minor revisions to the wording of some of the demographic and background information items were also suggested (e.g., adding the word “ever” to the question about whether parent participants had experienced conflict when working with educators concerning educational programming).

Survey Administration and Data Collection

The survey was administered online via Qualtrics.com. Parent participants were emailed the survey invitation via the sampled organizations described above. Participants received an email that contained a short survey description and a link that individuals could click on to participate in the study. Both the parent and educator surveys consisted of three sections. Section One contained the consent form and the demographic and background information questions. Section Two explored participants’ beliefs about the expected outcomes of inclusion. In Section Two, participants were first presented with one vignette (describing a child with mild ASD or borderline moderate ASD), and then they were asked three comprehension questions. Then participants completed both the academic and social expected outcome belief scales (one at a time). This process was then repeated with the other vignette. To reduce the potential for bias, the order in which the two vignettes were presented to each participant was randomized. Additionally, within each severity condition, the order in which the academic and social belief scales were presented was also randomized.

After completing the two belief scales for each of the vignettes, parent and educator participants were asked to complete a very brief, follow-up background information section in Section Three. The purpose of this section was to gain information for the preliminary analyses variables (i.e., severity of their own child’s ASD for parents, and experiences teaching children with varied severity levels of ASD for educators). Here, parent participants were asked to indicate which of the children described in the vignettes was most similar to their child. Educators were asked to indicate whether or not they have had experience teaching children with ASD who were similar to each of the children described in the vignettes. Four vignettes (the two the participants had already seen and two depicting children with more moderate and severe ASD) were presented on this page of both surveys, so that participants could re-review the former two and read the latter two vignettes and respond appropriately.

The rationale for asking these follow-up background questions at the *end* of the survey (rather than including them in Section One with the other demographic items) was to avoid priming participants to think about other children with ASD that they knew prior to completing the belief scales. That is, it was important to the goals of this study that participants responded to the belief scales while thinking about the child described in the vignette, and not while thinking about other children with ASD. It seemed possible that asking parent participants to identify which vignette was most similar to one's own child, and asking educator participants to identify whether they had taught children who were similar to the children in the vignettes, might have inadvertently encouraged participants to think about other children on the spectrum while completing the scales. Therefore, these items – which were used in the preliminary data analyses – were included in Section Three, *after* participants had completed the belief scales. Finally, in this last section participants were also asked to provide an email address so that their $15 Amazon gift card could be sent to their preferred address.

Within the qualrics.com system, participants were automatically assigned a random unique code upon starting the survey that was included in the data set. Immediately upon downloading the data, and prior to data analysis, individuals' email addresses were removed from the main data file and stored in a separate "incentives" file with no other data. This ensured that it was not possible to link participants’ data in the main data set with their email address contained in the “incentives” file. All the data for this project were stored on a password-protected computer in password-protected files.

Data Analyses

The demographic and background information collected in Section One of the surveys was used to describe the obtained parent and educator samples (see Appendices C and D). It was also used to compare the obtained samples to the larger populations in order to ensure that appropriate generalizations of the findings were made.

In order to further confirm the reliability of the belief scales, Cronbach’s alpha statistics were obtained and reviewed for the full study data. The results of these analyses are reported in the first section of Chapter IV. Next, descriptive statistics for the vignette comprehension questions and for the study variables are presented. Finally, prior to conducting the data analyses to address the research questions of this study, the preliminary analyses were conducted using several demographic and background information variables as predictor variables. Previous research suggests that the selected predictor variables (discussed below for parents and educators) may influence, or be related to, broader beliefs about inclusion. Thus, it was important that these variables were considered prior to addressing the main research questions pertaining to differences in parents’ and educators’ beliefs and the effects of the severity and type of expected outcome on those beliefs. In other words, these preliminary analyses were conducted in order to ensure that it was appropriate to aggregate all parents and all educators together as planned in the main data analyses (i.e., to conduct the main analyses with the group membership variable having only two levels – parents and educators). In the event that any of the preliminary analyses’ independent variables were found to predict significant differences in expected outcome beliefs, the data were to be disaggregated and analyzed at the subgroup level for each of the research questions. For example, if "teacher role" (i.e., special education teacher or general education teacher) was found to predict significant differences in educators' expected outcome beliefs, the main data analysis would be conducted separately for these two subgroups, rather than being conducted with all educators aggregated together.

Parent Sample Preliminary Data Analyses

Five predictor variables were included in the preliminary analyses of the parent sample. These included two demographic variables (education level and the severity of their own child's ASD symptoms) and three variables related to the education of their child (i.e., whether or not the participant had experienced conflict with their child's educators, the nature of the partnership with their child's educators, and their experience with inclusion).

Four of the five predictor variables consisted of more than two levels, and thus one-way ANOVA was used to conduct the preliminary analyses for these variables. Specifically, for each of these predictor variables, a series of four separate one-way ANOVAs was conducted (i.e., one for each of the four expected outcome belief scale scores). For example, the "highest education level" predictor consisted of five groups: In the first one-way ANOVA for this predictor, the mean expected outcome belief scores for the Mild ASD-Academic EO condition were compared for those five groups; then the mean scores for the Mild ASD-Social EO condition were compared for those five groups; and so on for the remaining two study conditions. The "conflict experienced" predictor variable, however, had only two levels, and therefore it was analyzed using four separate independent samples t-tests.

Educator Sample Preliminary Data Analyses

Six variables were included in the preliminary analyses of the educator sample. Teacher role (i.e., special educator or general educator) was investigated first. Two variables examined participants' experiences with parents of children with ASD: one measured whether or not the participant had experienced conflict with a parent of a child with ASD about inclusion/educational programming, and the other examined the nature of their partnerships with parents of children on the spectrum. Finally, three variables measured participants' teaching experiences with children with ASD. Specifically, whether participants had ever taught at least one child with ASD was investigated, along with whether or not they had experience teaching children with mild ASD similar to "John," and whether they had experience teaching children with borderline moderate ASD similar to "Mark" (i.e., the two children in the vignettes).

Five of the predictor variables had only two levels (e.g., teacher role: special educator or general educator). For each of these five variables, four separate independent samples t-tests were conducted (i.e., each t-test compared the two subgroups' means on one of the four expected outcome belief scales). For example, for the teacher role predictor variable, the first t-test compared special educators' and general educators' mean scores for the Mild ASD-Academic EO condition, and the second t-test compared the subgroups' means for the Mild ASD-Social EO condition. The third and fourth t-tests compared the subgroups' means for the Borderline Moderate ASD-Academic EO condition and Borderline Moderate ASD-Social EO condition, respectively. Finally, the "partnership" predictor variable had five levels that described the nature of the partnership (not/minimally collaborative, collaborative, strong collaborative, very strong collaborative, and not applicable/have not taught any students with ASD) – and a series of four separate one-way ANOVAs were conducted.

Research Questions

To address the study's four research questions, one three-way mixed, within- and between-subjects design ANOVA was conducted using the GLM Repeated Measures ANOVA test with Type III sums of squares in SPSS (Field, 2013; Pallant, 2010). To address Research Question Four, in which a simple interaction effect is hypothesized, a custom hypothesis test was created by specifying the LMATRIX and MMATRIX subcommands within the aforementioned GLM Repeated Measures ANOVA test in SPSS (see Howell & Lacroix, 2012, for a detailed description of this procedure). Within the study design, the following assumptions for this type of data analysis were met: a quantitative, continuous dependent variable; a between-subjects independent variable consisting of at least two levels (i.e., group membership: parent of an elementary-school-age child with ASD included in a typical elementary school or elementary school educator); and at least one within-subjects independent variable consisting of at least two levels (i.e., the severity of ASD and the type of expected outcome variables in the current study).[2] This approach to mixed-design repeated measures data analysis required the data to be in a "wide-format," with one row per individual in the dataset (Field, 2006). In addition "the multiple measures of the outcome variable are [required to be] in multiple columns – each is considered a different variable. It's a multivariate approach and is [technically] run as a MANOVA," using the Repeated Measures GLM procedure in SPSS (Grace-Martin, n.d.). Type of expected outcome (EO) and severity of ASD were both within-subject independent variables in this study. Thus, in the current study the dependent variable of expected outcome beliefs was treated as four dependent variables, each specified by the within-subject conditions under which they were measured. For example, the expected outcome belief total scale score obtained on the

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[2] Additional statistical assumptions pertaining to the actual study data (as opposed to the study design) are presented and discussed in Chapter IV.

scale presented in the Mild ASD-Academic EO condition was treated as one dependent variable, and it was defined as being at level “1” – mild ASD – of the Severity variable and at level “1” – academic – of the Type of EO variable in SPSS. In contrast, the expected outcome belief total scale score obtained under the Borderline Moderate ASD- Social EO condition was treated as a different dependent variable (within the same one model), and it was defined as being at level “2” - borderline moderate ASD – of the severity independent variable and at level “2” – social – of the Type of EO independent variable in SPSS by the author. Group Memberships was entered as a between-subject independent variable, with “1” indicating educator participants and “2” indicating parent participants.

CHAPTER IV: RESULTS

The current study sought to examine the effects of group membership (i.e., parent or educator), severity of ASD (i.e., mild vs. borderline moderate) and type of outcome (i.e., social vs. academic) on participants' beliefs about the expected outcomes of inclusion. The results of the data analyses are presented in this chapter. First, the results of the measure validation procedures are presented for both the parent and educator samples. Then, the vignette comprehension questions and descriptive statistics for the dependent variables are discussed, followed by a presentation of procedures used to address missing data. Next, the results of the preliminary analyses that were used to determine whether aggregation of the data at the two group (parent vs. educator) levels was appropriate are presented. Lastly, the evidence to support various statistical assumptions necessary for the main analyses is provided, and the results of the main analyses are presented.

Validation of Measures

Following the full study data collection period, Cronbach's alpha was once again used to examine the internal consistency of the four scales, to confirm further their reliability. The results for the parent sample are presented first, followed by the results for the educator sample.

For the parent sample, the following alphas were obtained: Mild ASD-Academic EO scale: 0.84; Borderline Moderate ASD-Academic EO scale: 0.87; Mild ASD-Social EO scale: 0.83; and Borderline Moderate ASD-Social EO scale: 0.85. If a scale is reliable, then the items on the scale should correlate with the total scale score (Field, 2006). The corrected item-total correlations for each of the four scales revealed that all items correlated to an acceptable degree (i.e., correlations greater than 0.30) with the total scale score, and thus all items were retained on the scales for the analyses.

For the educator sample, the following alphas were obtained on the belief scales: Mild ASD-Academic EO scale: 0.78; Borderline Moderate ASD-Academic EO scale: 0.84; Mild ASD-Social EO scale: 0.75; and Borderline Moderate ASD-Social EO scale: 0.85. A review of the corrected item-total correlations for each of the four scales revealed that all items correlated to an acceptable degree, with the total scale score with the exception of one item on two scales. Item three was considered for deletion on the Mild ASD-Academic EO beliefs scale because it had a corrected item-total correlation of 0.28. However, as noted by Field (2006), although item-total correlations of 0.30 are generally considered acceptable for retaining items on a scale, smaller item-total correlations are acceptable with larger sample sizes, as is the case in this study. In addition, the deletion of item three would have only resulted in a very small increase of 0.02 in Cronbach's alpha for that scale, and thus the item was retained. Item three was also considered for deletion on the Mild ASD-Social EO beliefs scale, because it had a corrected item-total correlation of 0.27. However, because of the study's larger sample size and the fact that deletion of this item would have only resulted in a small increase of 0.02 in Cronbach's alpha for that scale, the item was retained.

Descriptive Statistics: Vignette Comprehension Questions

Prior to reviewing the descriptive statistics for variables of interest in the current study, the frequencies for the vignette comprehension questions were reviewed. The primary purpose of including the comprehension questions after each vignette was to aid in ensuring that participants read the vignettes and that they responded to the belief scales with that particular child's severity of ASD symptoms in mind, as indicated in the survey directions, rather than reporting their beliefs about a child with other symptoms, or a child with more or less severe ASD symptoms. The frequency data, broken down by group membership and severity condition, are presented in

Tables 3 and 4 below. Aggregated frequency data showing the number of participants who correctly answered one or fewer questions for either condition, along with those that correctly answered two or three questions correctly for both severity conditions, are presented in Table 5.

Table 3

Mild Severity Vignette: Number of Comprehension Questions Answered Correctly by Group

Group	Mild Severity Vignette: Number of Comprehension Questions Answered Correctly	N	% of Group Sample
Parents	Zero	0	0
	One	1	1.1
	Two	3	3.3
	Three	86	93.5
	Missing[a]	2	2.2
Educators	Zero	0	0
	One	3	2.5
	Two	9	7.4
	Three	95	78.5
	Missing[a]	14	11.6

[a] *Note*. “Missing” indicates that responses were provided for zero of the three comprehension questions.

Table 4

Borderline Moderate Severity Vignette: Number of Comprehension Questions Answered Correctly by Group

Group	Borderline Moderate Severity Vignette: Number of Comprehension Questions Answered Correctly	N	% of Group Sample
Parents	Zero	0	0
	One	0	0
	Two	8	8.7
	Three	82	89.1
	Missing[a]	2	2.2
Educators	Zero	1	0.8
	One	3	2.5
	Two	14	11.6
	Three	89	73.6
	Missing[a]	14	11.6

[a] *Note*. “Missing” indicates that responses were provided for zero of the three comprehension questions.

Table 5

Comprehension Questions Correct by Group

Group	Comprehension Questions Correct	N	% of Group Sample
Parents	Two or three comprehension questions correct for both severity conditions	89	96.7
	Fewer than two comprehension questions correct for both severity conditions	1	1.1
	Missing[a]	2	2.2
Educators	Two or three comprehension questions correct for both severity conditions	102	84.3
	Fewer than two comprehension questions correct for both severity conditions	5	4.1
	Missing[a]	14	11.6

[a] *Note*. “Missing” indicates that responses were provided for zero of the three comprehension questions.

A review of the frequency data for the vignette comprehension questions revealed that two parents and 14 educator participants did not complete any of the comprehension questions for either vignette (i.e., zero of the six total questions answered). Additionally, five educators and one parent participant answered fewer than two questions correctly for both severity conditions (i.e., two educators answered fewer than two items correctly on both sets of the comprehension questions; three educators and one parent answered fewer than two items on set of the comprehension questions). Because the aforementioned participants did not complete any comprehension questions or answered less than 66% of them correctly for both severity conditions, it is questionable whether they read the vignettes. It is also questionable whether or not they completed the belief scales while thinking about the nature and severity of the vignette child’s ASD symptomology. For these reasons, these participants were excluded from further analysis, and they were not included in the following descriptive statistics, resulting in a total sample of N = 191 (n = 89 parents, n = 102 educators).

Descriptive Statistics: Study Variables

After computing the total expected outcome belief score for each study condition as described previously in chapter three, the descriptive statistics were reviewed. Note that when a participant had missing data for one or more of the scale items, the corresponding total expected outcome belief scale variable was considered missing and not included in the calculation of the descriptive statistics. For example, if a participant skipped one item on the scale corresponding to the mild ASD and academic type of expected outcome condition scale, the Mild ASD-Academic EO Beliefs Total Score was marked as missing (initially) in the dataset, and was not included in the calculation of the descriptive statistics for that variable.[3] When interpreting the findings, it is important to remember that higher scores are indicative of less positive beliefs about the expected outcomes of inclusion. Table 6 provides additional information about the interpretation of total scale scores. The means and standard deviations for both the parent and educator samples are reported in Table 7. Then, the sample sizes, medians, means, standard deviations, and skewness and kurtosis of each of the variables are reported separately for parents and educators in Tables 8 and 10. The range, minimum and maximum scores are reported separately for parents and educators in Tables 9 and 11.

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[3] The procedures for handling missing data are described in the next section.

Table 6

Interpreting the Expected Outcome Belief Total Scale Scores

Total Scale Score Ranges	Total Scale Score Range Interpretation
7.00 - 10.49	Very Positive Beliefs
10.50 – 17.49	Positive Beliefs
17.50 – 24.49	Neutral Beliefs
24.50 – 31.49	Negative Beliefs
31.50 – 35.00	Very Negative Beliefs

Note. Each scale consists of seven items that were rated on a five-point Likert scale (1 = strongly agree, 2 = agree, 3 = neutral/undecided, 4 = disagree, 5 = strongly disagree). Thus, the total scale scores can range from 7-35 with lower scores reflecting more positive beliefs.

Table 7

Total Belief Scale Scores: Means and Standard Deviations by Study Condition

		Severity	
Group	Type of EO	Mild	Borderline Moderate
Parents	Academic	16.15 (4.61)	18.15 (5.12)
	Social	15.77 (4.75)	17.41 (5.24)
Educators	Academic	15.50 (3.61)	17.25 (4.30)
	Social	15.25 (3.61)	16.51 (4.48)

Table 8

Parents: Descriptive Statistics for the Dependent Variable under Each Independent Variable Condition

Dependent Variable	N	Median	Mean	Standard Deviation	Skewness (Standard Error)	Kurtosis (Standard Error)
Mild ASD – Academic EO Beliefs Total Score	88	16	16.15	4.61	0.47 (0.26)	0.37 (0.51)
Mild ASD – Social EO Beliefs Total Score	88	15	15.77	4.75	1.08 (0.26)	2.03 (0.51)
Borderline Moderate ASD – Academic EO Beliefs Total Score	89	18	18.15	5.12	0.14 (0.26)	-0.41 (0.51)
Borderline Moderate ASD – Social EO Beliefs Total Score	88	17	17.41	5.24	0.25 (0.26)	0.12 (0.51)

Table 9

Parents: Ranges for the Dependent Variable under Each Independent Variable Condition

Dependent Variable	N	Range	Minimum	Maximum
Mild ASD – Academic EO Beliefs Total Score	88	22	7	29
Mild ASD – Social EO Beliefs Total Score	88	23	8	31
Borderline Moderate ASD – Academic EO Beliefs Total Score	89	23	7	30
Borderline Moderate ASD – Social EO Beliefs Total Score	88	23	7	30

Table 10

Educators: Descriptive Statistics for the Dependent Variable under Each Independent Variable Condition

Dependent Variable	N	Median	Mean	Standard Deviation	Skewness (Standard Error)	Kurtosis (Standard Error)
Mild ASD – Academic EO Beliefs Total Score	101	16	15.50	3.61	0.31 (0.24)	1.41 (0.50)
Mild ASD – Social EO Beliefs Total Score	102	15	15.25	3.61	0.55 (0.24)	1.39 (0.47)
Borderline Moderate ASD – Academic EO Beliefs Total Score	102	17	17.25	4.30	0.02 (0.24)	-0.26 (0.47)
Borderline Moderate ASD – Social EO Beliefs Total Score	99	16	16.51	4.48	0.58 (0.24)	0.45 (0.48)

Table 11

Educators: Ranges for the Dependent Variable under Each Independent Variable Condition

Dependent Variable	N	Range	Minimum	Maximum
Mild ASD – Academic EO Beliefs Total Score	101	21	7	28
Mild ASD – Social EO Beliefs Total Score	102	20	7	27
Borderline Moderate ASD – Academic EO Beliefs Total Score	102	19	7	26
Borderline Moderate ASD – Social EO Beliefs Total Score	99	23	7	30

Examination of the means and standard deviations in Table 7 indicates that on average, the parent sample reported slightly higher expected outcome belief scores (suggesting less positive beliefs) on all four of the belief scales than did educators (Parent *M* range: 15.77 – 18.15; Educator *M* range: 15.25 – 17.25). In general, these scores for the parent sample fell within the "positive" range, with the exception of the Borderline Moderate-Academic mean score, which fell in the "neutral" range. The mean scores for the educator samples fell within the "positive" expected outcome beliefs range for all four study conditions. The standard deviations for the parent sample scores were also larger on each of the scales than the standard deviations found for educators' scores (Parents *SD* range: 4.61 – 5.24 Educator *SD* range: 3.61-4.48). Together these findings suggest that on average, the parents in this study reported slightly less positive beliefs about inclusion compared to the educators, but that there was also greater variability among parent participants' responses compared to the educators.

In addition, the distribution of participants' total scale scores was also examined. Table 12 provides information about how frequently participants reported consistent beliefs across all four study conditions (e.g., all four belief scale ratings falling within the "positive" range). Table 13 provides the frequency distribution of total belief scale scores per study condition, broken down by group membership. Finally, the item-level means and standard deviations for both parents and educators are reported in Tables 14 and 15.

Table 12

Number and Percentage of Participants Reporting Consistent Beliefs across All Four Study Conditions, by Group

Nature of Participant's Beliefs	Parents		Educators	
	N	Percentage of Group Sample	N	Percentage of Group Sample
Very Positive Beliefs	0	0	0	0
Positive Beliefs	17	19.10	38	37.25
Neutral Beliefs	9	10.11	8	7.84
Negative Beliefs	2	2.24	1	0.98
Very Negative Beliefs	0	0	0	0
TOTAL	28	31.45	47	46.07

Table 13

Distribution of Total Scale Scores per Study Condition, by Group

	Mild ASD – Academic EO		*Mild ASD – Social EO*		*Borderline Moderate ASD – Academic EO*		*Borderline Moderate ASD – Social EO*	
Parents	*N*	*%*	*N*	*%*	*N*	*%*	*N*	*%*
Very Positive Beliefs	9	10.11	8	8.99	6	6.74	10	11.24
Positive Beliefs	52	58.43	54	60.67	36	40.45	40	44.94
Neutral Beliefs	23	25.84	22	24.72	39	43.82	32	35.96
Negative Beliefs	5	5.62	5	5.62	8	8.99	7	7.87
Very Negative Beliefs	0	0	0	0	0	0	0	0
Educators	*N*	*%*	*N*	*%*	*N*	*%*	*N*	*%*
Very Positive Beliefs	9	8.82	6	5.88	7	6.86	8	7.84
Positive Beliefs	65	63.73	77	75.49	50	49.02	62	60.78
Neutral Beliefs	26	25.49	17	16.67	39	38.24	26	25.49
Negative Beliefs	2	1.96	2	1.96	6	5.88	6	5.88
Very Negative Beliefs	0	0	0	0	0	0	0	0

An examination of the distribution of the total belief scale scores revealed that, in the current study, 28 parents (31.5%) and 47 educators (46.1%) reported consistent beliefs across all four study conditions (see Table 12). That is, these participants reported total scale scores falling within the same range (e.g., “positive beliefs,” “neutral beliefs”) on all four scales. Specifically, 17 parents reported consistently positive beliefs, 9 reported consistently neutral beliefs, and 2 reported consistently negative beliefs (19.1%, 10.1%, and 2.2% of the parent sample, respectively). Of the educator sample, 38 participants reported consistently positive beliefs, 8 reported consistently neutral beliefs, and 1 reported consistently negative beliefs (37.3%, 7.8%, and 0.9% of the educator sample, respectively).Thus, for these participants – which compose almost one-third of the parent sample and slightly less than one-half of the educator sample - it appears that they each held consistent and stable beliefs, regardless of the type of expected outcome being considered, and irrespective of the severity of the child’s ASD symptomology. The remaining two-thirds of the parent sample, and slightly more than half of the educator sample, reported varied beliefs across the four study conditions.

Despite descriptive analyses suggesting some variability in participant’s beliefs, it is important to note that zero participants reported holding consistently “extreme” beliefs about the expected outcomes of inclusion. That is, none of the participants reported holding very positive beliefs or very negative beliefs across all four study conditions (as noted in Table 12). Furthermore, zero participants reported holding very negative beliefs for *any* of the study conditions, as indicated in Table 13. This suggests that none of the participants in this study appeared to believe inclusion was likely to have very negative effects on the academic outcomes or social outcomes of inclusion for children with mild ASD or borderline moderate ASD, similar to the children in the vignettes. A small percentage of participants, however, reported beliefs falling in the very positive range for each of the individual study conditions (6.24-11.24% of parents and 5.88-8.82% for educators, depending on which specific study condition is examined in Table 13). Specifically, for three of the four study conditions (i.e., both Mild ASD conditions and the Borderline Moderate ASD – Social EO condition), the percentage of parents reporting very positive beliefs was slightly higher than the percentage of educators reporting very positive beliefs. In contrast, the percentage of parents and educators reporting very positive beliefs for the Borderline ASD-Academic EO condition was nearly identical (6.74% and 6.86% of the respective samples).

Table 14

Means and Standard Deviations for the Items on the Academic Expected Outcome Belief Scales

	Parents		*Educators*	
	Mild Severity (John)[a]	*Borderline Moderate Severity (Mark)*[b]	*Mild Severity (John)*[c]	*Borderline Moderate Severity (Mark)*[d]
Academic Expected Outcome Belief Scale Items				
Inclusion is academically advantageous for children with ASD like _____.	2.02 (0.87)	2.33 (0.99)	2.02 (0.77)	2.24 (0.75)
Children with ASD like _____ will probably develop academic skills more rapidly in a special, separate classroom than in an inclusive classroom. (R)	2.54 (1.05)	2.82 (1.08)	2.29 (0.94)	2.64 (1.02)
Children with ASD like _____ are likely to be isolated during academic instruction in inclusive classrooms. (R)	2.57 (0.97)	3.00 (0.97)	2.36 (0.81)	2.54 (0.92)
Inclusion promotes academic independence among children with ASD like _____.	2.21 (0.86)	2.51 (0.91)	2.02 (0.64)	2.29 (0.84)
Inclusion promotes self-esteem related to their academic skills among children with ASD like _____.	2.19 (0.80)	2.37 (0.96)	2.06 (0.63)	2.25 (0.75)
The challenge of a general education classroom promotes academic growth among children with ASD like _____.	2.11 (0.93)	2.30 (0.91)	2.05 (0.65)	2.27 (0.76)
Placement in a special education class does NOT have a negative effect on the academic skill development of students with ASD like _____ prior to middle school. (R)	2.48 (1.09)	2.82 (1.03)	2.70 (0.95)	3.00 (.93)

Note. R indicates that the items were reverse coded. The only differences between this scale for the mild and borderline moderate severity conditions is whether the blank in the items refers to "John" (mild severity condition) or "Mark" (moderate severity condition).
[a] N = 89 parents for all items except Item 3, which had an N = 88; [b] N = 89 parents for all items on this scale.
[c] N = 102 educators for all items except Item 6, which had an N=101; [d] N = 102 educators for all items on this scale.

Table 15

Means and Standard Deviations for the Items on the Social Expected Outcome Belief Scales

	Parents		*Educators*	
	Mild Severity (John)[a]	*Borderline Moderate Severity (Mark)*[b]	*Mild Severity (John)*[c]	*Borderline Moderate Severity (Mark)*[d]
Social Expected Outcome Belief Scale Items				
Inclusion is socially advantageous for children with ASD like _____.	1.89 (0.79)	2.07 (0.82)	1.93 (0.72)	2.05 (0.78)
Children with ASD like _____ will probably develop social skills more rapidly in a special, separate classroom than in an inclusive classroom. (R)	2.18 (1.10)	2.48 (1.20)	2.08 (0.91)	2.32 (0.97)
Children with ASD like _____ are likely to be socially isolated in inclusive classrooms. (R)	2.92 (1.15)	3.14 (1.05)	2.52 (0.94)	2.80 (0.98)
Inclusion promotes social independence among children with ASD like _____.	2.12 (0.95)	2.30 (0.91)	2.03 (0.72)	2.11 (0.77)
Inclusion promotes self-esteem related to their social skills among children with ASD like _____.	2.24 (0.87)	2.45 (0.99)	2.07 (0.72)	2.20 (0.82)
The challenge of a general education classroom promotes social growth among children with ASD like _____.	2.13 (0.87)	2.40 (1.06)	2.04 (0.63)	2.30 (0.80)
Placement in a special education class does NOT have a negative effect on the social skill development of students with ASD like _____ prior to middle school. (R)	2.30 (1.10)	2.62 (1.12)	2.58 (0.94)	2.80 (1.02)

Note. (R) indicates that the items were reverse coded. The only differences between this scale for the mild and borderline moderate severity conditions, is whether the blank in the items refers to "John" (i.e., the mild severity condition) or "Mark" (i.e., the moderate severity condition).

[a] N = 89 parents for all items except Item 5, which had an N = 88.

[b] N = 89 parents for all items except Item 3, which had an N = 88.

[c] N = 102 educators for all items. [d] N = 101 educators for items 1, 2 and 6; N = 102 educators for the remaining items.

Before analyzing the data to address the research questions (and test for significant differences among the study conditions), missing data were first examined and addressed. Then preliminary analyses were conducted. Specifically, these preliminary analyses were conducted to aid in ensuring that it was appropriate to examine the parents together as one group and the educators together as one group, for the two-level group membership variable as planned. The results of the preliminary analyses are reported below after the missing data procedures, followed by the results pertaining to the study's research questions.

Missing Data

The descriptive statistics presented above indicated that there were instances of missing data within the analyzable sample dataset. When an individual was missing even one item score on a scale, the total score could not be computed. Tables 16 and 17 below provide information about the number of parent and educator participants who did not complete all items on the expected outcome belief scales under each study condition.

Table 16

Parent Participants: Summary of Missing Data

Dependent Variable by Condition	N	Participants Missing[a]	% Missing
Mild ASD – Academic EO Beliefs Scale	88	1	1.12
Mild ASD – Social EO Beliefs Scale	88	1	1.12
Borderline Moderate ASD – Academic EO Beliefs Scale	89	0	0.00
Borderline Moderate ASD – Social EO Beliefs Scale	88	1	1.12

[a] Three different parent participants were missing data for one item on one scale each. Thus, 86 parents had complete data sets, with no missing data on any scale items.

Table 17

Educator Participants: Summary of Missing Data

Dependent Variable by Condition	N	Participants Missing[a]	% Missing
Mild ASD – Academic EO Beliefs Scale	101	1	0.98
Mild ASD – Social EO Beliefs Scale	102	0	0.00
Borderline Moderate ASD – Academic EO Beliefs Scale	102	0	0.00
Borderline Moderate ASD – Social EO Beliefs Scale	99	3	2.94

[a] Four different educator participants were missing data for one item on one scale each. Thus, 98 educators had complete data sets, with no missing data on any scale items.

Little's MCAR test was used to test the null hypothesis that missing data were missing completely at random. All of the scale items used to compute the total scale variables under each study condition were included in the analysis. The non-significant results of Little's MCAR test, χ^2 (108, N = 102) = 121.19, $p = 0.18$, suggest that the missing data within the educator dataset were likely missing completely at random. Little's MCAR test was also conducted using the parent dataset, with non-significant results χ^2 (81, N = 89) = 89.20, $p = 0.25$. Because these findings indicate that the data are likely missing completely at random, one can consider using listwise deletion, pairwise deletion, or data estimation (i.e., imputation) methods (Raykov & Marcoulides, 2008). Estimation maximization was conducted using SPSS to avoid eliminating any additional participants from the analyzable sample, and to retain statistical power. Furthermore, this method uses the available data to predict scores for missing items (Raykov & Marcoulides, 2008). The data were estimated separately for the parent and educator sample, and the data were estimated separately for each of the four expected outcome belief scales using the seven items from each scale.

The results of the missing data estimation procedures resulted in minimal changes in the means and standard deviations on the scales overall. The means and standard deviations for the parent sample and educator sample before and after the missing data estimation procedure are reported in Tables 18 and 19. Specifically, on the four total scale scores for the parent sample, the missing data estimation procedures resulted in the means and standard deviations being changed by less than one-tenth (0.05 and 0.02 respectively). For the educator sample, the results of the missing data estimation procedures for the four total scale scores changed the means by one-tenth (0.10) and the standard deviations by less than one-tenth (0.02).

Table 18

Parent Sample: Data before and after Missing Data Estimation Procedures

	Data Before Estimation			Data After Estimation		
Beliefs Score	N	Mean	Standard Deviation	N	Mean	Standard Deviation
Mild ASD – Academic EO Total Score	88	16.15	4.61	89	16.13	4.59
Mild ASD – Social EO Total Score	88	15.77	4.75	89	15.79	4.73
Borderline Moderate ASD – Academic EO Total Score	89	18.15	5.12	89	18.15	5.12
Borderline Moderate ASD – Social EO Total Score	88	17.41	5.24	89	17.46	5.24

Table 19

Educators Sample: Data before and after Missing Data Estimation Procedures

	Data Before Estimation			Data After Estimation		
Beliefs Score	N	Mean	Standard Deviation	N	Mean	Standard Deviation
Mild ASD – Academic EO Total Score	101	15.50	3.61	102	15.50	3.59
Mild ASD – Social EO Total Score	102	15.25	3.61	102	15.25	3.61
Borderline Moderate ASD – Academic EO Total Score	102	17.25	4.30	102	17.25	4.30
Borderline Moderate ASD – Social EO Total Score	99	16.50	4.48	102	16.60	4.46

Preliminary Analyses

Prior to conducting the data analyses to address the study's research questions, preliminary analyses were conducted to ensure that it was appropriate to aggregate all parents and all educators together as planned. As discussed in the literature review section, there is some evidence to suggest that the selected variables analyzed below may influence or be related to broader beliefs about inclusion. Thus, it was important that these variables were considered prior to addressing the main research questions pertaining to differences in parents and educators beliefs, and the effects of severity and type of expected outcome on those beliefs.

A series of four independent samples t-tests, or one-way ANOVAs, were conducted using one predictor variable and one expected outcome belief scale score at a time as detailed in the Data Analyses section of Chapter III. The specific statistical test was chosen based on number of levels of the specific predictor variable in question: Predictors with more than two levels were analyzed using one-way ANOVAs and those with only two levels were analyzed using independent sample t-tests. Independent sample t-tests and one-way ANOVAs both rely on the assumptions of normality and homogeneity of variances. To determine whether these assumptions had been met, the results of the Shapiro-Wilk test for normality and Levene's Test of Homogeneity of Variances were evaluated for all the preliminary analyses. In the following sections, the extent to which the statistical assumptions were met and the results of the preliminary analyses are reported.

Parent Sample Preliminary Analyses

Five predictor variables were included in the preliminary analyses of the parent sample. These included two demographic variables (education level and the severity of their own child's ASD symptoms) and three variables related to the education of their child (i.e., whether or not the participant had experienced conflict with their child's educators, the nature of the partnership with their child’s educators, and their experience with inclusion). Levene’s Test of Homogeneity of Variances was non-significant for all of the parent preliminary analyses conducted, which suggests that the assumption of equality of variances was met for each of the preliminary analyses. The Shapiro-Wilk test of normality revealed that violations of the assumption of normality were present for several different subgroups within various preliminary analyses. Transformations were not attempted to correct for normality violations, because such transformations can introduce additional error to the analyses, and can often create other problems within the data set, such as heteroschedasticity (Erceg-Hurn & Mirosevich, 2008; Dambolena, Eriksen, Kopcso, 2009; Glass, Peckham, & Sanders, 1972). Additionally, ANOVA is rather robust to violations of normality, and thus the decision was made to proceed with using the statistical tests as planned (Green & Salkin, 2003). Violations of the normality assumption, however, are indicated in Table 20. The number of participants per subgroup and the means and standard deviations for the four expected outcome belief total scale scores are also reported below in Table 20.

Table 20

Preliminary Analyses of the Parent Sample

		Expected Outcome Belief Total Scale Score by Condition							
		Mild ASD				Borderline Moderate ASD			
		Academic		Social		Academic		Social	
Preliminary Analyses Variable	N	Mean	Standard Deviation	Mean	Standard Deviation	Mean	Standard Deviation	Mean	Standard Deviation
Education									
High school	4	16.25	5.68	15.50	5.00	20.50	5.80	18.00	4.08
Some college	17	15.24	4.59	14.65	4.30	17.53	4.60	15.98	5.12
Associates	10	14.70	4.74	15.30	3.92	18.60[a]	7.21	16.90[a]	6.28
Bachelors	34	16.24	4.68	16.41	5.57	16.79	4.48	17.21	5.55
MA or higher	24	17.17	4.33	15.96	4.13	19.92	4.97	19.04	4.53
Severity of child's ASD symptoms (participant's child)									
Mild (similar to John vignette)	41	15.64[a]	4.57	15.29[a]	4.73	17.56	4.88	16.68	5.34
Borderline Moderate (similar to Mark vignette)	27	17.07[a]	4.16	17.08[a]	4.67	19.11	5.54	18.14	4.67
Moderate or Severe (more severe symptoms than Mark)	17	15.47	5.21	14.53	4.24	18.12	4.46	17.24	4.52
Conflict experienced with child's educators about educational programming or inclusion									
Yes	43	16.87	5.08	16.28[a]	5.06	18.11	5.87	17.51	5.82
No	46	15.43	4.01	15.33	4.39	18.17[a]	4.39	17.43[a]	4.70

Table 20 (cont'd)

		Mild ASD				Borderline Moderate ASD			
		Academic		Social		Academic		Social	
Preliminary Analyses Variable	N	Mean	Standard Deviation	Mean	Standard Deviation	Mean	Standard Deviation	Mean	Standard Deviation
Nature of Partnerships									
Not collaborative or minimally collaborative partnership	8	19.63	6.84	19.75	6.84	20.63	6.39	20.63	6.63
Collaborative partnership	26	16.36	4.10	15.23	3.45	17.42	4.46	17.37	5.50
Strong collaborative partnership	23	15.35	3.77	14.79	3.00	19.13	6.25	16.48	4.28
Very strong collaborative partnership	32	15.63	4.64	15.97 [a]	5.63	17.41	4.26	17.47 [a]	5.22
Experience with Inclusion: Child's current educational programming									
All instruction in GE setting with any additional support services (e.g. speech therapy, social work services) provided in that setting or a separate location	45	15.34[a]	4.42	15.56[a]	4.95	16.62	4.58	16.95	5.71
Instruction provided in the general education class with additional academic/skill instruction provided in a separate location (e.g., special education or resource room support)	23	16.83	4.40	16.27	4.66	18.96	4.88	18.26	5.41
All academic instruction provided in a self-contained special education classroom. Child may/may not attend non-academic activities with general education peers	21	17.05	5.04	15.76[a]	4.48	20.52	5.57	17.71	3.93

[a] The data for this group and variable were not normally distributed based on Shapiro-Wilks' test of normality.

Educator Sample Preliminary Analyses

Six variables were included in the preliminary analyses of the educator sample. Teacher role, the nature of one's partnerships with parents of children of ASD, and whether or not the participant had experienced conflict with a parent of a child with ASD about inclusion/educational programming were investigated. The remaining three variables investigated in the preliminary analyses measured participants' teaching experiences with children with ASD. Specifically, whether participants had ever taught at least one child with ASD was investigated, along with whether or not they had experience teaching children with mild ASD similar to "John," and whether they had experience teaching children with borderline moderate ASD similar to "Mark" (i.e., the two children in the vignettes). Levene's Test of Homogeneity of Variances was non-significant (i.e., $p > .05$) for the all of educator preliminary analyses conducted, indicating that the assumption of equality of variances was met for each of the analyses. However, the Shapiro-Wilk test of normality revealed violations of the assumption of normality were present for several different subgroups. Because ANOVA is rather robust to violations of normality, the decision was made to proceed with using the planned preliminary analyses data analysis methods (Green & Salkin, 2003). Violations of the normality assumption are noted in Table 21. The number of participants per subgroup and the means and standard deviations obtained on the four belief scales are reported below in Table 21.

Table 21

Preliminary Analyses of the Educator Sample

		Expected Outcome Belief Total Scale Score Condition							
		Mild ASD - Academic		Mild ASD - Social		Borderline Moderate ASD - Academic		Borderline Moderate ASD - Social	
Preliminary Analyses Variable	N	Mean	Standard Deviation	Mean	Standard Deviation	Mean	Standard Deviation	Mean	Standard Deviation
Teaching Role									
Special Education Teacher	19	14.79	3.81	15.00	4.11	15.84	4.30	15.32	4.26
General Education Teacher	83	15.67[a]	3.54	15.31[a]	3.51	17.57	4.27	16.89[a]	4.48
Taught at least one child with ASD at any point during his/her teaching career									
Yes	92	15.52[a]	3.68	15.21[a]	3.70	17.21	4.46	16.86[a]	4.58
No	10	15.30	2.75	15.70	2.67	17.60	2.59	17.80	3.08
Experience teaching children with mild ASD similar to John									
Yes	85	15.60[a]	3.62	15.25[a]	3.81	17.34	4.43	16.70[a]	4.64
No	17	15.00	3.48	15.29	2.39	16.76	3.70	16.06	3.51
Experience teaching children with borderline moderate ASD similar to Mark									
Yes	72	15.53[a]	3.86	15.25[a]	3.88	17.00	4.27	16.33[a]	4.71
No	30	15.43	2.88	15.27	2.90	17.83	4.41	17.23	3.81

Table 21 (cont'd)

		Expected Outcome Belief Total Scale Score Condition							
		Mild ASD - Academic		Mild ASD - Social		Borderline Moderate ASD - Academic		Borderline Moderate ASD - Social	
Preliminary Analyses Variable	N	Mean	Standard Deviation	Mean	Standard Deviation	Mean	Standard Deviation	Mean	Standard Deviation
Experienced Conflict with at least one parent of a child with ASD about educational programming or inclusion									
Yes	30	15.21[a]	4.08	15.60[a]	4.27	17.47	4.27	17.08	5.31
No	72	15.63[a]	3.39	15.11[a]	3.31	17.15	4.34	16.22[a]	4.04
Partnerships: Nature of the partnership with parents of children with ASD taught in the past five years									
Not collaborative or minimally collaborative partnership	12	15.17	4.13	15.08	4.44	15.92	4.80	15.50	4.72
Collaborative partnership	38	15.85[a]	3.77	16.00[a]	3.95	18.26	4.54	17.50	4.93
Strong collaborative partnership	28	15.18	3.06	15.29[a]	3.11	16.43	3.88	15.79[a]	3.87
Very strong collaborative partnership	13	15.16	3.98	13.15	3.38	17.00	5.03	15.98	4.96
Not applicable, I have not taught any children with ASD in the past five years.	10	15.10	2.60	15.00	2.00	17.30	2.50	17.00	2.75

[a] The data for this group and variable were not normally distributed based on Shapiro-Wilks' test of normality.

Summary of Preliminary Analyses

The results of the preliminary analyses for the parent and educator samples revealed no statistically significant subgroup differences in expected outcome beliefs. Thus, the decision was made to proceed with the main analyses as planned with regard to the two-level “group membership” independent variable (i.e., aggregating parents together as one group and aggregating educators together as one group).

Statistical Assumptions

To address the study’s research questions, a three-way mixed, within- and between-subjects design ANOVA was conducted using the GLM Repeated Measures ANOVA test in SPSS (Field, 2013; Pallant, 2010). Prior to conducting the data analysis, the data with the estimated values included for previously missing data were analyzed to determine the extent to which the statistical assumptions for a mixed ANOVA using the GLM repeated measures ANOVA test had been met. In this section, the assumptions are presented, followed by a discussion of the decisions made to address any violated assumptions.

The data were first examined for potential outliers. Analysis of the standardized residuals indicated the absence of univariate outliers on the belief scales for the Borderline Moderate ASD-Academic EO and the Borderline Moderate ASD-Social EO conditions. Two outliers were present on the scales for the Mild ASD-Academic EO condition and four outliers were present on Mild ASD-Social EO condition, as indicated by z-scores above 3 or below -3. These six outliers came from five unique cases (one educator and four parents) within the dataset (i.e., one parent was an outlier on both variables). One parent and one educator reported remarkably high scores, suggesting highly negative beliefs about the expected academic outcomes of inclusion for children with mild ASD. Similarly, four parents reported unusually high scores on the social scale for children with mild ASD. Visual analysis of the box plots confirmed these outlier cases.

Next, the assumption of normality – whether there was a normal distribution of the dependent variable for each combination of levels of the independent variables in the study – was reviewed. The Shapiro-Wilk test of normality revealed that this assumption was met for three of the eight combinations. Table 22 provides the results of the Shapiro-Wilk test of normality. Then, the tests for the assumptions of homogeneity of variances and the homogeneity of variance-covariance matrices (i.e., intercorrelations) were reviewed. Levene's Test for Equality of Error Variances revealed that the assumption homogeneity of variances was met for all of the scales except the Mild ASD-Academic EO scale (see Table 23 below). Box's *M* Test of Equality of Covariance Matrices indicated that the assumption of homogeneity of the variance-covariance matrices was violated (Box's M = 30.74, F = 3.00; p = .001). Finally, the assumption of sphericity, which typically is required of mixed design repeated measures ANOVAs, is not applicable to the current study because the within-subjects independent variables only have two levels (Field, 2013).

Table 22

Tests of Normality

Belief Scale	Group	Statistic	df	Significance
Mild ASD-Academic EO	Educator	.956	102	.002*
	Parent	.970	89	.039*
Mild ASD-Social EO	Educator	.953	102	.001*
	Parent	.921	89	.001*
Borderline Moderate ASD-Academic EO	Educator	.979	102	.103
	Parent	.984	89	.333
Borderline Moderate ASD-Social EO	Educator	.972	102	.029*
	Parent	.972	89	.053

*Assumption of normality was *not* met, given that the significance level was less than p = .05

Table 23

Levene's Test of Equality of Error Variances

Belief Scale	F	df 1	df 2	Significance
Mild ASD-Academic EO	4.895	1	189	.028*
Borderline Moderate ASD-Academic EO	3.043	1	189	.083
Mild ASD-Social EO	3.869	1	189	.051
Borderline Moderate ASD-Social EO	1.328	1	189	.251

*Assumption of homogeneity of variances was *not* met, given that the significance level was less than p = .05

Based on the information presented above, it was clear several assumptions for mixed-designs repeated measures ANOVAs had been violated. Although the repeated measures ANOVA itself is robust to violations of normality (Green & Salkin, 2003), the Box's *M* test for homogeneity of covariance-matrices – which is a critical assumption in the repeated measures ANOVA - is very sensitive to non-normality (Raykov & Marcoulides, 2008). That is, when there are instances of even slight non-normality, the Box's *M* test is likely to be significant, suggesting one has violated the assumption of homogeneity of covariance-matrices. In an attempt to address the violations of these two assumptions, square root and log transformations of the data were performed, and the mixed design repeated measures ANOVA and its assumptions were reanalyzed. However, neither transformation resulted in all assumptions being met, nor did they address the violation of the homogeneity of covariance-matrices. In some cases, the transformations resulted in fewer assumptions being met, compared to the original data (e.g., increased outliers, non-normality of variables that were original normal).

The presence of outliers also can substantially alter the results of statistical tests and contribute to the non-normality of the data. Within large sample sizes, however, it is likely that these data points reflect extreme views held within the larger population (Raykov & Marcoulides, 2008), and thus they should not simply be discarded from the dataset. However, to aid ensuring that the findings of the repeated measures ANOVA with the original data were not biased by the assumption violations – particularly the violation of the homogeneity of covariance-matrices – the data were re-analyzed and the assumptions rechecked with the five outlier cases dropped from the analyses.

The results of dropping the outlier cases did not noticeably alter the findings of the repeated measures ANOVA. That is, the results were nearly identical, both with and without the outliers in the analyzed data set. The removal of the outliers, however, did substantially increase the number of assumptions met, as can be seen by comparing Tables 24 and Table 25 below with those of the original data with the outliers above (i.e., Tables 22 and 23). The normality assumption was met for seven of the eight combinations of independent and dependent variables and Levene's Test for Equality of Error Variances revealed that the assumption homogeneity of variances was met for all of the scales. Most notably, Box's *M* Test of Equality of Covariance Matrices indicated that the assumption of the homogeneity of the variance-covariance matrices was met with the outlier cases removed (Box's $M = 18.72$, $F = 1.83$; $p = .051$). Because the results were nearly identical with and without the outlier cases, the decision to use the repeated measures ANOVA procedure was maintained, and the results for the original analyses (with the outlier cases included the dataset) are reported below in the results section.

Table 24

Tests of Normality with Outliers Removed

Belief Scale	Group	Statistic	df	Significance
Mild ASD-Academic EO	Educator	.964	101	.008*
	Parent	.982	85	.295
Mild ASD-Social EO	Educator	.961	101	.005*
	Parent	.982	85	.282
Borderline Moderate ASD-Academic EO	Educator	.980	101	.134
	Parent	.985	85	.444
Borderline Moderate ASD-Social EO	Educator	.975	101	.054
	Parent	.972	85	.063

*Assumption of normality was *not* met, given that the significance level was less than *p* = .05

Table 25

Levene's Test of Equality of Error Variances with Outliers Removed

	F	df 1	df 2	Significance
Mild ASD-Academic EO	4.895	1	185	.028*
Borderline Moderate ASD-Academic EO	3.043	1	185	.083
Mild ASD-Social EO	3.869	1	185	.051
Borderline Moderate ASD-Social EO	1.328	1	185	.251

*Assumption of homogeneity of variances was *not* met, given that the significance level was less than *p* = .05

Research Questions

The results of the mixed-design repeated measures ANOVA are presented in Table 26, and the means and standard deviations by study condition are presented in Table 27. As previously stated, *lower scores* reflect *more positive* beliefs about the expected outcomes of inclusion. The analyses indicated that the three-way interaction was non-significant (*F* (1, 189) = 0.02, *p* = .903). The custom hypothesis test designed to examine the simple interaction effect hypothesized in Research Question 4 was also non-significant, *F* (1, 189) = 0.22, *p* = .641). All three of the two-way interaction effects tested were also non-significant: Type of EO x Group, *F*

(1, 189) = 0.02, $p = .894$; Severity x Group, F (1, 189) = 0.40, $p = .526$); Severity x Type of EO, F (1, 189) = 1.99, $p = .160$. Because all of the interaction effects were non-significant, the main effects of each of the three independent variables were examined.

The main effects of severity of ASD and type of expected outcome were significant (F (1, 189) = 48.58, $p < .001$, η^2= 0.204; F (1, 189) = 4.64, $p = .032$, η^2 = 0.024 respectively). A review of the means for the severity variable and examination of the pairwise comparison table indicate that participants reported more positive beliefs for the child described as having mild ASD symptoms (M = 15.67), compared to the child described as having borderline moderate ASD symptoms (M = 17.36). In addition, participants reported more positive beliefs about the expected social outcomes of inclusion (M = 16.28) than about the expected academic outcomes of inclusion for children with ASD (M = 16.76). The main effect of group, however, was non-significant (F (1, 189) = 1.84, $p = .177$, η^2 = 0.010). The results of this analysis that specifically pertain to each of the research questions are discussed below in greater depth.

Table 26

Data Analysis: 2 x (2) x (2) Mixed-Design, Repeated Measure ANOVA Results Summary

SOURCE	*df*	*F*	η^2	*p*
Between-Subjects Effects				
Group Membership	1	1.83	.010	.177
(error)	189	(55.64)	-	-
Within-Subjects Effects				
Type of EO	1	4.64	.024	.032*
(error)	189	(9.38)	-	-
Severity	1	48.58	.204	.000*
(error)	189	(11.25)	-	-
Type of EO x Group	1	0.02	.000	.894
Severity x Group	1	0.40	.002	.526
Severity x Type of EO	1	1.99	.010	.160
Severity x Type of EO x Group	1	0.02	.000	.903
Custom Hypothesis Test				
Severity x Group at Type of EO = Academic	1	0.22	.001	.075

Note. *Significant at $p < 0.05$ level. The numbers in parentheses are the mean square error.

Table 27

Total Belief Scale Scores: Cell Means, Standard Deviations, Marginal Means, and Standard Errors, by Study Condition

		Severity			
Type of EO	Group	Mild	Borderline Moderate	Combined Mild & Borderline Moderate[a]	Overall[a]
Academic	Educators	15.50 (3.59)	17.25 (4.30)	16.37 (0.39)	16.76 (0.28)
	Parents	16.13 (4.59)	18.15 (5.12)	17.14 (0.41)	
	Combined Educators & Parents[a]	15.81 (0.30)	17.70 (0.34)	-	-
Social	Educators	15.25 (3.61)	16.59 (4.46)	15.92 (0.41)	16.28 (0.30)
	Parents	15.79 (4.73)	17.46 (5.24)	16.63 (0.44)	
	Combined Educators & Parents[a]	15.52 (0.30)	17.03 (0.35)	-	-
Overall		15.67 (0.27)	17.36 (0.32)	-	-

[a] The data reported in these rows and columns are marginal means and standard errors (not cell means and standard deviations).

Research Question One

Do participants differ in their beliefs about the expected social outcomes of inclusion for students with ASD, compared to their beliefs about the expected academic outcomes of inclusion for students with ASD?

It was hypothesized that participants, on average, would report significantly more positive expected outcome beliefs for the social domain compared to the academic domain (i.e., lower scores would be reported on average for the social expected outcome belief domain). The main effect of type of expected outcome was significant, *F* (1, 189) = 4.64, *p* = .032, η^2 = 0.024. Analysis of the means for these variables indicated that, on average, participants reported slightly more positive beliefs about the expected social outcomes (*M* = 16.28) than about the expected academic outcomes of inclusion for children with ASD (*M* = 16.76). Therefore, the hypothesis was supported. Both marginal means fell within the "positive" beliefs range for the total scale scores. The practical significance of this finding, however, is small given that the partial eta squared ($\eta^2 = 0.024$) indicates that approximately only two percent of the variance in participants' beliefs was explained by the type of expected outcome.

Research Question Two

Does the severity of a child's disability (mild or borderline moderate ASD) have an effect on participants' expected outcome beliefs?

It was hypothesized that participants would report more negative expected outcome beliefs (regardless of type) for the child described as having borderline moderate ASD symptoms (i.e., "Mark") compared to the child described as having mild ASD symptoms (i.e., "John"). The results indicated that there was a significant main effect of severity on participants' expected outcome beliefs, F (1, 189) = 48.58, $p < .001$, $\eta^2 = 0.204$. Analysis of the means suggested that in general, participants reported more negative beliefs for the child described as having borderline moderate ASD symptoms (*M* = 17.36), compared to the child described as having mild ASD symptoms (*M* = 15.67), and thus the hypothesis was supported. The partial eta squared ($\eta^2 = 0.204$) suggests that 20.40% of the variance in participants' beliefs was accounted for by the severity of the child's ASD symptoms presented in the vignettes.

Research Question Three

Does the relationship between type of expected outcome (academic vs. social) and expected outcome beliefs vary by group membership type (parent vs. educator)?

It was hypothesized that there would be a significant interaction effect for group membership (parent or educator) and type of expected outcome (academic or social) on expected outcome beliefs. Specifically, it was expected that educators would report less positive beliefs about the expected academic outcomes of inclusion than parents, whereas for beliefs about the social outcomes, it was expected that parents would report less positive beliefs than educators. The results indicated that the two-way interaction effect of Type of Expected Outcome and Group Membership on Expected Outcome Beliefs was non-significant, F (1, 189) = 0.02, p = .894, and thus the hypothesis were not supported.

Analysis of the marginal means for the social expected outcome beliefs indicated that the parent participants overall reported slightly less positive beliefs (M = 16.63) compared to educators (M = 15.92). Although this finding was not statistically significant, it suggests a general pattern in the data that was consistent with the hypothesis for the social scales for parent participants. In contrast, the opposite of the hypothesized pattern was found in data with respect to academic expected outcome beliefs based on the marginal means. That is, educators reported slightly lower academic expected outcome belief scores – indicative of more positive attitudes – than the parent participants on average (M = 16.37 and M = 17.14 for educators and parents, respectively).

Research Question Four

Is there an interaction effect of group membership (parent vs. educator) and severity of ASD (mild vs. borderline moderate) on expected academic outcome beliefs?

To address this research question, the simple interaction effect of group membership and severity of ASD for academic expected outcomes (i.e., the two-way interaction of group and severity at the level of academic type of expected outcome) was examined using a custom hypothesis test. The custom hypothesis test was created by specifying the LMATRIX and MMATRIX subcommands within the GLM Repeated Measures ANOVA test in SPSS (see Howell & Lacroix, 2012, for a detailed description of this procedure). The severity of the child's disability was expected to be particularly strongly related to educators' beliefs about the expected academic outcomes and less strongly related to academic expected outcome beliefs among parents. Specifically, it was expected that educators would report significantly less positive beliefs (higher scores) about the academic outcomes of inclusion for children with borderline moderate ASD. The results of the custom hypothesis test examining the simple interaction of group membership and severity of ASD at the level of academic expected outcome type was non-significant, *F* (1, 189) = 0.22, *p* = .641. Thus, this hypothesis was not supported.

CHAPTER V: DISCUSSION

In the current study, the effects of group membership (parent of a child with ASD vs. educator), severity (mild vs. borderline moderate ASD) and type of expected outcome (academic vs. social) on participants' beliefs about the expected outcomes of inclusion for children on the spectrum were investigated using a web-based survey consisting of short belief scales and vignettes. The results suggested that both the severity of ASD symptoms and the type of expected outcome affected participants' beliefs. On average, participants reported less positive beliefs about the expected outcomes of inclusion for the child described as having borderline moderate ASD symptoms, compared to the child with mild ASD symptoms. Participants also reported significantly more positive beliefs about the expected social outcomes, relative to their beliefs about the expected academic outcomes, of inclusion. No significant effects of group membership or interaction effects were found. In this chapter, the results of the current study are interpreted and discussed with respect to the existing research. The limitations of this study are then presented, followed by suggestions for future research and implications for educational practice.

Research Question One

Do participants differ in their beliefs about the expected social outcomes of inclusion for students with ASD compared to their beliefs about the expected academic outcomes of inclusion for students with ASD?

It was hypothesized that participants, on average, would report significantly more positive expected outcome beliefs for the social domain compared to the academic domain. That is, there was a significant main effect of type of expected outcome on participants' expected outcome beliefs. On the survey, participants' beliefs followed the hypothesized patterns, with slightly more positive beliefs being reported for the social expected outcomes compared to the academic expected outcomes, yet the means for both belief domains fell within the “positive” total scale score range.

This finding aligns with previous research, which has (albeit indirectly) suggested that both parents and educators may believe inclusion to have greater social benefits than academic skill benefits (McGregor & Campbell, 2001; Palmer, Borthwick-Duffy, & Widaman, 1998; Waddington & Reed, 2006). For example, in their study involving both parents and educators of children on the spectrum, Waddington and Reed (2006) found that a greater proportion of the focus group dialogue of both groups were about the social benefits of inclusion, compared to academic benefits. Likewise, Li’s (2002) qualitative dissertation study of five parents with children with ASD of varied age ranges also suggested that parents believe that inclusion can have beneficial effects on children’s social and communication skill development, and to a lesser extent, on their academic skill development. The potential for increases in the social skills, cognitive skills, and communication skills of children with ASD were reported to be among the various benefits of full inclusion in that study. In particular, participants stressed that full inclusion provided increased opportunities to learn social and communication skills from observing and interacting with typically developing peers. In terms of academics, however, the parents in Li’s (2002) study reported somewhat mixed beliefs. For instance, they noted that increased access to the grade-appropriate general education curriculum was a potential benefit, yet also indicated that children on the spectrum may “learn better” in special education classrooms, noting the provision of more specialized instruction and individualized attention afforded by such placements (Li, 2002, p. 31). Similar to the current study’s findings, these previous studies indicated that in general, parents and educators may hold more positive beliefs about social outcomes of inclusion compared to academic outcomes of inclusion.

Previous research, however, has also indicated that educators may hold more neutral beliefs about the benefits of inclusion, which contrasts with the current study's findings of generally positive beliefs for both academic and social expected outcomes. For example, McLeskey, et al. (2001) investigated educators' beliefs about the effects of inclusion for students with mild disabilities (i.e., specific learning disabilities and mild cognitive impairments), using an author-developed survey. In that study, two items addressed the academic and social benefits of inclusion explicitly, and the analysis of item means suggested that both educators who were teaching in inclusive schools and those who taught in schools using more tradition pull-out special education models reported neutral beliefs. That is, their beliefs were neither clearly positive, nor clearly negative. A significant limitation of interpreting those findings, however, was the analysis at the individual survey item level, and it did not include scales developed to specifically tap beliefs about the anticipated social or academic outcomes of inclusion. It is possible that in the current study, the use of specific scales designed to tap these two belief domains allowed for greater, more accurate measurement of these beliefs, and thus may have contributed to finding more positive beliefs.

Alternatively, it is also possible that educators in the current study reported more positive beliefs about inclusion than the educators in McLeskey et al. (2001) did, due to changes in the educational climate within the past decade. That is, within schools in the United States there has been an increased emphasis on inclusion and educational outcomes for children with disabilities since the passing IDEIA in 2004 and the No Child Left Behind (NCLB) Act of 2001 (i.e., a reauthorization of Elementary and Secondary Education Act). IDEIA (2004) mandates that students with disabilities be provided a free and appropriate education in the least restrictive environment. NCLB (2001) mandates the use of evidence-based practices in the schools and has increased accountability for the academic outcomes of all children, including those with disabilities. In light of these federal legislations, it seems plausible that educators have received greater pre-service training and in-service professional development opportunities focusing on supporting students with disabilities and on facilitating successful inclusion. As a result, these individuals may hold more positive beliefs about inclusion, compared to teachers 10-15 years ago.

Another potential explanation of the different findings of this study and the study conducted by McLeskey et al. (2001) pertains to the type and nature of disabilities being investigated. In McLeskey et al. (2001), educators were specifically asked to report their beliefs about inclusion for children with specific learning disabilities (SLD) and mild cognitive impairments (mild CI). Social skills and social interaction deficits are defining characteristics of ASD, but these impairments are not defining features of SLD or mild CI. It seems plausible then that beliefs about these expected social outcomes are less salient for children with SLD and mild CI, compared to children with ASD, and this saliency may account for the different findings about social expected outcome beliefs.

Additionally, students with ASD by definition display deficits in social skills and interactions. With appropriate interventions and supports in place to facilitate skill development, maintenance, and generalization, interacting with typically-developing peers is generally regarded as important for students with ASD (Handleman, et al., 2005; Schwartz & Davis, 2008). Inclusion in a general education classroom, or in a typical school – with appropriate supports in place - may also create greater opportunities for students with ASD to interact with their typically-developing peers. It is possible that participants tended to report more positive beliefs about the expected social outcomes, than the academic outcomes, because of the *perception* that placement in the general education classroom provides increased opportunities to interact with typical peers, which in turn is *perceived* as supporting social skill development.

Research Question Two

Does the severity of a child's disability (mild or borderline moderate ASD) have an effect on participants' expected outcome beliefs?

As hypothesized, on average, the participants reported less positive expected outcome beliefs for the child described as having borderline moderate ASD symptoms (i.e., "Mark"), compared to the child described as having mild ASD symptoms (i.e., "John"). That is, there was a significant main effect of severity on participants' expected outcome beliefs. The mean score for the mild severity condition fell well within the positive beliefs range, whereas the mean for the borderline moderate severity condition fell just barely within the positive range (i.e., 0.14 from the neutral beliefs range). Severity appeared to play a considerable role in shaping participants' beliefs, because it accounted for a substantial portion of the variability (approximately 20%) in participants' beliefs about the extent to which inclusion (as it was defined in this study) was likely to facilitate more positive outcomes for children with mild and borderline moderate ASD.

These results appear to support the findings that are evident within the broader literature pertaining to general beliefs about inclusion. That is, previous research has suggested that both parents and educators tend to hold more positive beliefs and attitudes about the inclusion of students with mild disabilities than about students with severe disabilities (Leyser & Kirk, 2004; McLeskey, et al., 2001; Middleton, 2005; Rafferty, et al., 2001; Scruggs & Mastropieri, 1996).

On the surface, this finding may seem quite intuitive; however, the current study added to the literature by directly testing the effects of the severity of ASD on participants' beliefs about specific aspects of inclusion (i.e., their beliefs about the expected academic and social outcomes).

The current study severity findings also appear to align with the general trend found in studies focusing specifically on children with ASD. However, there is some contrast with respect to the extent to which severity appeared to influence beliefs about inclusion in the current study findings compared to previous literature. For example, in Middleton (2008) parents of children with ASD were asked to report their beliefs about the appropriateness and potential benefits of general education for their own child on the spectrum. The results indicated that parents of children with "mild" ASD reported significantly more positive beliefs than did parents of children with "severe" ASD. However, in that study only 5% of variance in participants' beliefs was accounted for by the severity variable, which lead the author to conclude that these findings were not "meaningful" (p. 98). By contrast, in the current study, severity was found to account for a substantial portion – approximately 20% - of the variance in participants' beliefs about the expected outcomes of inclusion. Although the findings of both studies suggest that there are likely other variables that also play a role in shaping beliefs about inclusion, given that a large portion of the variance remained unaccounted for, the current study findings suggest severity may play a larger role in shaping beliefs than did the results of Middleton's (2008) study.

This difference in the extent to which severity appeared to influence beliefs about inclusion may be due to several factors, such as the nature of the beliefs investigated and the manner in which severity was defined in the studies. Middleton (2008) explored participants' beliefs about the appropriateness of general education placements, which included items about the potential benefits receiving their education in the general education classroom (p. 96), whereas the current study tapped beliefs specifically about the expected academic and social outcomes of inclusion. It seems plausible that when asked specifically about academic, or social, expected outcomes of inclusion, as opposed to various potential benefits, the severity of a child's disability became more salient and resulted in greater variance in beliefs being explained by the severity variable. In addition, "severity" was defined very differently in the current study, compared to Middleton (2008). Specifically, Middleton (2008), defined severity by the presence or absence of any one of the following challenging behaviors: "aggressive behavior toward others, self-injurious behavior, or tantrum behavior" (p. 98). Children whose parents reported that they displayed at least one of these behaviors were considered "severe" and those who reported to display none of these behaviors were considered "mild." Although children with ASD may display such challenging behavior, it is not a defining feature of the disorder. By contrast, in the current study participants were asked to report their beliefs about children described in vignettes who differed with respect to the severity of both the core ASD symptoms (i.e., social communication and restricted, repetitive behaviors). It seems plausible that manipulating the severity of both the core symptoms of ASD in the current study, as opposed to the severity of the child's challenging behaviors, may have contributed to the different conclusions about the extent to which beliefs about inclusion varied based on severity.

Research Question Three

Does the relationship between type of expected outcome (academic vs. social) and expected outcome beliefs vary by group membership type (parent vs. educator)?

It was hypothesized that there would be a significant two-way interaction effect for group membership (parent or educator) and type of expected outcome (academic or social) on expected outcome beliefs. Specifically, it was expected that educators would report less positive beliefs about the expected academic outcomes of inclusion than parents, whereas for beliefs about the social outcomes, it was expected that parents would report less positive beliefs than educators. That is, it was expected that the effect of type of expected outcome would change when group membership was taken into account. The results of this interaction were non-significant, suggesting that, on average, parents and educators reported similar beliefs about the expected academic outcomes, and similar beliefs about to the social outcomes of inclusion for children with ASD. The general trend of the data indicated that the parents reported slightly, less positive beliefs about *both* types of expected outcomes than the educators did in the current study; however, the lack of a significant interaction suggests that the effect of type of expected outcome on expected outcome beliefs was similar, regardless of group membership.

Parents of children with ASD were expected to report less positive beliefs about the expected social outcomes of inclusion compared to educators, because studies have indicated that parents of children with various disabilities often have concerns about potentially negative social effects of inclusion, such as isolation and peer rejection (Guralnick, 1994; Guralnick et al., 1995; Leyser & Kirk, 2004; McDonnel, 1987). Given that social impairments are a defining feature of ASD, it was expected that these concerns about peer rejection and isolation would be particularly salient for parents of children with ASD, and therefore would result in this group reporting less positive beliefs about the expected social outcomes of inclusion in the current study. Additionally the studies that have examined educators' beliefs regarding the potential benefits of inclusion have found that although the majority of educators do not appear to believe inclusion is appropriate for all students on the spectrum, many tend to believe it can have beneficial effects on students' development in the social domain (McGregor & Campbell, 2001;

Sansosti & Sansosti, 2012). Furthermore, minimal concerns about the potential negative effects of inclusion on the social development of students with ASD have been documented within the educator beliefs literature. Despite the non-significant interaction effect, the general pattern in the data indicate that parents of children with ASD reported slightly less positive beliefs about the expected social outcomes of inclusion than educators, as was expected based on previous work.

In contrast, educators were hypothesized to report significantly less positive beliefs about the expected academic outcomes of inclusion than parents, because research has suggested that educators often have concerns about resources (such as personnel support and time) and concerns about the skills needed to make instructional modifications and adaptations for children with disabilities (de Boer et al., 2011; Everington et al., 1999; Scruggs & Mastropieri, 1996; Stoiber et al., 1998). Additionally, other studies have suggested that educators tend to perceive children with ASD as requiring a substantial amount of accommodations and supports in order for inclusion to be successful (Stoiber et al., 1998), and these studies have suggested that many educators may not perceive the academic skill development of children with ASD to be adequately supported in the general education environment (McGregor & Campbell, 2001; Waddington & Reed, 2006). The general (non-significant) trend in the data, however, suggests that educators actually reported slightly more positive beliefs about the expected academic outcomes of inclusion than parents did, which is the opposite of the hypothesized interaction effect. Thus, it is possible that the educators in this study did not perceive the children with ASD, about whom they reported their expected outcome beliefs as requiring substantial academic accommodations. It is also plausible that educators currently feel more prepared to meet the academic needs of students with ASD who are similar to those described in this study, than they did in the past.

Previous research has not directly examined parents' and educators' beliefs about the expected academic and social outcomes of inclusion. However, it has indicated that there is often conflict among parents and educators about educational programming for children with ASD (Mandlawitz, 2002; Yell, Katsiyannis, Drasgow, & Herbst, 2003). A more recent study - Sansosti (2008) - suggested that conflict may stem from differences in educators' and parents' perspectives about inclusion. However, the specific nature of the conflicting beliefs was not well documented in previous literature. Given that beliefs about inclusion have been suggested to shape educational practices (Pajares, 1992; Schommer, 1994), and are likely to figure prominently in the educational decision making processes for both parents and educators (Sansosti, 2008), there was a need to explore this topic further. In the current study, the two-way interaction of type of expected outcome and group membership was non-significant, and no significant main effect of group membership on expected outcomes was found. That is, the effect of type on expected outcome beliefs remained unchanged when group membership was taken into account, and on average the parents of elementary-school-age children with ASD reported expected outcome beliefs similar to the elementary school educators included in this study.

Given that the current study was based on an examination of group-level means, this finding should not be over-interpreted as indicating that expected outcome beliefs are not a (potential) source of conflict among parents and educators of children with ASD. Although zero participants reported extremely negative expected outcome beliefs, there was variability evident in the expected outcome beliefs reported by both the parent and educator samples. This suggests that it is possible for individual parents and educators to have conflicting beliefs about the expected outcomes of inclusion in the schools. For example, an educator who believes that children with ASD make minimal progress in academic skills in the general education environment may encounter parents who feel very strongly that the challenge of the general education environment accelerates academic skill growth for children on the spectrum. When these individuals must work together to decide on appropriate programming and the necessary supports for a child, it is possible that expected outcome beliefs may be a source of conflict.

Although the effects of severity were not specifically addressed in this research question, the aforementioned findings as they pertain to conflict should be interpreted with caution. In the current study participants reported their expected outcome beliefs about inclusion for two children: one with mild ASD and the other with borderline moderate ASD. These vignettes were developed with careful attention to the DSM-5 criteria, and they were subjected to expert review and piloting. However, given the wide range in functioning, the varied nature and degree of impairment in social communication and repetitive-restrictive behaviors along the autism spectrum, both severity levels assessed in the current study arguably fall toward the milder end of the continuum. Thus, it is possible that had participants been asked to report on children with more severe ASD symptoms, the relationship between group membership status and type of expected outcome on expected outcome beliefs may have been different.

Research Question Four

Is there an interaction effect of group membership (parent vs. educator) and severity of ASD (mild vs. borderline moderate) on expected academic outcome beliefs?

The severity of the child's disability was expected to be particularly strongly related to educators' beliefs about the expected academic outcomes and less strongly related to academic expected outcome beliefs among parents. Specifically, it was expected that educators would report significantly less positive beliefs (higher scores) about the academic outcomes of inclusion for children with borderline moderate ASD, compared to children with mild ASD. No such pattern was expected among parents. The results were not significant, which suggests that the academic expected outcome beliefs held by parents and educators did not differ significantly for children with mild ASD compared to those with borderline moderate ASD.

Educators were hypothesized to hold less positive beliefs about academic outcomes of inclusion particularly for children with borderline moderate ASD compared to parents for several reasons. First, there is previous research indicating that educators often have concerns about resources (such as personnel support and time to develop instruction accommodations and modifications), and concerns about the skills needed to make instructional modifications and adaptations (de Boer et al., 2011; Everington et al., 1999; Scruggs & Mastropieri, 1996; Stoiber et al., 1998). Second, Stoiber et al., (2008) found that, on average, the early childhood educational professionals in their study reported believing that students with ASD required the greatest amount of accommodations in order to be successful in inclusive preschool settings. Thus, it was expected that the aforementioned concerns would be greater for the child with borderline moderate ASD and result in more negative beliefs about the expected academic outcomes being reported for that the borderline moderate ASD study condition by educators. Moreover, it was expected that when presented with varied levels of ASD severity in the current study, educators would report particularly negative beliefs about the expected academic outcomes for children with borderline moderate ASD compared to children with mild ASD, at least partially due to perceptions about the former's increased need for accommodations. In contrast, the previous research investigating parents' beliefs about the expected outcomes, or effects, of inclusion has done so indirectly: both benefits and concerns related to academic skill development appeared were reported infrequently, or less often than educators (Li, 2002; Sansosti, 2008; Waddington & Reed, 2006). Thus it was expected that parent participants would hold rather neutral beliefs regarding academic expected outcomes of inclusion for both children with ASD depicted in this study, and result in the hypothesized simple interaction effect. The results, however, did not support this hypothesis.

Several factors may explain why the hypothesized interaction was not observed in the current study: For example, although the child depicted in the borderline moderate ASD vignette displayed greater impairment in social communication and restricted/stereotypes behaviors compared to the child described in the mild ASD vignette, both vignettes still depicted manifestations of ASD consistent with the milder end of the entire autism spectrum. Therefore, it may be that for the educators in the current study, the aforementioned concerns, which were expected to contribute to less positive beliefs among educators, were actually less salient than anticipated, because of the milder nature of ASD symptoms depicted in the two vignettes. Furthermore, in Stoiber, et al. (1998), participants were presented with a list of 12 disabilities (e.g., “Autism/PDD,” “Speech and language delay,” “ADHD,” etc.) and asked to rate the extent to which they believed that children with each of those disabilities could be accommodated in an inclusive classroom (p. 114). Participants in that study were not provided with any description of the nature or severity of disability. It seems possible that when presented with “Autism/PDD,” as the disability was listed on Stoiber et al.’s (1998) survey, that participants tended to think of preschool children with more severe ASD symptoms and thus rated it as requiring the most accommodations. As previously stated, the vignettes used in the current study depicted children at the milder end of the spectrum only: Therefore, it is plausible that the educators in the current study may not have perceived these children with ASD requiring substantial accommodations, and thus they did not report particularly negative academic expected outcome beliefs as predicted.

Differences in the ages of the children being reported on may have also contributed to the expected pattern not being observed in the current study. That is, perhaps the concerns about resources, skills and accommodating students with ASD are less salient for elementary school educators relative to the early childhood educators surveyed in Stoiber, et al. (1998).

In addition, there has been a dramatic rise in children being educated in inclusive settings in the past 20 years (USDOE, 2012). At the same time, it is likely that there has been an increase in number of teacher preparation programs offering courses related to the education of children with ASD, and in the number of districts providing in-service teacher professional development opportunities focusing on meeting the needs of children on the spectrum. Moreover, the internet has also grown tremendously in the past two decades, allowing increased access to ASD-specific resources. Thus, it seems plausible that educators today may feel more prepared and confident in their skills to address the needs of students with ASD than participants in earlier studies. As a result, they may not hold the same concerns and perceptions about children with ASD, and therefore, they did not report the particularly negative beliefs for children with borderline moderate ASD as expected.

Finally, of note is that overall the general (but non-significant) pattern in the data was quite different than what was hypothesized in this research question. That is, parents, on average, tended to report less positive beliefs about the academic expected outcomes of inclusion (i.e., slightly higher scores) compared to educator participants for both severity levels. Within the ASD literature, parents’ beliefs about the effects of inclusion have primarily been investigated (albeit indirectly) with regards to children with ASD in general (e.g., Li, 2002), or their beliefs about the perceived effects of inclusion on their individual child with ASD (e.g., MacLeod, 2001; Sansosti, 2008). Positive beliefs about the effects of inclusion on the academic skills of children with ASD were only occasionally noted, suggesting that beliefs about the expected academic outcomes of inclusion were not particularly salient for parents. Therefore, it was hypothesized that parents would not report strong beliefs for either child, but would report more positive beliefs than educators would for the child with borderline moderate ASD, given educators concerns as previously discussed. However, the parents in these previous studies had children who were spending the vast majority of the school day in the general education setting, and thus those findings may only be reflective of the beliefs held by parents of children with ASD who have such experiences with inclusion. In the current study, all of the participants' own children attended mainstream schools with their typically-developing peers, but there was variability evident with respect to the amount of time spent in the general education setting. That is, the parents in the current study reported a wide range of inclusion programming, from full-time placement in a special education classroom to full-time placement in the general education classroom. These differences in the samples, combined with the current study's methodology, which allowed for directly measuring academic outcome beliefs about the same children with mild ASD and borderline moderate ASD, may explain the different (yet non-significant) pattern in the current study results, and the lack of support for the hypothesis.

Limitations and Future Research

The current study has limitations pertaining to the samples, and to the data and data collection processes, which should be addressed in future research efforts. First, the generalizability of the results is limited as a result of the sampling processes and the demographics of the participants in both samples. Although the educator sample was obtained via a random sample of school districts in Michigan, the obtained sample consisted primarily of Caucasian, general education teachers who have earned a Master's degree. It is likely that this obtained sample does not adequately represent the larger population of teachers in Michigan, and thus the findings may not accurately generalize to that larger population.

Moreover, given the low educator response rate and completion rate obtained in the current study, it is possible that the educators in the current study differ in other meaningful ways from those individuals who were invited and eligible to participate, but for whatever reason, chose not to do so. It seems plausible, for instance, that those who chose to participate may hold strong beliefs and opinions about inclusion for children with ASD, whereas others who chose not to participate may have held more indifferent beliefs about inclusion or the education of students with ASD more generally. Thus the results of the current study may not be applicable to the larger population of elementary school teachers.

The obtained parent sample was recruited through partnering with several autism advocacy groups and autism support groups/service centers across the state. In the current study, only parents of children with ASD whose child attended a typical elementary school (with peers without disabilities) were included in the sample. Therefore, the findings of this study may not accurately capture the beliefs of parents of children with ASD who are homeschooled, or who attend separate schools for children with disabilities. In addition, the parent sample consisted primarily of Caucasian females who had earned a Bachelor's degree or higher degree. According to the Centers for Disease Control and Prevention, "ASD occurs in all racial, ethnic and socioeconomic groups" (CDC, 2014), suggesting greater diversity than was obtained in the current study sample. Therefore, it appears that the distribution of the aforementioned demographic traits in the sample do not accurately reflect the distribution of these traits in the population of parents of children with ASD as a whole. Although demographic data on parents of children with ASD in the state is not available, data obtained by the U.S. Department of Education (2013), from the 2011-2012 school year, indicates that 76.7% of children with autism in Michigan were White/Caucasian, 14.8% were Black/African American, 3.6% were Hispanic/Latino, 2.3% were Asian, 1.7% were bi-racial or multi-racial; 0.8% American Indian/Alaska Native, 0.1% Native Hawaiian/Other Pacific Islander. This child-level race/ethnicity data suggests that there is likely an over-representation of White/Caucasian parents (87.0% compared to 76.7% of children with ASD in the state during the 2011-2012 school year) and an under-representation of Black/African American parents (4.3% compared to 14.8% of children with ASD) in the current study sample compared to the population of parents of children with ASD statewide. It also suggests that there may be an under-representation of Hispanic parents of children with ASD (2.2% compared to 3.6%) and a slight over-representation of Asian/Asian American/Pacific Islander (3.3% compared to 2.3%) in the current study sample. Thus, generalizations of the study findings to all parents of children with ASD statewide, or to more racially diverse samples, should be limited.

In order to address this limitation, future research should attempt to recruit a more representative or diverse sample of parents of children with ASD. For example, to ensure that low-income individuals have access to the survey, it may be beneficial to have both paper and online versions of the survey. Paper surveys could be mailed to potential participants, or they could be completed on-site at clinics providing services to children and families of children with ASD. Providing partnering clinics with laptops/computers (temporarily) so that interested individuals could complete the online survey on-site may also increase access for low income individuals.

An additional limitation pertains to the characteristics of the samples and the preliminary analyses. Specifically, the small subgroup sample sizes for several of the preliminary analyses resulted in limited power to detect significant differences among the subgroups. In other words, the lack of significant preliminary analyses may have been due to limited power. In order to better understand variables that may be related to parents' and educators' beliefs about inclusion, future studies ought to attempt to attempt to obtain sufficiently a large sample and to recruit participants with diverse backgrounds and experiences with inclusion.

Third, the data analyzed in the current study relied on parent or educator self-report of *beliefs* about inclusion only. That is, it did not measure educational practices use and student outcomes of inclusion, in addition to beliefs, and therefore cannot confirm the links among these factors. One area of strength of the study is that the scales demonstrated adequate internal consistency – suggesting that they are reliable tools for measuring parents' and educators' beliefs about the expected academic and social outcomes of inclusion. However, research has also suggested that beliefs "permeate one's perception of a concept" (Stoiber, et al., 1998, p. 109). As such, beliefs figure prominently in the educational decision-making processes and influence decisions about how best to include a child (Sansosti, 2008; Stoiber, et al., 1998). In addition, beliefs have also been suggested to shape educational practices and outcomes (Pajares, 1992; Schommer, 1994). Thus, because the current study focused solely on beliefs, and not educational practices or actual outcomes of inclusion, one can only speculate that the generally positive beliefs reported are likely to influence actual practices used in the classroom to support positive outcomes. This is an area of need apparent within the broader literature as well. Future studies could expand on the current study by incorporating measures to confirm the relationship between beliefs about expected outcomes of inclusion and actual behaviors that are likely to support positive outcomes (e.g., what placements, supports, and services do participants recommend or advocate for in order to optimize academic or social outcomes for that child?). It seems plausible that despite reporting similar beliefs in the current study, expected outcome beliefs may shape parents and educators actual behavior more or less, which in turn could affect child outcomes and the success of inclusive efforts for that child.

Fourth, inclusion is complex. The current study provided a definition of inclusion so that participants could respond to the belief scales with a common definition. Many previous studies lacked this component – making it unclear if perhaps differences in beliefs were due to varied interpretations about what “inclusion” meant, rather than truly tapping differences in beliefs about inclusion. Efforts were made to incorporate information about the amount of time spent in the general education environment, other services received, and the supports in place for the student in the definition provided in the current study. Thus, the definition provided is one possible inclusive programming option available within a “continuum of services” model of inclusion. However, other components that may affect the effectiveness of inclusion efforts – such as school climate and the child’s membership (i.e., sense of belonging and feeling welcomed for example) in the general education setting – are not as easily captured in a short description. Moreover, many different definitions and interpretations of the term “inclusion” are apparent within the existing literature, and are evident in practice within schools (Handleman et al., 2005; Ryndak et al., 2010). Future studies, with additional information about the inclusive context, could be very beneficial and could aid in improving our understanding of parents’ and educators’ beliefs about the expected outcomes of various inclusion models and programing options for children on the spectrum.

Finally, the current study examined parents' and educators' beliefs about the expected outcomes of only one definition of inclusion. This study did not compare parents and educators beliefs about various levels of inclusion, or compare inclusive versus non-inclusive placements. The defining of inclusion for participants is considered a strength of this study, because as noted by Ryndak et al. (2000), many studies published in recent years did not provide any definition of inclusion for participants. Therefore, it is possible that participants in those previous studies may have been responding to the survey while thinking about very different interpretations of inclusion. However, by providing only one definition of inclusion for participants in the current study, the results may not adequately capture their beliefs about other models of inclusion, such as "full inclusion" or, other, more restrictive "continuum of services" models of inclusion. Furthermore, because the current study did not include any conditions tapping beliefs about more restrictive educational programming (such as 50% of the day in general education and 50% in a special education classroom) or less restrictive programming (e.g., 100% full inclusion), the current study does not allow one to draw conclusions about the effects of severity and the type of expected outcomes for inclusive programming compared to more or less inclusive programming or self-contained, special education classroom programming.

Implications for Practice

Researchers and scholars have stressed that it is important for both parents and educators to have positive beliefs and attitudes about inclusion in order for there to be "success of inclusion reforms" (Forlin, Earle, Loreman, & Sharma, 2011, p. 51) (e.g., Avramidis & Norwich, 2002; Chow & Winzer, 1992; Hastings & Oakford, 2003). The results of the current study indicate that, on average, parents and educators reported positive beliefs about the expected academic outcomes and the expected social outcomes of inclusion for children with mild and borderline moderate ASD. Thus, it would appear that in general, parents of elementary-school-age children with ASD and elementary school teachers hold positive beliefs that are likely to facilitate successful inclusive educational experiences.

The majority of research investigating the actual "success," or effectiveness, of inclusion suggests that some degree of inclusion can have positive effects on the development of children with ASD, particularly within the social domain. For example, studies have found that students with ASD who are included exhibit better social engagement in social interaction skills (Dahl, 2003). Chamberlain et al. (2007) found that included students with ASD had larger peer networks as a result of inclusive settings. Although fewer studies have examined the academic outcomes of inclusion for children on the spectrum, positive outcomes have been reported in this domain as well. For instance, Downing, Eichinger, and Williams (1997) found increases in academic progress and in academic behaviors (e.g., participation and engagement in the classroom) in their study. Kurth (2008) also investigated academic outcomes and found that those children who received their education in the general education setting out-performed their peers in non-included settings on the Woodcock-Johnson III Tests of Achievement. Therefore the findings in the current study suggest that on average, the parents and educators in this study reported holding expected outcome beliefs that were generally realistic and consistent with the positive nature of actual student outcomes of inclusion reported in the literature.

Despite many participants reporting positive beliefs, as indicated by the frequency analyses, it is important to note that a sizeable percentage of both the parent and educator samples reported expected outcome beliefs falling within the neutral range, and a small percentage reported beliefs falling in the negative range. Thus, it appears that at least some parents and educators may benefit from additional information and resources regarding what accommodations, modifications, supports, and evidence-based interventions are likely to facilitate positive academic and social outcomes of inclusion for children on the spectrum. Such information would likely support these individuals in developing more positive beliefs about the expected outcomes of inclusion, thereby increasing the likelihood of the success of inclusion efforts.

The results of the current study also indicated that participants' beliefs about the expected outcomes of inclusion differed based on the severity of the child's ASD symptoms and the type of expected outcome being considered. Specifically, participants reported more positive beliefs about the expected outcomes of inclusion for the child with mild ASD compare to child with borderline moderate ASD. Participants also reported more positive beliefs about the expected social outcomes of inclusion compared to the expected academic outcomes of inclusion.

These are important findings because of the role beliefs play in shaping educational decision-making (Sansosti, 2008; Stoiber, et al., 1998). In this study, the vignettes depicted male children and "inclusion" was defined for participants on the survey as follows:

> The child spends at least 90% of his time at school in the general education classroom. Specifically, he receives instruction in all academic skill areas (reading, math, writing, science, social studies) in a general education classroom and attends all non-academic subjects such as art, music, and gym with his classmates. Outside of the general education classroom he receives the following special education services each week: one hour of speech and language services, one hour of occupational therapy and one hour of physical therapy. Visual supports, social stories and a positive behavior reinforcement system are in place to support the student throughout the school day.

Thus, in practice, these findings suggest that when the team is engaged in educational decision-making concerning a child with borderline moderate ASD (rather than a child with mild ASD), many parents and teacher are likely to hold less positive expected outcome beliefs. Therefore, for a child with borderline moderate ASD, they may be less likely to support inclusive programming similar to the aforementioned description over other (more or less) restrictive educational programming options. Similarly, parents and educators appear to believe that the aforementioned inclusive program is less likely to support positive academic outcomes than positive social outcomes. Thus, it is possible that those who prioritize academic outcomes of inclusion over social outcomes may be less likely to support such an inclusive programming, in favor of other more or less, restrictive programming.

In addition to shaping educational decisions and decision-making processes, beliefs have also been suggested to influence behavior related to the use of educational practices (Pajares, 1992; Schommer, 1994). For educators in particular, this link between beliefs and classroom practices is especially relevant because of the direct effects they can have on actual student outcomes as a result of inclusion. Together, the current study's findings about the effects of severity and the type of expected outcome on beliefs suggest that educators may be more likely to implement practices that support children with mild ASD and practices to facilitate social outcomes. The findings also suggest that educators may be less likely to implement evidence-based practices to support children with borderline moderate ASD and practices designed to facilitate positive academic outcomes. Thus, in order to promote the actual attainment of positive outcomes for children with borderline moderate ASD in the inclusive classroom, it appears there may be a need to provide greater support to educators in tailoring instruction and making accommodations and modifications to curriculum content and assignments. Additionally, educators may benefit from increased support in implementing evidence-based practices in the classroom that are specifically designed to promote positive academic outcomes for children with ASD. Such supports could be provided through the dissemination of evidence-based practice information, professional development and inquiry-based learning opportunities, modeling, and coaching.

Finally, despite a non-significant effect of group membership and non-significant interactions involving the group membership variable, there was some variability in beliefs evident within the parent group and within the educator group. Frequency analyses revealed that zero participants reported extremely negative beliefs, and that only a small percentage of participants reported extremely positive expected outcome beliefs, suggesting that relatively few participants reported “extreme” expected outcome beliefs. However a substantial portion of participants reported neutral expected outcome beliefs and a small proportion reported negative expected outcome beliefs. In general, a larger proportion of parents and educators who had experienced conflict about inclusion or educational programming tended to report scores falling within the negative and neutral ranges, compared to those who had not experienced conflict. Thus it seems plausible that expected outcome beliefs may be a source of conflict in the schools when individuals with different beliefs must work together to develop programming for a child.

Within the schools, school psychologists may be uniquely situated to aid parents and educators in developing positive expected outcome beliefs, in making decisions about educational programming, and in implementing evidence-based practices to facilitate positive outcomes for students with ASD as a result of inclusion. For example, because of school psychologists’ training in evaluating empirical evidence and communicating knowledge to various audiences (e.g., teachers, parents, administrators), they could play a role in shaping parents’ and educators’ beliefs, and in supporting informed decision-making by disseminating information about evidence-based practices. Additionally, because of their training in collaborative consultation and problem-solving, school psychologists could play a role in directly shaping decision-making processes to ensure they are collaborative in nature (National Association of School Psychologists, 2010). Applying these skills at team meetings could aid ensuring that every party's beliefs are heard and respected by the team, which could be used to facilitate problem-solving if disagreements arise among parents and educators about inclusive programming. Finally, through collaborative consultation or coaching, school psychologists could also aid educators in implementing those practices with fidelity in the inclusive classroom, in order to increase the likelihood of achieving actual positive academic and social outcomes.

Conclusions

Beliefs about inclusion are likely to figure prominently in educational decision-making processes and to influence decisions about how best to include a child (Sansosti, 2008; Stoiber et al., 1998). In addition, positive beliefs are considered critical to the success of inclusion efforts (Forlin et al., 2011; Simpson et al., 2003). In this study, participants, on average, reported positive expected outcome beliefs, however, some variability in beliefs was also evident. This suggests that at least some parents and educators may benefit from additional information and resources regarding what accommodations, modifications, supports, and evidence-based interventions are likely to facilitate positive outcomes of inclusion for children on the spectrum. This information would likely aid in decision-making and support these individuals in developing more positive beliefs about the expected outcomes of inclusion. Participants' beliefs in this study were also found to significantly differ based on the type of expected outcome being considered and the severity of the child's ASD symptoms, with more positive beliefs being reported for social expected outcomes and for children with mild ASD. Given that beliefs have also been suggested to influence behavior related to the use of educational practices (Pajares, 1992; Schommer, 1994), there may be a need to provide greater support to educators in tailoring instruction, providing accommodations and modifications, and in implementing evidence-based practices - particularly those practices designed to target academic skills and to support children with borderline moderate ASD symptoms. School professionals might consider providing such training and support through the dissemination of evidence-based practices, professional development, modeling, and coaching, in order to promote the actual attainment of positive student outcomes as a result of inclusion, and to further increase the likelihood of the success of inclusion efforts for children on the spectrum.

APPENDICES

Appendix A: Parent Survey Invitation

Dear Parents and Guardians,

My name is Jillian Fortain and I am a doctoral student in the School Psychology program at Michigan State University. As part of my degree requirements, I'm completing a research study examining the beliefs about inclusion held by educators and parents of children with Autism Spectrum Disorder (ASD). This research study may facilitate increased collaboration within the educational decision-making processes for students on the autism spectrum.

At this time, I am currently inviting parents and guardians of elementary school-aged (grades kindergarten – fifth) children with ASD to participate in this research study. You must also live in Michigan to participate. Through this study, we hope to learn about parents' and educators' perspectives on the outcomes of inclusion for children with ASD. The online survey takes about 25 minutes to complete. It does *not* need to be finished in one session. Your participation is completely voluntary.

If you are a parent or guardian of a child with ASD who is currently in elementary school (grades K – 5) and you choose to participate in the survey, you will receive a $15 Amazon.com gift card. At the end of the survey you may provide an email address where you would like the electronic gift card sent.

If you are interested in participating, please click on the link below (or copy and paste it into your web browser). There you will find additional information about the study and you will have the option to complete the survey.

[survey link]

Thank you,

Jillian Fortain
Doctoral Candidate in School Psychology
Michigan State University
248-240-1161
Fortain1@msu.edu

Appendix B: Educator Survey Invitation

Dear Educator,

My name is Jillian Fortain and I am a doctoral student in the School Psychology program at Michigan State University. As part of my degree requirements, I'm completing a research study examining the beliefs about inclusion held by educators and parents of children with Autism Spectrum Disorder (ASD). This research study may facilitate increased collaboration within the educational decision-making processes for students on the autism spectrum.

You are being invited to participate in this study because of your role as an elementary school teacher (grades K-5) in Michigan. Through this study, we hope to learn about educators' and parents' perspectives on the outcomes of inclusion for young children with ASD. The online survey takes about 20-25 minutes to complete. Your participation is completely voluntary. *Please note that the survey should be completed on your own time, outside your normal work hours.* It does *not* need to be completed in one session.

For your participation in the survey, you will receive a $15 Amazon.com gift card. At the end of the survey you may provide an email address where you would like the electronic gift card sent.

If you are interested in participating, please follow the "Take the Survey" link or use the URL below. There you will find additional information and you will have the option to complete the survey.

Please do not hesitate to contact me at fortain1@msu.edu if you have any questions or would like additional information.

[Survey link]

Thank you for your time.

Sincerely,

Jillian Fortain
Doctoral Candidate in School Psychology
Michigan State University
248-240-1161
Fortain1@msu.edu

Appendix C: Parent Survey

Dear Parent,

My name is Jillian Fortain, and I am a graduate student in the School Psychology program at Michigan State University. As part of my doctoral degree requirements, I am completing a research study that examines educators' and parents' beliefs about inclusion for students with Autism Spectrum Disorder (ASD). This research may facilitate improved collaboration within the educational decision-making processes for students on the autism spectrum.

You are being invited to participate in a research study because as a parent or legal guardian of child with ASD who is currently in elementary school (kindergarten - fifth grade). You must be at least 18 years old to participate in this research. Participation is completely voluntary.

Study Information

Study Title: An Examination of Parents' and Educators' Beliefs about the Academic and Social Outcomes of Inclusion for Students with Autism Spectrum Disorders Researchers: Jillian Fortain, M.A., Doctoral Candidate in School Psychology; Sara Witmer, Ph.D., Associate Professor Department: Department of Counseling, Educational Psychology, and Special Education, Michigan State University.

Participation Procedures

If you decide to participate, you will be asked to complete an online survey that will take approximately 20-25 minutes to finish. Participation in this research project is completely voluntary. You have the right to say no. You may change your mind at any time and withdraw from the study. You may choose not to answer any of the questions on the survey and you may choose to stop participating at any time. Please know that if decide not to participate, or decide to stop participating at any time, this will not have any negative consequences for you.

Risks and Compensation

There are no risks and no costs associated with participation in this study. For your participation in the survey, you will receive a $15 Amazon.com gift card. You will receive the gift card electronically via email approximately two weeks after completing the survey.

Privacy and Confidentiality

Your email address will be removed from the dataset and stored in a separate password-protected file with no other data to ensure that there is no link between you and your survey responses. Records of this study will be kept confidential, and you will not be identified in any verbal or written reports of this study. All data will be stored on a password-protected computer in password-protected files.

Contact Information for Questions

If you have concerns or questions about this study, please contact the researchers (Jillian Fortain at 248-240-1161 or email fortain1@msu.edu; Dr. Sara Witmer at 517-432-9621 or email sbolt@msu.edu or mail at 434 Erickson Hall, MSU, East Lansing, MI 48824). If you have questions about your rights as a research participant, you may contact, anonymously if you wish, the Michigan State University's Human Research Protection Program at 517-355-2180, by Fax at 517-432-4503, by email at irb@msu.edu or by regular mail at 207 Olds Hall, MSU, East Lansing, MI 48824.

By clicking on the "Yes, I consent" button below, you indicate your voluntary agreement to participate in this online survey.

○ Yes, I consent.
○ No, I do not consent to participation in this study.

In this section of the survey you will be asked to respond to questions about yourself, your child and his/her educational programming, and your experiences collaborating with your child's teacher(s).

1. Please respond to the following questions about yourself.
Please identify how you are related to a child with Autism Spectrum Disorder (ASD).
○ Biological Mother
○ Adoptive Mother
○ Step Mother
○ Foster Mother
○ Biological Father
○ Adoptive Father
○ Step Father
○ Foster Father
○ Legal guardian

2. Do you currently live in Michigan?
○ Yes
○ No

3. What is your gender?
○ Male
○ Female

4. What is your age?

5. Please select the race(s) that you identify with below.
○ African American or Black
○ American Indian or Alaskan Native
○ Asian, Pacific Islander or Asian American
○ Caucasian or White
○ Hispanic
○ Other (please specify) ____________________

6. What is the highest level of education you have completed?
○ Some high school
○ High school/High school equivalent
○ Some college
○ Associate’s degree
○ Bachelor's degree
○ Master’s degree
○ Doctorate degree
○ Other (please specify) ____________________

Please respond to the following questions about your child and his/her current educational programming.

7. What is your child’s gender?
○ Male
○ Female

8. What is your child’s age?

9. As of May 2014, what grade was your child in? (i.e., what grade was your child in during the 2013-2014 school year?)
○ Kindergarten
○ 1st grade
○ 2nd grade
○ 3rd grade
○ 4th grade
○ 5th grade
○ 6th grade
○ 7th grade
○ 8th grade

10. What is your child’s specific diagnosis on the autism spectrum?
○ Autism Spectrum Disorder
○ Autistic disorder
○ Asperger’s syndrome
○ Childhood disintegrative disorder
○ Rhett’s disorder
○ Pervasive developmental disorder-Not otherwise specified (PDD-NOS)
○ Unsure/Don’t know

11. Does your child currently receive any special education services at school?
○ Yes
○ No
○ Unsure/Don't know

12. Which of the following best describes your child’s current educational program?

○ My child receives all instruction and additional support services (e.g., speech therapy, social work services, etc.) in the general education classroom.
○ My child receives all instruction in the general education classroom with additional support services (e.g., speech therapy, social work services, etc.) provided in a separate setting.
○ My child receives instruction in the general education class with additional academic/skill instruction provided in a separate location (e.g., special education or resource room support).
○ My child receives instruction in a self-contained/special education classroom and attends non-academic subjects/activities (e.g., art, music, physical education) with his/her general education peers.
○ My child receives all instruction in a self-contained/special education classroom and does not attend any subjects/activities (e.g., art, music, physical education) with his/her general education peers.
○ My child attends a separate school for children with disabilities.
○ My child is home-schooled.
○ Other programming (please specify) ____________________

13. Approximately how many hours per day does your child currently spend in the general education classroom with his/her general education peers? _______

Please complete the following questions about your experiences working with your child's educators.

14. Have you ever experienced conflict or disagreement with an educator with regards to educational decision-making or programming for your child?

○ Yes
○ No

If yes to #14:
15. Please describe the nature of the conflict or disagreement (e.g., What was the disagreement about? When did it occur? Was it resolved? How was it resolved?).

16. Have you ever experienced conflict or disagreement with an educator specifically with regards to how your child would be included in the general education classroom or how much time your child would spend in the general education environment?

○ Yes
○ No

If yes to #16:
17. Please describe the nature of this conflict or disagreement (e.g., What was the disagreement about? When did it occur? Was it resolved? How was it resolved?).

18. In general, how would you describe the partnership between you and your child's current educator(s) with regards to educational decision-making and programming for your child?
○ Not a collaborative partnership at all
○ Minimally collaborative partnership
○ Collaborative partnership
○ Strong collaborative partnership
○ Very strong collaborative partnership
○ Other (please elaborate in the box below) ____________________

In the next section, you will be presented with two short descriptions of different children diagnosed with ASD. After reading each description, you will be asked to complete three multiple-choice questions and to rate how much you agree/disagree with fourteen statements about the outcomes of inclusion for that child.

Please read the following description of John.

John is an eight-year-old boy diagnosed with Autism Spectrum Disorder. He is currently in the third grade. John communicates verbally with adults and peers. He almost always speaks in full sentences. John often seems interested in engaging with his peers but he has difficulty making friends without support. He struggles to initiate interactions and join group activities appropriately. For example, John often watches his peers playing or talking to one another for several minutes before approaching the group. Then he usually makes a statement indicating that he likes the activity they're engaged in, but does not join in the activity or ask his peers if he can play too. When other children speak to John, he typically responds using full sentences. Although this initial response is usually on-topic and appropriate, he has difficulty staying on-topic throughout a conversation. He frequently tries to change the subject to something he is very interested in such airplanes or dinosaur species. John also does not seem to understand many nonverbal behaviors used to communicate such as facial expressions and body language. For instance, if a peer's facial expression indicates that she is upset after John interrupts her, he does not appear to notice it and will continue talking. John regularly manages routine classroom transitions well using his visual schedule. However, he occasionally has difficulty transitioning from preferred activities, such as computers, to other activities. When this happens, he often ignores initial requests to stop working. Typically, with one or two additional verbal prompts, he is able to successfully transition from computer time. When excited, John occasionally flaps his hands very quickly in the air.

Please respond the following questions about John by selecting the correct answer.

19. How does John attempt to join a group of peers engaged in an activity?
○ He never attempts to join his peers.
○ He watches his peers and then usually makes a statement indicating that he likes the activity they're engaged in, but does not join in the activity.
○ He begins talking loudly about something he is interested in.
○ He watches his peers but does not approach the group.

20. How does John generally respond when a peer approaches him?

○ He ignores the peer or walks away.
○ He responds appropriately with an on-topic response and asks the peer question about that topic.
○ His initial response is on-topic, but he has difficulty staying on topic throughout the conversation.
○ Then he usually makes a statement indicating that he likes the activity his peers are engaged in.

21. Which of the following behaviors does John display?

○ Yelling in response to teacher requests to transition from preferred activities.
○ Rocking back and forth very quickly.
○ Hitting peers when they approach him.
○ Ignoring teacher requests to transition from preferred activities.

Please indicate how much you agree or disagree with the following statements about the Academic outcomes of inclusion for children with ASD like John.

For the purposes of this survey, the term "Inclusion" refers to the child spending at least 90% of his time at school in the general education classroom. Specifically, he receives instruction in all academic skill areas (reading, math, writing, science, social studies) in a general education classroom and attends all non-academic subjects such as art, music, and gym with his classmates. Visual supports, social stories and a positive behavior reinforcement system are in place to support the student throughout the school day as needed. Outside of the general education classroom, he receives the following special education services each week: one hour of speech and language services, one hour of occupational therapy and one hour of physical therapy.

Scale Questions	Strongly Agree	Agree	Neither agree nor disagree (neutral)	Disagree	Strongly Disagree
Inclusion is *academically* advantageous for children with *ASD like John*.	○	○	○	○	○
Children with *ASD like John* will probably develop academic skills more rapidly in a special, separate classroom than in an *inclusive* classroom.	○	○	○	○	○
Children with *ASD like John* are likely to be isolated *during academic instruction* in inclusive classrooms.	○	○	○	○	○

Inclusion promotes *academic* independence among children with *ASD like John.*	○	○	○	○	○
Inclusion promotes self-esteem *related to their academic skills* among children with *ASD like John*.	○	○	○	○	○
The challenge of a *general* education classroom promotes academic growth among children with *ASD like John*.	○	○	○	○	○
Placement in a special *education* class does NOT have a negative effect on the academic skill development of students *with ASD like John* prior to middle school.	○	○	○	○	○

Please indicate how much you agree or disagree with the following statements about the Social outcomes of inclusion for children with ASD like John.

For the purposes of this survey, the term “Inclusion” refers to the child spending at least 90% of his time at school in the general education classroom. Specifically, he receives instruction in all academic skill areas (reading, math, writing, science, social studies) in a general education classroom and attends all non-academic subjects such as art, music, and gym with his classmates. Visual supports, social stories and a positive behavior reinforcement system are in place to support the student throughout the school day as needed. Outside of the general education classroom, he receives the following special education services each week: one hour of speech and language services, one hour of occupational therapy and one hour of physical therapy.

Scale Questions	Strongly Agree	Agree	Neither agree nor disagree (neutral)	Disagree	Strongly Disagree
Inclusion is *socially* advantageous for children with *ASD like John*.	○	○	○	○	○
Children with *ASD like John* will probably develop *social* skills more rapidly in a special, separate classroom than in an *inclusive* classroom.	○	○	○	○	○

Children with *ASD like John* are likely to be *socially* isolated in inclusive classrooms.	○	○	○	○	○
Inclusion promotes social independence among children with *ASD like John*.	○	○	○	○	○
Inclusion promotes self-esteem *related to their social skills* among children with *ASD like John*.	○	○	○	○	○
The challenge of a *general* education classroom promotes *social* growth among children with *ASD like John*.	○	○	○	○	○
Placement in a special *education* class does NOT have a negative effect on the *social skill* development of students *with ASD like John* prior to middle school.	○	○	○	○	○

Please read the following description of Mark.

Mark is an eight-year-old boy diagnosed with Autism Spectrum Disorder. He is currently in the third grade. Mark communicates verbally with adults and peers. He uses very short, simple sentences most of the time. Mark occasionally seems interested in engaging with his peers but he has difficulty making friends even with support. He struggles to initiate interactions and join group activities appropriately. For example, when his peers are engaged in activity that Mark finds very interesting, he occasionally walks over and stands next to the group, but often does not say anything to his peers without prompting. When other children speak to Mark, he usually responds with a short sentence. This initial response is generally appropriate, but Mark has a lot of difficulty reciprocating social interactions and maintaining a conversation. For example if a peer asks him if he likes movies, he will respond “yes, I like movies” but he does not ask any follow-up questions or attempt to engage in a back-and-forth conversation about movies. Mark also does not seem to understand many nonverbal behaviors used to communicate such as facial expressions and body language. For instance, peers may smile and wave him over to join the group or to come sit by them, but he rarely responds to such nonverbal behaviors independently. Mark manages most routine classroom transitions well using his visual schedule and verbal redirections from his teacher. However, he often has a difficult time transitioning from preferred activities, such as computers, to other activities. When this happens, he typically responds to additional verbal and visual prompts to transition with yelling and occasionally, with crying. Typically, after a few minutes, he is able to transition from computer time. When excited, he often flaps his hands very quickly in front of his face, while rocking back and forth for a brief period of time.

Please respond the following questions about Mark by selecting the correct answer.

22. How does Mark attempt to join a group of peers engaged in an activity?
❍ He never attempts to join his peers.
❍ He watches his peers and then usually makes a statement indicating that he likes the activity they're engaged in, but does not join in the activity.
❍ He occasionally walks over and stands next to the group, but often does not say anything to his peers without prompting.
❍ He watches his peers and then abruptly enters the group by yelling.

23. How does Mark generally respond when a peer approaches him?
❍ His initial response is generally appropriate, but he does not ask any follow-up questions or attempt to engage in a back-and-forth conversation.
❍ His initial response is always on-topic, but he has difficulty staying on topic throughout the conversation.
❍ He responds appropriately with an on-topic response and asks the peer question about that topic.
❍ He usually makes a statement indicating that he likes the activity his peers are engaged in.

24. Which of the following behaviors does Mark display?
❍ Kicking peers when they approach him.
❍ Yelling in response to teacher requests to transition from preferred activities.
❍ Interrupting peers frequently.
❍ Hitting peers when they approach him.

Please indicate how much you agree or disagree with the following statements about the Academic outcomes of inclusion for children with ASD like Mark.

For the purposes of this survey, the term "Inclusion" refers to the child spending at least 90% of his time at school in the general education classroom. Specifically, he receives instruction in all academic skill areas (reading, math, writing, science, social studies) in a general education classroom and attends all non-academic subjects such as art, music, and gym with his classmates. Visual supports, social stories and a positive behavior reinforcement system are in place to support the student throughout the school day as needed. Outside of the general education classroom, he receives the following special education services each week: one hour of speech and language services, one hour of occupational therapy and one hour of physical therapy.

Scale Questions	Strongly Agree	Agree	Neither agree nor disagree (neutral)	Disagree	Strongly Disagree
Inclusion is *academically* advantageous for children with *ASD like Mark*.	❍	❍	❍	❍	❍

Children with *ASD like Mark* will probably develop academic skills more rapidly in a special, separate classroom than in an *inclusive* classroom.	○	○	○	○	○
Children with *ASD like Mark* are likely to be isolated *during academic instruction* in inclusive classrooms.	○	○	○	○	○
Inclusion promotes *academic* independence among children with *ASD like Mark.*	○	○	○	○	○
Inclusion promotes self-esteem *related to their academic skills* among children with *ASD like Mark.*	○	○	○	○	○
The challenge of a *general* education classroom promotes academic growth among children with *ASD like Mark.*	○	○	○	○	○
Placement in a special *education* class does NOT have a negative effect on the academic skill development of students *with ASD like Mark* prior to middle school.	○	○	○	○	○

Please indicate how much you agree or disagree with the following statements about the Social outcomes of inclusion for children with ASD like Mark.

For the purposes of this survey, the term “Inclusion” refers to the child spending at least 90% of his time at school in the general education classroom. Specifically, he receives instruction in all academic skill areas (reading, math, writing, science, social studies) in a general education classroom and attends all non-academic subjects such as art, music, and gym with his classmates. Visual supports, social stories and a positive behavior reinforcement system are in place to support the student throughout the school day as needed. Outside of the general education classroom, he receives the following special education services each week: one hour of speech and language services, one hour of occupational therapy and one hour of physical therapy.

Scale Questions	Strongly Agree	Agree	Neither agree nor disagree (neutral)	Disagree	Strongly Disagree
Inclusion is *socially* advantageous for children with *ASD like Mark.*	○	○	○	○	○

Children with *ASD like Mark* will probably develop *social* skills more rapidly in a special, separate classroom than in an *inclusive* classroom.	○	○	○	○	○
Children with *ASD like Mark* are likely to be *socially* isolated in inclusive classrooms.	○	○	○	○	○
Inclusion promotes social independence among children with *ASD like Mark*.	○	○	○	○	○
Inclusion promotes self-esteem *related to their social skills* among children with *ASD like Mark*.	○	○	○	○	○
The challenge of a *general* education classroom promotes *social* growth among children with *ASD like Mark*.	○	○	○	○	○
Placement in a special *education* class does NOT have a negative effect on the *social skill* development of students *with ASD like Mark* prior to middle school.	○	○	○	○	○

During this survey, you have read about two different children with Autism Spectrum Disorder (ASD) – John and Mark. Below you will find the descriptions of John and Mark, followed by two additional descriptions of children with ASD – Devon and Steven. Please indicate which of the children described below shares the most traits with your own child by checking the appropriate box.

○ John communicates verbally with adults and peers. He almost always speaks in full sentences. John often seems interested in engaging with his peers but he has difficulty making friends without support. He struggles to initiate interactions and join group activities appropriately. For example, John often watches his peers playing or talking to one another for several minutes before approaching the group. Then he usually makes a statement indicating that he likes the activity they're engaged in, but does not join in the activity or ask his peers if he can play too. When other children speak to John, he typically responds using full sentences. Although this initial response is usually on-topic and appropriate, he has difficulty staying on-topic throughout a conversation. He frequently tries to change the subject to something he is very interested in such airplanes or dinosaur species. John also does not seem to understand many nonverbal behaviors used to communicate such as facial expressions and body language. For instance, if a peer's facial expression indicates that she is upset after John interrupts her, he does not appear to notice it and will continue talking. John regularly manages routine classroom transitions well using his visual schedule. However, he occasionally has difficulty transitioning from preferred activities, such as computers, to other activities. When this happens, he often ignores initial requests to stop working. Typically, with one or two additional verbal prompts, he is able to successfully transition from computer time. When excited, John occasionally flaps his hands very quickly in the air.

○ Mark communicates verbally with adults and peers. He uses very short, simple sentences most of the time. Mark occasionally seems interested in engaging with his peers but he has difficulty making friends even with support. He struggles to initiate interactions and join group activities appropriately. For example, when his peers are engaged in activity that Mark finds very interesting, he occasionally walks over and stands next to the group, but often does not say anything to his peers without prompting. When other children speak to Mark, he usually responds with a short sentence. This initial response is generally appropriate, but Mark has a lot of difficulty reciprocating social interactions and maintaining a conversation. For example if a peer asks him if he likes movies, he will respond "yes, I like movies" but he does not ask any follow-up questions or attempt to engage in a back-and-forth conversation about movies. Mark also does not seem to understand many nonverbal behaviors used to communicate such as facial expressions and body language. For instance, peers may smile and wave him over to join the group or to come sit by them, but he rarely responds to such nonverbal behaviors independently. Mark manages most routine classroom transitions well using his visual schedule and verbal redirections from his teacher. However, he often has a difficult time transitioning from preferred activities, such as computers, to other activities. When this happens, he typically responds to additional verbal and visual prompts to transition with yelling and occasionally, with crying. Typically, after a few minutes, he is able to transition from computer time. When excited, he often flaps his hands very quickly in front of his face, while rocking back and forth for a brief period of time.

○ Devon has limited verbal communication skills: The primary way he communicates is through the use of picture symbols and gestures (e.g., pointing to objects he wants). Devon occasionally displays tantrum behaviors when he has difficulty communicating with others. Devon generally seems to like to do things alone. He sometimes appears interested in engaging in activities with his peers but rarely initiates any interactions with other children. For example, Devon rarely approaches peers, says "hello" using his picture symbols or joins in their activity without prompting. When other children speak to Devon, he typically responds by using gestures or giving the peer one of his picture symbols. After this initial interaction, Devon usually ignores the peer. Devon sometimes plays with items appropriately for his age. He frequently becomes pre-occupied with spinning objects instead of using them as intended however. Devon also often rocks back and forth very quickly while he is sitting down. He can generally be redirected to the task at hand with several prompts.

○ Steven does not speak or use picture symbols to communicate. He generally points to things or pulls adults over to objects he wants or needs. When his method of communication does not get his need met, he often engages in tantrum behavior. Steven seems to like to do things alone: He does not appear interested in engaging in activities with his peers and very rarely initiates any interactions with other children appropriately. When other children speak to Steven, he ignores the peer. Steven rarely plays with items appropriately for his age. He shows an intense pre-occupation with spinning objects rather than using them as intended. For example, during recess Steven often sits and spins a basketball on the ground repeatedly rather than shooting it at the basket like his peers nearby. Steven also often rocks back and forth very quickly while he is sitting down and does not respond well to redirection.

Please indicate the extent to which you think that you and your child's current teacher would report similar or different beliefs about the expected outcomes of inclusion for children with ASD for the following four items.

1 Very Similar beliefs	2 Similar beliefs	3 Slightly Similar beliefs	4 Slightly Different beliefs	5 Different beliefs	6 Very Different beliefs	7 Undecided Not sure

- I think our beliefs about the academic outcomes of inclusion for John would be...
- I think our beliefs about the academic outcomes of inclusion for Mark would be...
- I think our beliefs about the social outcomes of inclusion for John would be...
- I think our beliefs about the social outcomes of inclusion for Mark would be...

Thank you for participating in this study!

To receive your $15 Amazon.com gift card for your participation, please enter your email address in the box below (AND click the "Next" button at the bottom of the screen). Please check that the email address you entered is correct. You will receive your gift card electronically via email within approximately two weeks. Email Address: ______________________

Appendix D: Educator Survey

Dear Educator,

My name is Jillian Fortain, and I am a graduate student in the School Psychology program at Michigan State University. As part of my doctoral degree requirements, I am completing a research study that examines educators' and parents' beliefs about inclusion for students with Autism Spectrum Disorder (ASD).

This research may facilitate improved collaboration within the educational decision-making processes for students on the autism spectrum. You are being invited to participate in a research study because you are a special or general education teacher. You must be at least 18 years old to participate in this research. *The survey should be completed on your own time and not during your normal work hours*. Participation is completely voluntary.

Study Information
Study Title: An Examination of Parents' and Educators' Beliefs about the Academic and Social Outcomes of Inclusion for Students with Autism Spectrum Disorders Researchers: Jillian Fortain, M.A., Doctoral Candidate in School Psychology; Sara Witmer, Ph.D., Associate Professor Department: Department of Counseling, Educational Psychology, and Special Education, Michigan State University.

Participation Procedures
If you decide to participate, you will be asked to complete an online survey that will take approximately 20-25 minutes to finish. Participation in this research project is completely voluntary. You have the right to say no. You may change your mind at any time and withdraw from the study. You may choose not to answer any of the questions on the survey and you may choose to stop participating at any time. Please know that if decide not to participate, or decide to stop participating at any time, this will not have any negative consequences for you.

Risks and Compensation
There are no risks and no costs associated with participation in this study. For your participation in the survey, you will receive a $15 Amazon.com gift card. You will receive the gift card electronically via email approximately two weeks after completing the survey.

Privacy and Confidentiality
Your email address will be removed from the dataset and stored in a separate password-protected file with no other data to ensure that there is no link between you and your survey responses. Records of this study will be kept confidential, and you will not be identified in any verbal or written reports of this study. All data will be stored on a password-protected computer in password-protected files.

Contact Information for Questions
If you have concerns or questions about this study, please contact the researchers (Jillian Fortain at 248-240-1161 or email fortain1@msu.edu; Dr. Sara Witmer at 517-432-9621 or email sbolt@msu.edu or mail at 434 Erickson Hall, MSU, East Lansing, MI 48824). If you have questions about your rights as a research participant, you may contact, anonymously if you wish,

the Michigan State University's Human Research Protection Program at 517-355-2180, by Fax at 517-432-4503, by email at irb@msu.edu or by regular mail at 207 Olds Hall, MSU, East Lansing, MI 48824.

By clicking on the "Yes, I consent" button below, you indicate your voluntary agreement to participate in this online survey.

○ Yes, I consent.
○ No, I do not consent to participation in this study.

In this section of the survey you will be asked to respond to questions about yourself, your teaching experiences, and your experiences collaborating with parents of children with autism spectrum disorder (ASD).

Please respond to the following questions about yourself.

1. Which of the following best describes your current teaching role?
○ Special education teacher (at separate school for children with disabilities)
○ Special education teacher (self-contained special education classroom in a regular school)
○ Special education teacher (resource room classroom)
○ Special education teacher (co-teaching model/co-taught classroom)
○ General education teacher (general education classroom in a regular school)
○ General education teacher (Co-teaching mode/co-taught classroom)
○ Other (please specify) ____________________

2. What is your gender?
○ Male
○ Female

3. What is your age?

4. Please select the race(s) that you identify with below.
○ African American or Black
○ American Indian or Alaskan Native
○ Asian, Pacific Islander or Asian American
○ Caucasian or White
○ Hispanic
○ Other (please specify) ____________________

5. What is the highest level of education you have completed?
○ Some high school
○ High school/High school equivalent
○ Some college
○ Associate's degree
○ Bachelor's degree
○ Master's degree

❍ Doctorate degree
❍ Other (please specify) ____________________

6. What type of teaching certificate do you currently hold?
❍ Provisional Certificate
❍ Provisional Temporary Teacher Employment Authorization
❍ Professional Education Certificate
❍ Professional Temporary Teacher Employment Authorization
❍ Advanced Professional Education Certificate
❍ Interim Teaching Certificate
❍ Other (please specify) ____________________

7. Do you currently hold any of the following endorsements: Autism Spectrum Disorder, Cognitive Impairment, Emotional Impairment, Hearing Impairment, Learning Disabilities, Physical or Other Health Impairment, Speech and Language Impairment, or Visual Impairment?
❍ Yes
❍ No

If yes to #7:
8. Please specify all of the endorsements you currently hold.
o Autism Spectrum Disorder
o Cognitive Impairment
o Emotional Impairment
o Hearing Impairment
o Learning Disabilities
o Physical or Other Heath Impairment
o Speech and Language Impairment
o Visual Impairment

Please respond to the following questions about your teaching experiences.

9. What grade level(s) do you currently teach? (please select all that apply):
❍ Kindergarten
❍ 1st grade
❍ 2nd grade
❍ 3rd grade
❍ 4th grade
❍ 5th grade
❍ 6th grade
❍ 7th grade
❍ 8th grade
❍ 9th grade
❍ 10th grade
❍ 11th grade
❍ 12th grade

10. How many years of experience do you have in your current teaching role?

11. How many total years of teaching experience do you have?

12. Do you currently teach any students with ASD?
- ○ No.
- ○ Yes. (Please specify how many students with ASD you currently teach in the box below.) ____________________

13. Have you taught any students with ASD in the past five years?
- ○ No
- ○ Yes. (Please specify how many students with ASD you have taught in the past five years, including any students you currently teach, in the box below) ____________________

If No to #12 and No to #13:
14. At any point during your teaching career, have you taught a student with ASD?
- ○ No
- ○ Yes

Please respond to the following questions about your experiences working with parents of children with ASD.

15. Have you ever experienced conflict or disagreements with a parent of a child with ASD with regards to educational decision-making or programming?
- ○ Yes
- ○ No

If yes to #15:
16. Please describe the nature of the conflict(s) or disagreement(s) (e.g., What was the disagreement about? When did it occur? Was it resolved? How was it resolved?).

17. Have you ever experienced conflict or disagreement with a parent of a child with ASD specifically with regards to how his/her child would be included in the general education classroom or how much time the child would spend in the general education environment?
- ○ Yes
- ○ No

If yes to #17:
18. Please describe the nature of this conflict or disagreement (e.g., What was the disagreement about? When did it occur? Was it resolved? How was it resolved?).

19. Overall, how would you describe the partnerships between you and the parents of children with ASD that you have taught in the past five years, with regards to educational decision-making and programming for the child?

- ○ Not a collaborative partnership at all
- ○ Minimally collaborative partnership
- ○ Collaborative partnership
- ○ Strong collaborative partnership
- ○ Very strong collaborative partnership
- ○ Not applicable, I have not taught any children with ASD in the past five years.
- ○ Other (please elaborate in the box below) ____________________

In the next section, you will be presented with two short descriptions of different children diagnosed with ASD. After reading each description, you will be asked to complete three multiple-choice questions and to rate how much you agree/disagree with fourteen statements about the outcomes of inclusion for that child.

Please read the following description of John.

John is an eight-year-old boy diagnosed with Autism Spectrum Disorder. He is currently in the third grade. John communicates verbally with adults and peers. He almost always speaks in full sentences. John often seems interested in engaging with his peers but he has difficulty making friends without support. He struggles to initiate interactions and join group activities appropriately. For example, John often watches his peers playing or talking to one another for several minutes before approaching the group. Then he usually makes a statement indicating that he likes the activity they're engaged in, but does not join in the activity or ask his peers if he can play too. When other children speak to John, he typically responds using full sentences. Although this initial response is usually on-topic and appropriate, he has difficulty staying on-topic throughout a conversation. He frequently tries to change the subject to something he is very interested in such airplanes or dinosaur species. John also does not seem to understand many nonverbal behaviors used to communicate such as facial expressions and body language. For instance, if a peer's facial expression indicates that she is upset after John interrupts her, he does not appear to notice it and will continue talking. John regularly manages routine classroom transitions well using his visual schedule. However, he occasionally has difficulty transitioning from preferred activities, such as computers, to other activities. When this happens, he often ignores initial requests to stop working. Typically, with one or two additional verbal prompts, he is able to successfully transition from computer time. When excited, John occasionally flaps his hands very quickly in the air.

Please respond the following questions about John by selecting the correct answer.

20. How does John attempt to join a group of peers engaged in an activity?

- ○ He never attempts to join his peers.
- ○ He watches his peers and then usually makes a statement indicating that he likes the activity they're engaged in, but does not join in the activity.
- ○ He begins talking loudly about something he is interested in.
- ○ He watches his peers but does not approach the group.

21. How does John generally respond when a peer approaches him?
○ He ignores the peer or walks away.
○ He responds appropriately with an on-topic response and asks the peer question about that topic.
○ His initial response is on-topic, but he has difficulty staying on topic throughout the conversation.
○ Then he usually makes a statement indicating that he likes the activity his peers are engaged in.

22. Which of the following behaviors does John display?
○ Yelling in response to teacher requests to transition from preferred activities.
○ Rocking back and forth very quickly.
○ Hitting peers when they approach him.
○ Ignoring teacher requests to transition from preferred activities.

Please indicate how much you agree or disagree with the following statements about the Academic outcomes of inclusion for children with ASD like John.

For the purposes of this survey, the term "Inclusion" refers to the child spending at least 90% of his time at school in the general education classroom. Specifically, he receives instruction in all academic skill areas (reading, math, writing, science, social studies) in a general education classroom and attends all non-academic subjects such as art, music, and gym with his classmates. Visual supports, social stories and a positive behavior reinforcement system are in place to support the student throughout the school day as needed. Outside of the general education classroom, he receives the following special education services each week: one hour of speech and language services, one hour of occupational therapy and one hour of physical therapy.

Scale Questions	Strongly Agree	Agree	Neither agree nor disagree (neutral)	Disagree	Strongly Disagree
Inclusion is *academically* advantageous for children with *ASD like John*.	○	○	○	○	○
Children with *ASD like John* will probably develop academic skills more rapidly in a special, separate classroom than in an *inclusive* classroom.	○	○	○	○	○
Children with *ASD like John* are likely to be isolated *during academic instruction* in inclusive classrooms.	○	○	○	○	○

Inclusion promotes *academic* independence among children with *ASD like John.*	○	○	○	○	○
Inclusion promotes self-esteem *related to their academic skills* among children with *ASD like John*.	○	○	○	○	○
The challenge of a *general* education classroom promotes academic growth among children with *ASD like John*.	○	○	○	○	○
Placement in a special *education* class does NOT have a negative effect on the academic skill development of students *with ASD like John* prior to middle school.	○	○	○	○	○

Please indicate how much you agree or disagree with the following statements about the Social outcomes of inclusion for children with ASD like John.

For the purposes of this survey, the term “Inclusion” refers to the child spending at least 90% of his time at school in the general education classroom. Specifically, he receives instruction in all academic skill areas (reading, math, writing, science, social studies) in a general education classroom and attends all non-academic subjects such as art, music, and gym with his classmates. Visual supports, social stories and a positive behavior reinforcement system are in place to support the student throughout the school day as needed. Outside of the general education classroom, he receives the following special education services each week: one hour of speech and language services, one hour of occupational therapy and one hour of physical therapy.

Scale Questions	Strongly Agree	Agree	Neither agree nor disagree (neutral)	Disagree	Strongly Disagree
Inclusion is *socially* advantageous for children with *ASD like John*.	○	○	○	○	○
Children with *ASD like John* will probably develop *social* skills more rapidly in a special, separate classroom than in an *inclusive* classroom.	○	○	○	○	○

Children with *ASD like John* are likely to be *socially* isolated in inclusive classrooms.	○	○	○	○	○
Inclusion promotes social independence among children with *ASD like John*.	○	○	○	○	○
Inclusion promotes self-esteem *related to their social skills* among children with *ASD like John*.	○	○	○	○	○
The challenge of a *general* education classroom promotes *social* growth among children with *ASD like John*.	○	○	○	○	○
Placement in a special *education* class does NOT have a negative effect on the *social skill* development of students *with ASD like John* prior to middle school.	○	○	○	○	○

Please read the following description of Mark.

Mark is an eight-year-old boy diagnosed with Autism Spectrum Disorder. He is currently in the third grade. Mark communicates verbally with adults and peers. He uses very short, simple sentences most of the time. Mark occasionally seems interested in engaging with his peers but he has difficulty making friends even with support. He struggles to initiate interactions and join group activities appropriately. For example, when his peers are engaged in activity that Mark finds very interesting, he occasionally walks over and stands next to the group, but often does not say anything to his peers without prompting. When other children speak to Mark, he usually responds with a short sentence. This initial response is generally appropriate, but Mark has a lot of difficulty reciprocating social interactions and maintaining a conversation. For example if a peer asks him if he likes movies, he will respond “yes, I like movies” but he does not ask any follow-up questions or attempt to engage in a back-and-forth conversation about movies. Mark also does not seem to understand many nonverbal behaviors used to communicate such as facial expressions and body language. For instance, peers may smile and wave him over to join the group or to come sit by them, but he rarely responds to such nonverbal behaviors independently. Mark manages most routine classroom transitions well using his visual schedule and verbal redirections from his teacher. However, he often has a difficult time transitioning from preferred activities, such as computers, to other activities. When this happens, he typically responds to additional verbal and visual prompts to transition with yelling and occasionally, with crying. Typically, after a few minutes, he is able to transition from computer time. When excited, he often flaps his hands very quickly in front of his face, while rocking back and forth for a brief period of time.

Please respond the following questions about Mark by selecting the correct answer.

23. How does Mark attempt to join a group of peers engaged in an activity?

○ He never attempts to join his peers.
○ He watches his peers and then usually makes a statement indicating that he likes the activity they're engaged in, but does not join in the activity.
○ He occasionally walks over and stands next to the group, but often does not say anything to his peers without prompting.
○ He watches his peers and then abruptly enters the group by yelling.

24. How does Mark generally respond when a peer approaches him?

○ His initial response is generally appropriate, but he does not ask any follow-up questions or attempt to engage in a back-and-forth conversation
○ His initial response is always on-topic, but he has difficulty staying on topic throughout the conversation.
○ He responds appropriately with an on-topic response and asks the peer question about that topic.
○ He usually makes a statement indicating that he likes the activity his peers are engaged in.

25. Which of the following behaviors does Mark display?

○ Kicking peers when they approach him.
○ Yelling in response to teacher requests to transition from preferred activities.
○ Interrupting peers frequently.
○ Hitting peers when they approach him.

Please indicate how much you agree or disagree with the following statements about the Academic outcomes of inclusion for children with ASD like Mark.

For the purposes of this survey, the term "Inclusion" refers to the child spending at least 90% of his time at school in the general education classroom. Specifically, he receives instruction in all academic skill areas (reading, math, writing, science, social studies) in a general education classroom and attends all non-academic subjects such as art, music, and gym with his classmates. Visual supports, social stories and a positive behavior reinforcement system are in place to support the student throughout the school day as needed. Outside of the general education classroom, he receives the following special education services each week: one hour of speech and language services, one hour of occupational therapy and one hour of physical therapy.

Scale Questions	Strongly Agree	Agree	Neither agree nor disagree (neutral)	Disagree	Strongly Disagree
Inclusion is *academically* advantageous for children with *ASD like Mark*.	○	○	○	○	○

Children with *ASD like Mark* will probably develop academic skills more rapidly in a special, separate classroom than in an *inclusive* classroom.	○	○	○	○	○
Children with *ASD like Mark* are likely to be isolated *during academic instruction* in inclusive classrooms.	○	○	○	○	○
Inclusion promotes *academic* independence among children with *ASD like Mark.*	○	○	○	○	○
Inclusion promotes self-esteem *related to their academic skills* among children with *ASD like Mark.*	○	○	○	○	○
The challenge of a *general* education classroom promotes academic growth among children with *ASD like Mark*.	○	○	○	○	○
Placement in a special *education* class does NOT have a negative effect on the academic skill development of students *with ASD like Mark* prior to middle school.	○	○	○	○	○

Please indicate how much you agree or disagree with the following statements about the Social outcomes of inclusion for children with ASD like Mark.

For the purposes of this survey, the term “Inclusion” refers to the child spending at least 90% of his time at school in the general education classroom. Specifically, he receives instruction in all academic skill areas (reading, math, writing, science, social studies) in a general education classroom and attends all non-academic subjects such as art, music, and gym with his classmates. Visual supports, social stories and a positive behavior reinforcement system are in place to support the student throughout the school day as needed. Outside of the general education classroom, he receives the following special education services each week: one hour of speech and language services, one hour of occupational therapy and one hour of physical therapy.

Scale Questions	Strongly Agree	Agree	Neither agree nor disagree (neutral)	Disagree	Strongly Disagree
Inclusion is *socially* advantageous for children with *ASD like Mark*.	○	○	○	○	○

Children with *ASD like Mark* will probably develop *social* skills more rapidly in a special, separate classroom than in an *inclusive* classroom.	○	○	○	○	○
Children with *ASD like Mark* are likely to be *socially* isolated in inclusive classrooms.	○	○	○	○	○
Inclusion promotes social independence among children with *ASD like Mark*.	○	○	○	○	○
Inclusion promotes self-esteem *related to their social skills* among children with *ASD like Mark*.	○	○	○	○	○
The challenge of a *general* education classroom promotes *social* growth among children with *ASD like Mark*.	○	○	○	○	○
Placement in a special *education* class does NOT have a negative effect on the *social skill* development of students *with ASD like Mark* prior to middle school.	○	○	○	○	○

During this survey, you have read about two different children with Autism Spectrum Disorder (ASD). Please indicate if you have had experience teaching children with ASD who are similar to John and Mark.

John communicates verbally with adults and peers. He almost always speaks in full sentences. John often seems interested in engaging with his peers but he has difficulty making friends without support. He struggles to initiate interactions and join group activities appropriately. For example, John often watches his peers playing or talking to one another for several minutes before approaching the group. Then he usually makes a statement indicating that he likes the activity they're engaged in, but does not join in the activity or ask his peers if he can play too. When other children speak to John, he typically responds using full sentences. Although this initial response is usually on-topic and appropriate, he has difficulty staying on-topic throughout a conversation. He frequently tries to change the subject to something he is very interested in such airplanes or dinosaur species. John also does not seem to understand many nonverbal behaviors used to communicate such as facial expressions and body language. For instance, if a peer's facial expression indicates that she is upset after John interrupts her, he does not appear to notice it and will continue talking. John regularly manages routine classroom transitions well using his visual schedule. However, he occasionally has difficulty transitioning from preferred activities, such as computers, to other activities. When this happens, he often ignores initial requests to stop working. Typically, with one or two additional verbal prompts, he is able to successfully transition from computer time. When excited, John occasionally flaps his hands very quickly in the air.

26. Do you have experience teaching children with ASD who are similar to John?

○ No

○ Yes (Please indicate how many students you have taught who are similar to John below)

____

Mark communicates verbally with adults and peers. He uses very short, simple sentences most of the time. Mark occasionally seems interested in engaging with his peers but he has difficulty making friends even with support. He struggles to initiate interactions and join group activities appropriately. For example, when his peers are engaged in activity that Mark finds very interesting, he occasionally walks over and stands next to the group, but often does not say anything to his peers without prompting. When other children speak to Mark, he usually responds with a short sentence. This initial response is generally appropriate, but Mark has a lot of difficulty reciprocating social interactions and maintaining a conversation. For example if a peer asks him if he likes movies, he will respond "yes, I like movies" but he does not ask any follow-up questions or attempt to engage in a back-and-forth conversation about movies. Mark also does not seem to understand many nonverbal behaviors used to communicate such as facial expressions and body language. For instance, peers may smile and wave him over to join the group or to come sit by them, but he rarely responds to such nonverbal behaviors independently. Mark manages most routine classroom transitions well using his visual schedule and verbal redirections from his teacher. However, he often has a difficult time transitioning from preferred activities, such as computers, to other activities. When this happens, he typically responds to additional verbal and visual prompts to transition with yelling and occasionally, with crying. Typically, after a few minutes, he is able to transition from computer time. When excited, he often flaps his hands very quickly in front of his face, while rocking back and forth for a brief period of time.

27. Do you have experience teaching children with ASD who are similar to Mark?

○ No

○ Yes (Please indicate how many students you have taught who are similar to Mark below)

____

Below are two additional descriptions of children with ASD. Please read these vignettes and respond to the following questions regarding your experiences teaching children who are similar Devon and Steven.

Devon has limited verbal communication skills: The primary way he communicates is through the use of picture symbols and gestures (e.g., pointing to objects he wants). Devon occasionally displays tantrum behaviors when he has difficulty communicating with others. Devon generally seems to like to do things alone. He sometimes appears interested in engaging in activities with his peers but rarely initiates any interactions with other children. For example, Devon rarely approaches peers, says "hello" using his picture symbols or joins in their activity without prompting. When other children speak to Devon, he typically responds by using gestures or giving the peer one of his picture symbols. After this initial interaction, Devon usually ignores the peer. Devon sometimes plays with items appropriately for his age. He frequently becomes pre-occupied with spinning objects instead of using them as intended however. Devon also often rocks back and forth very quickly while he is sitting down. He can generally be redirected to the task at hand with several prompts.

28. Do you have experience teaching children with ASD who are similar to Devon?
○ No
○ Yes (Please indicate how many students you have taught who are similar to Devon below)
____

Steven does not speak or use picture symbols to communicate. He generally points to things or pulls adults over to objects he wants or needs. When his method of communication does not get his need met, he often engages in tantrum behavior. Steven seems to like to do things alone: He does not appear interested in engaging in activities with his peers and very rarely initiates any interactions with other children appropriately. When other children speak to Steven, he ignores the peer. Steven rarely plays with items appropriately for his age. He shows an intense pre-occupation with spinning objects rather than using them as intended. For example, during recess Steven often sits and spins a basketball on the ground repeatedly rather than shooting it at the basket like his peers nearby. Steven also often rocks back and forth very quickly while he is sitting down and does not respond well to redirection.

29. Do you have experience teaching children with ASD who are similar to Steven?
○ No
○ Yes (Please indicate how many students you have taught who are similar to Steven below)
____

Thank you for participating in this study!

To receive your $15 Amazon.com gift card for your participation, please enter your email address in the box below (AND click the "Next" button at the bottom of the screen). You will receive your gift card electronically via email within approximately two weeks.
*Email Address:*____________________

Appendix E: Vignettes

Mild ASD Severity – “John”

John is an eight-year-old boy diagnosed with Autism Spectrum Disorder. He is currently in the third grade. John communicates verbally with adults and peers. He almost always speaks in full sentences. John often seems interested in engaging with his peers but he has difficulty making friends without support. He struggles to initiate interactions and join group activities appropriately. For example, John often watches his peers playing or talking to one another for several minutes before approaching the group. Then he usually makes a statement indicating that he likes the activity they’re engaged in, but does not join in the activity or ask his peers if he can play too. When other children speak to John, he typically responds using full sentences. Although this initial response is usually on-topic and appropriate, he has difficulty staying on-topic throughout a conversation. He frequently tries to change the subject to something he is very interested in such airplanes or dinosaur species. John also does not seem to understand many nonverbal behaviors used to communicate such as facial expressions and body language. For instance, if a peer’s facial expression indicates that she is upset after John interrupts her, he does not appear to notice it and will continue talking. John regularly manages routine classroom transitions well using his visual schedule. However, he occasionally has difficulty transitioning from preferred activities, such as computers, to other activities. When this happens, he often ignores initial requests to stop working. Typically, with one or two additional verbal prompts, he is able to successfully transition from computer time. When excited, John occasionally flaps his hands very quickly in the air.

Borderline Moderate ASD Severity – “Mark”

Mark is an eight-year-old boy diagnosed with Autism Spectrum Disorder. He is currently in the third grade. Mark communicates verbally with adults and peers. He uses very short, simple sentences most of the time. Mark occasionally seems interested in engaging with his peers but he has difficulty making friends even with support. He struggles to initiate interactions and join group activities appropriately. For example, when his peers are engaged in activity that Mark finds very interesting, he occasionally walks over and stands next to the group, but often does not say anything to his peers without prompting. When other children speak to Mark, he usually responds with a short sentence. This initial response is generally appropriate, but Mark has a lot of difficulty reciprocating social interactions and maintaining a conversation. For example if a peer asks him if he likes movies, he will respond “yes, I like movies” but he does not ask any follow-up questions or attempt to engage in a back-and-forth conversation about movies. Mark also does not seem to understand many nonverbal behaviors used to communicate such as facial expressions and body language. For instance, peers may smile and wave him over to join the group or to come sit by them, but he rarely responds to such nonverbal behaviors independently. Mark manages most routine classroom transitions well using his visual schedule and verbal redirections from his teacher. However, he often has a difficult time transitioning from preferred activities, such as computers, to other activities. When this happens, he typically responds to additional verbal and visual prompts to transition with yelling and occasionally, with crying. Typically, after a few minutes, he is able to transition from computer time. When excited, he often flaps his hands very quickly in front of his face, while rocking back and forth for a brief period of time.

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