GENERAL EDUCATION TEACHERS’ PERCEPTIONS OF EDUCATING STUDENTS WITH AN AUTISM SPECTRUM DISORDER IN AN INCLUSIVE CLASSROOM

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GENERAL EDUCATION TEACHERS’ PERCEPTIONS OF EDUCATING
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CLASSROOM

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ABSTRACT

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Due to the increasing prevalence rates of individuals diagnosed with autism spectrum disorder (Centers for Disease Control and Prevention, 2014) and increasing inclusion rates reported by the state of Ohio (Ohio Department of Education, 2012), general education teachers are increasingly called on to provide support in the classroom for these students. Thus, it is important to understand teachers’ perceptions of these experiences. Previous research indicates that teachers hold favorable perceptions regarding the inclusion of students with autism in the classroom (Robertson, Chamberlain, & Kasari, 2003); however, few studies have examined the relationship between these perceptions and teachers’ previous training and education on autism or their experiences educating students with Autism Spectrum Disorder (ASD) in an inclusive classroom. Through a web-based survey, 108 general education teachers from Ohio reported on their backgrounds, and responded to statements about their perception
of educating students with an ASD in an inclusive classroom. Results indicated general
education teachers had somewhat favorable perceptions in educating students with an
ASD in an inclusive classroom. There was no significant relationship between a teacher’s
perceptions and the teacher’s training or education on autism, or previous experiences
educating students with an ASD in an inclusive classroom. However, general education
teachers reported their pre-service training on autism as insufficient; they also reported
rarely taking part in employment-based trainings regarding autism. General education
teachers reported a desire to gain better understanding of characteristics of ASD,
evidence-based behavioral interventions, and teaching strategies for students with ASD.
Schools should aim to address these concerns, and school psychologists are in an
effective position to carry out such trainings.
This thesis is dedicated to my family and friends for their support and encouragement through all of my endeavors.
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CHAPTER I
INTRODUCTION

Autism spectrum disorder (ASD) is a neurodevelopmental disorder affecting a person’s communication and social interaction; it involves displaying stereotyped, repetitive movements and interests (American Psychiatric Association, 2013). In 2010, the prevalence rates for autism spectrum disorder were estimated at 1 in 68 children who are eight years old. This was an estimated 64% increase from 2006 (Centers for Disease Control, 2014). A number of students with an ASD receive special education services in a variety of settings, including separate facilities, special education classrooms, and general education classrooms. The Ohio Department of Education (ODE, 2012) recently reported 42.9% of students with an educational diagnosis of autism spend more than 80% of their day included in a general education classroom.

Researchers have reported that general educators, special educators, and pre-service teachers lack knowledge of autism characteristics (Barned, Knapp, & Neuharth-Pritchett, 2011; Hendricks, 2012; Sansosti & Sansosti, 2012; Segall & Campbell, 2012). Most of these educators report they do not believe they are adequately trained to support students with autism-like behaviors and simultaneously provide education services to the
other students in the classroom (Barned, Knapp, & Neuharth-Pritchett, 2011; Busby et al., 2012; Sansosti & Sansosti, 2012). Attitudes of general education teachers, pre-service teachers, and principals regarding the inclusion of students with autism are generally positive and favorable (Horrocks, White, & Roberts, 2008; Park, Chitiyo, & Choi, 2010; Segall & Campbell, 2012).

General education teachers’ perceptions of students with autism in the classroom can significantly impact successful inclusion. Avramidis, Bayliss, and Burden (2010) reported teachers who held more positive perceptions of inclusion of students with autism also spent more time and effort supporting these children for successful inclusion. Syriopoulou-Deli, Cassimos, Tripsianis, and Polychronopoulou (2012) found that teachers who hold autism specializations or who have had previous experience working with this population hold more positive perceptions of inclusion of students with autism in the classroom. Busby et al. (2012) reported perceived challenges by participants in their study which included: (1) teaching children with autism is a highly individualized and specialized process which requires highly specialized skills and attributes, (2) collaboration with other professionals and parents is time-consuming and difficult, and (3) behaviors of children with autism are atypical, complex, and potentially very disruptive in general education classrooms.

Given that general education teachers are increasingly providing more support in the classroom for students with autism (ODE, 2012), it is important to understand their perceptions regarding educating students with an ASD in an inclusive general education classroom. The present study examined general education teachers’ perceptions of
educating students with an ASD in the inclusive classroom. This study further examined the relationship between teacher training, education, previous experiences, and perceptions of the inclusion of students with ASD in the classroom.
CHAPTER II
LITERATURE REVIEW

This literature review begins with a description of statistics, characteristics, and diagnosis of an autism spectrum disorder (ASD). Next, the definition and issues of inclusion are analyzed. Finally, perceptions by lay people, other school professionals, and general education teachers of individuals with autism are examined.

Autism Spectrum Disorder

Prevalence and statistics. Autism Spectrum Disorder (ASD) is a neurodevelopmental disorder characterized by impairments in social interaction and communication, while exhibiting restricted, repetitive, and stereotyped patterns of interest and behavior (APA, 2013). In 2014, the Centers for Disease Control and Prevention (CDC) released a report based on data collected in 2010 from The Autism and Developmental Disabilities Monitoring (ADDM) Network. The ADDM network is an active system that estimates the prevalence of ASD among children who are eight years old and reside in one of the eleven ADDM sites. This report suggested the disorder affects 1 in 68 children who are eight years old. Comparing this data to past data sets shows a 29% increase in the prevalence estimation from 2008, a 64% increase in the prevalence estimation from 2006, and a 123% increase in the prevalence estimation from
2002. The CDC report states an ASD affects 1 in 42 boys and 1 in 189 girls living among the eleven ADDM sites monitored (CDC, 2014).

The CDC reported data on intellectual ability available from seven of the ADDM sites. This data indicated that 31% of children with ASD were classified in the range of intellectual disability (IQ ≤ 70), 23% were classified in the borderline range (an IQ score between 71-85), and 46% had scores in the average or above average range (IQ > 85). Two of the seven sites reported no difference in sex of the proportion of children with intellectual disability; whereas, the other five sites reported a higher proportion of females than males with intellectual disability. Special education data were collected from eight ADDM sites and suggest significant variations in the disability eligibility categories under which students with an ASD are served. Percent of students with an ASD receiving special education services ranged from 71 to 93 among the sites.

In recent years, reported frequencies for autism spectrum disorder across the U.S. and in other countries have approached 1% of the population. The *Diagnostic and Statistical Manual*, 5th edition (DSM-V), suggests it is unclear if higher prevalence rates are a reflection of expansion of diagnostic criteria, increased awareness, differences in study methodology, or true increases in the frequency of autism spectrum disorder (American Psychiatric Association, 2013). Brock (2006) found that as rates for an educational diagnosis of autism have increased, the rates of educational diagnoses of mental retardation, emotional disturbance, and specific learning disability have decreased. He concluded that this classification substitution could be the result of
heightened public awareness of ASD, increased willingness and ability to diagnose an ASD, or an increased availability of resources for children with an ASD.

**Diagnosis and characteristics.** There are many different causes and risk factors for an autism spectrum disorder, but there are just as many causes that are yet to be determined. Most medical professionals and researchers agree that an autism spectrum disorder is a combination of genetic, biological, and environmental factors. Because of the differences in causes and risk factors, individuals with an ASD can exhibit a wide range of strengths and weaknesses across varying intellectual abilities. Characteristics range from mild to severe, and can be different for each affected individual. Most symptoms of an ASD start before three years old and will last throughout a person’s lifetime (Centers for Disease Control and Prevention, 2012).

While a diagnosis can be made as early as 18 months, Shattuck et al. (2009) found the average age for a formal diagnosis is 5.7 years old and 27% of children remain undiagnosed at eight years old. There are two different ways to receive a diagnosis of an ASD. The DSM-V (APA, 2013) contains criteria for receiving a clinical diagnosis of an autism spectrum disorder. The Federal Code of Regulations (FCR, 2013) contains criteria for receiving an educational diagnosis of autism. Both diagnoses are considered separate from each other, and each provides the individual with different available services and resources.

**Diagnostic and Statistical Manual, 5th Edition (DSM-V).** According to the DSM-V (APA, 2013), individuals must meet criteria in two sections to receive a diagnosis of ASD. The first section- communication and social interaction- includes problems with
social reciprocity, nonverbal communicative behaviors, and developing, maintaining, and understanding relationships. The individual must meet two criteria from the second section—repetitive and restricted patterns of interests, behaviors, or activities. This section includes stereotyped or repetitive motor movements, use of objects, or speech; insistence on sameness, inflexible adherence to routines, or ritualized patterns of verbal or nonverbal behavior; highly restricted, fixated interests that are abnormal in intensity or focus; and hyper- or hypo-reactivity to sensory input or unusual interest in sensory aspects of the environment. The *DSM-V* eligibility criteria place symptoms on three different severity levels: Level 1 is “Requiring support”, Level 2 is “Requiring substantial support”, and Level 3 is “Requiring very substantial support.” Distinct characteristics are provided under each level to provide a better explanation of the symptoms.

**Individuals with Disabilities Education Act (IDEA).** An educational diagnosis of autism, however, is different from a clinical diagnosis. The “Autism” category was established in 1990 under the Individuals with Disability Education Act (IDEA). Since then, children with a clinical diagnosis of autism spectrum disorder are usually found eligible for school-based services under the autism category. IDEA specifically defines autism as “…a developmental disability significantly affecting verbal and nonverbal communication and social interaction, generally evident before age three, that adversely affects a child’s educational performance.” (Code of Federal Regulations; CFR, 2013, section 300.8). The definition also includes other characteristics commonly associated with an ASD such as repetitive movements and stereotyped interests, resistance to change or routine, and unusual responses to sensory stimuli. Other criteria under the Code of
Federal Regulations includes an autism diagnosis cannot be used if the child has an emotional disturbance and a child who exhibits characteristics of autism after age three could be identified using the above stated criteria.

The primary difference between a clinical diagnosis of autism and an educational diagnosis of autism is that a child’s impairment and behaviors must affect his or her educational functioning in order to qualify for services under the autism category of IDEA. Therefore, it is possible for a high-functioning student clinically diagnosed with autism to not receive an educational diagnosis if he or she is performing at grade level, or for a student who has never been clinically diagnosed to be eligible for special education services under the autism category if the student fits the criteria (Dahle, 2003; White et al., 2007).

In addition to criteria set by IDEA, states have the flexibility to create their own eligibility as long as it meets the minimal requirements set forth by the CFR. Furthermore, an individual state’s eligibility requirements can change at any time (OSEP, 2006). MacFarlane and Kanaya (2009) found that 17 states and Washington D.C. relied entirely on the wording in the CFR to make an educational diagnosis of autism. On the other hand, the remaining 33 states expanded on this criterion; however, the expansions were not consistent from state to state. In Ohio, 1% of the school aged population was identified with an educational diagnosis of autism in 2012. Among all children identified with a disability under IDEA in Ohio, 6.3% of children aged 3-5 years and 6.9% of children aged 6-21 years made up the educational diagnosis of autism category (ODE, 2012).
Inclusion of Students with an ASD

With an increase in both the prevalence of autism spectrum disorder and the number of students receiving an educational diagnosis of autism, it is expected that these students will be included more often in the general education classroom as opposed to a special education classroom. Inclusion refers to the practice in which students with disabilities are fully included in the general education classroom with typical peers as much as possible, using the criteria of educating students in the least restrictive environment (Harding, 2009). In 2012 the ODE reported the percentages of time spent in a general education classroom by all students with disabilities. According to the report, 42.9% of students with an educational diagnosis of autism spent more than 80% of their day in the general education classroom, while 19.1% spent 40-79% of their day and 26.1% spent less than 40% of their day in the general education classroom.

Successful inclusion. Research is currently lacking on the definition of successful inclusion for students with an ASD. Simpson, de Boer-Ott, and Smith-Myles (2003) established a definition by posing two questions. First, is the student with an ASD socially benefitting from the general education environment? This assumes the student demonstrates a meaningful awareness of peers, responds to interactions, attempts to interact, and seeks social reinforcement for appropriate displays of behavior and completion of tasks. Second, is the student with an ASD academically benefitting from the general education experience? This assumes the student is participating in academic activities at increasingly independent levels with or without modifications, demonstrates
acquisition of new skills, demonstrates generalization of acquired skills, and attends to group instruction.

The authors included three additional aspects as part of their definition of successful inclusion for students with an ASD. It must be apparent that the general education teacher and students are treating the student with autism as a member of the classroom by allowing the student to participate in all of the same activities with the class, speaking directly to the student as opposed to the aide or paraprofessional assigned to the student, and demonstrating acceptance of the student. It is also important that the student demonstrate appropriate participation within the general education environment by not inhibiting the successful delivery and receipt of instruction by the teacher and other students. Finally, home-school collaboration and meaningful participation of the parents for educational planning, decision making, and implementation is essential for the successful inclusion of students with an ASD in the general education classroom (Simpson, de Boer-Ott, & Smith-Myles, 2003).

**Research on inclusion for students with an ASD.** General education teachers generally report favorable attitudes towards the practice of inclusive education for students with an ASD (Segall & Campbell, 2012). However, research findings are inconsistent on whether or not inclusion of students with autism in the classroom produces positive outcomes. Salend and Garrick Duhaney (1999) found placement in inclusion programs did not interfere with academic progress and offered several social benefits for students. Dahle (2003) found that students with a high-functioning form of an autism spectrum disorder (HFASD) exhibit higher levels of engagement and social
interaction when in an inclusive setting. It has also been noted that students with HFASD have a larger network of friends and are selected by their peers to be included in activities at the same frequency as students without disabilities (Chamberlain, Kasari, & Rotheram-Fuller, 2007). Additionally, students in inclusive classrooms report that they are more willing to form friendships with students with disabilities who are in their classroom (Hendrickson, Shokoohi-Yeta, Hamre-Nietupski, & Gable, 1996).

Contrary to these findings, Orsmond, Krauss, and Seltzer (2004) reported students with HFASD in an inclusive setting have fewer friendships, are less accepted by peers, and demonstrate no substantial differences in educational outcomes. Boutot and Bryant (2005) reported that classmates preferred a peer with autism as a playmate rather than as a partner on academic related tasks. Foster and Pearson (2012) reported no systematic indication that the level of inclusivity improves future outcomes such as not dropping out of high school, attending college for any length of time, or cognitive functioning in cognitive, sensory, or motor skills used in performing daily activities.

**Issues with inclusion.** Contradictory research findings may be due to the many issues surrounding including children with ASD in the classroom. Boyd and Shaw (2010) reported a child’s presentation of autism will affect the services classroom teachers provide. Moreover, students with different severities of ASD receive different services in the classroom. The variability of ASD characteristics and severities in students in the inclusive classroom poses challenges for the teachers educating them. Problems with language and communication means the student may not be able to express needs, request help, or discuss feelings of anxiousness or pain (Whittaker, 2001). Nonverbal
communication difficulties include not understanding facial expressions given by the teacher or peers, joint attention difficulties, lack of eye contact, and a lack of response being interpreted as disobedience instead of lack of understanding (Frith, 1991). Their limited range of interests and resistance to change means they restrict their own opportunities to learn new and more appropriate skills (Szatmari, Bremmer, & Nagy, 1989). Additionally, many students become easily stressed and emotionally uncontrollable when faced with change and/or environmental stressors leading to an increased risk of tantrums, noncompliance, and aggressive behaviors (Myles, 2005).

Difficulty in defining inclusion for students with HFASD can also pose problems for educators. A study by Sansosti and Sansosti (2012) involved interviews and focus groups with fifteen school personnel and revealed many difficulties. Two-thirds of the participants agreed inclusion was different for students with HFASD compared to students with other types of disabilities because they need more support and stand out more in the classroom. Participants stated that inclusion was frequently defined on a case-by-case basis after examining the student’s age, academic strengths and weaknesses, communication skills, behavioral support needs, personal preferences, and degree of independent functioning, which in turn can be viewed as another form of differentiated instruction. Another concern for whether or not a student is included involved the use of a full-time paraprofessional in the classroom. Participants noted that students with a paraprofessional are not “truly included” because the student becomes dependent on the aide rather than accessing more naturalistic forms of support, such as from the teacher or peers.
Soukup, Wehmeyer, Bashinski, and Boviard (2007) reported that most school districts do not have clear policies on strategies for promoting access to a general curriculum for students with disabilities. A report from the U.S. Department of Education and Rehabilitative Services in 2002 stated that most general education teachers did not feel they were adequately prepared to work with or provide instructional accommodations for students with disabilities. Hughes, Combes, and Metha (2012) surveyed special educators representing local education agencies in Texas on their perceptions of areas of need regarding educating students with an ASD. Two areas of significant need were increased professional development for school staff serving students with an ASD and increased access to the general curriculum for students with an ASD.

**Teacher Training on ASD**

Training of general and special education teachers is of interest to researchers due to the increase in students with an autism diagnosis in the schools. With the varying degrees of severity each student exhibits, it is crucial for educators to be trained to teach a variety of students with an ASD. Parents of students with an ASD identify teacher training as the single most enabling factor in providing for their children in the general education setting (Jindal-Snape et al., 2005). Jordan and Jones (1997) stated staff training should be a priority if schools are to meet the needs of students with an ASD. Booth and Ainscow (2002) recommend having policies in place to ensure training is received by staff in schools.
If special education or general education teachers lack appropriate training to work with students with an ASD, it cannot be expected that these children will show improvement (Dymond, Gilson, & Myran, 2007). Teaching students with an ASD may require scientific approaches that are not familiar to mainstream teachers (Leach & Duffy, 2009); however, training teachers can be difficult because researchers have not yet determined one ideal intervention or curriculum that works for all students with an ASD (McKenna, 2007). Although the need for these interventions to be evidence-based stems from requirements of the Combating Autism Act of 2006, a study by Hess, Morrier, Heflin, and Ivey (2008) found only 10% of the strategies used with students with an ASD in Georgia Public Schools, for example, are based upon scientifically-based practice.

General education teachers generally report a lack of adequate preparation to teach children with moderate to severe disabilities in inclusive settings (Downing & Peckham-Harding, 2007). Collaboration with special education teachers is helpful in numerous cases, but special education teachers are often not adequately prepared to work with students with an ASD either (Loiacono & Allen, 2008). According to a study by Müller (2005), few states in the country award licensure in the area of autism, pointing to a lack of guidelines mandating specific teacher qualities and requirements.

Numerous studies have concluded that teacher training provides positive outcomes for the teacher and the student. Teacher training not only ensures students are more included in lessons, but it can also make teachers feel more confident in working effectively with students with an ASD (Glashan, Mackay, & Grieve, 2004). Training can result in teachers having a more positive attitude towards an inclusive setting with this
population of students (Avramidis, Bayliss, & Burden, 2000). Leblanc, Richardson, and Burns (2009) provided 200 minutes of training to pre-service teachers enrolled at an unnamed university. Results indicated the training increased knowledge of access to professional support, resources to assist in meeting the needs of students, and increased knowledge of ASD and evidence-based practices used to teach students. In addition, the training positively changed participants’ attitudes and perceptions of students with an autism spectrum disorder.

**Teacher knowledge of ASD.** Knowledge of autism spectrum disorder can improve a teacher’s preparation of educating students with an ASD. Sansosti and Sansosti (2012) found that teachers reported a limited understanding of HFASD as the single most significant barrier to successful inclusion. Their study also reported that the average educator with limited training and exposure to students with an ASD harbors stereotypical or significantly limited definitions of this disorder. Hendricks (2012) also found special education teachers who serve students with autism to have low to intermediate levels of knowledge of the disorder and effective instructional practices for students with an ASD. Segall and Campbell (2012) reported obvious differences in knowledge, awareness of practice, and the use of strategies across general education teachers, special education teachers, administration, and school psychologists. In particular, school psychologists and special education teachers reported higher levels in each of these domains than the general education teachers and administrators. Pre-service teachers reported they also had limited knowledge of the general characteristics of ASD, how to provide support in the classroom, and more than half believed only teachers with
extensive special education experience can be expected to deal with students with an ASD in the school setting (Barned, Knapp, & Neuharth-Pritchett, 2011).

**Perceptions of Individuals with an ASD**

As defined by the Merriam-Webster online dictionary, perception means “the way you think about or understand someone or something” (2013). Multiple studies have examined perceptions of individuals with an ASD. Huws and Jones (2010) interviewed lay people who claimed to not know very much about the disorder. The individuals interviewed held clear and confident views about autism, but these views were not always accurate. They defined autism as a type of mental disability, mental retardation, or learning disability. They believed people with autism behaved in ways that violated societal and developmental norms and they had increased dependency on others. Furthermore, the participants made their assumptions about the disorder based on media and pop culture. A focus group conducted by Neely-Barnes, Hall, Roberts, and Graff (2011) examined parental views of the public toward their child(ren) with autism. Results showed common themes of public perceptions towards bad parenting, a misunderstanding of the child’s behavior in the public, and difficulty in ‘seeing’ autism as leading to un-acceptance.

There were notable differences in child versus adult views of individuals with an ASD in a study by Harnum, Duffy, and Ferguson (2007). Children and adults viewed video models of children acting out characteristics of a child with autism-like behaviors, a child with attention-deficit, hyperactivity disorder (ADHD)-type behaviors, and a child with ‘normal’ behaviors, according to the author. Results indicated the child participants
would likely dislike or avoid the child with autistic or ADHD symptoms and perceived these children as significantly less like them than was the normal child model. Adult participants stated they were no more likely to dislike or avoid the child with autistic or ADHD behaviors as they would the normal child. While they perceived the child with ADHD to be no more unlike them, they did perceive the child with autism to be unlike them.

**Perceptions of the inclusion of students with an ASD.** Perceptions regarding students with autism in the schools are generally positive. Horrocks, White, and Roberts (2008) surveyed principals regarding their perceptions of students with autism and found most of the principals held a positive attitude about the inclusion of students with autism. Specifically, principals of elementary schools with more experience with students with autism, and those who believed children with autism should be included, held more positive attitudes and made higher inclusion placement recommendations. Loiacano and Palumbo (2011) also surveyed elementary principals and found more than half of the participants perceived they were confident enough to evaluate and support teachers who worked with students classified with autism in inclusive settings. More importantly, the principals who understood interventions grounded in Applied Behavioral Analysis (ABA) perceived themselves as better able to support educators who teach students with autism.

In a study by Barned, Knapp, and Neuharth-Pritchett (2011), findings indicated pre-service teachers held generally positive perceptions of including students with autism in the classroom, although their perceptions were strongly influenced by the perceived
severity of the disorder. Almost all of the participants agreed the severity of the disability is an important factor in the successful inclusion of a student with an ASD. Two-thirds of the pre-service teachers interviewed felt students with ‘classic autism’ are too impaired to benefit from the activities of a regular school. Park, Chitiyo, and Choi (2010) reported that pre-service teachers who majored in special education had more positive attitudes towards students with autism than those in general education. Female pre-service teachers and those with more exposure to children with autism also held more positive attitudes. Special education teachers also hold positive views regarding the education of students with autism, though they suggested it is a considerable challenge for those involved because the students need specific and extraordinary support (Rodriquez, Saldana, & Javier Moreno, 2012).

**General education teachers’ perceptions.** General education teachers’ perceptions towards students with autism in the classroom play a critical role in the successful inclusion of this population. Teachers with positive perceptions tend to put forth more effort and time to help the child be successful and teachers who have more favorable attitudes towards those with autism exhibit higher levels of commitment, thus playing an important role in implementing and improving mainstream practices (Avramidis, Bayliss, & Burden, 2000). On the contrary, teachers who have unfavorable attitudes toward children with disabilities may have significant negative impacts on those children such as a lowered self-concept, lowered self-expectations, reduced academic achievement, and unsuccessful inclusion in the classroom (Hannah & Pliner, 1983).
Lohman and Bambara (2006) reported general education teachers had feelings of inadequacy regarding the training they have received to meet the needs of students with disabilities. Their research further indicates teachers feel differently about educating students with disabilities versus educating students with behavioral problems. However, teachers become more comfortable and positive about including students with disabilities in the classroom as they gain first-hand experience. Initial apprehensions are influenced by what the teachers themselves hear from other teachers about incoming students. They are also concerned they will not be able to balance the needs of the special education students with those of the rest of the class.

Teacher-student relationships with students with autism are associated with the child’s peer status in the classroom. In a study by Robertson, Chamberlain, and Kasari, (2003), teachers reported they generally held positive relationships with students with an ASD who are included in the classroom. However, a higher rating of behavioral problems did lessen the quality of the teacher-student relationship. Teachers are generally closer to, and have less conflicting and dependent relationships with, children who have fewer behavioral problems (Pianta & Steinberg, 1992), a common symptom of children with an ASD.

Syriopoulou-Deli, Cassimos, Tripsianis, and Polychronopoulou (2012) examined Greek teachers’ perceptions regarding the management of children with an ASD. Results demonstrated teachers lack knowledge of the characteristics and intervention or treatment options for students with an ASD. Their findings show that teachers who held specializations or previous experience with individuals with autism have clearer views
and opinions on the issues in the survey and also appeared to hold more positive perceptions on inclusion in the classroom for this population.

A study by Busby et al. (2012) examined the perceptions of the classroom challenges and needs claimed by graduate level students, most of whom were general education teachers by day, when working with students with an ASD in the classroom. The perceived challenges include: teaching children with autism is a highly individualized and specialized process which requires highly specialized skills and attributes; collaboration with other professionals and parents is time-consuming and difficult; and behaviors of children with autism are atypical, complex, and potentially very disruptive of general education classrooms. The participants perceived a lack of basic knowledge and skills needed to fully include students with an ASD in the classroom. Perceived needs include more information regarding the process, procedures, and practices for teacher and family collaboration; more case and field-based experiences for pre-service teachers; and increased access to current research and best practice teaching strategies for supporting students with autism in the classroom.

**The Present Research Study**

The increase in the prevalence rates in the clinical and educational diagnosis of autism is well documented. Students with an ASD are increasingly placed in an inclusive general education classroom for longer periods of time throughout the day. Researchers have found there is a lack of knowledge and training for most general education teachers in regards to serving students with autism (Hendricks, 2012; Sansosti & Sansosti, 2012). Perceptions made by general education teachers of students with this disorder affect the
success of inclusion in the classroom. Few studies have examined the relationship between teacher training, education, or previous experiences in the area of autism and teachers’ perceptions of including students with an ASD in the general education classroom. This study investigated the perceptions of general education teachers’ perceptions regarding educating students with an autism spectrum disorder in an inclusive classroom. Additionally, this study examined the relationship between the amount of training, education, or previous experiences in the area of autism and a teacher’s perceptions of including students with an autism spectrum disorder in the general education classroom.
CHAPTER III

METHOD

Research Questions and Predictions

The following two research questions were posed in the present study:

(1) Do general education teachers hold favorable perceptions regarding the education of students with an autism spectrum disorder in the general education classroom?

(2) What is the relationship between the amount of training, education, or previous experience in the area of autism and teacher perceptions of including students with an autism spectrum disorder in the general education classroom?

Previous research by Robertson, Chamberlain, and Kasari (2003) and Syriopoulou-Deli, Cassimos, Tripsianis, & Polychronopoulou (2012), informed the two predictions generated:

(1) General education teachers will hold somewhat favorable perceptions of educating students with an autism spectrum disorder in the inclusive classroom.

(2) There will be a moderate relationship between the amount of training, education, and previous experiences in the area of autism and a teacher’s perceptions of including students with an ASD in the classroom.
Research Design

A survey design was utilized to examine teacher perceptions and the relationship between these perceptions and teacher training, education, and previous experiences educating students with an ASD in the inclusive classroom. This research design was selected as it allows for the collection of data from a large number of people (Mertens, 2010), convenient access to samples, reduced costs, faster responses, and an adopted format (Converse, Wolf, Huang, & Oswald, 2008). Descriptive data were collected to represent teachers’ overall perceptions of educating students with an ASD in the classroom.

The predictor variables included: (1) perceived amount of training in the area of autism, which included employment-based trainings or other training courses that included information on autism spectrum disorder, (2) perceived amount of education in the area of autism, which was measured by the number of undergraduate or graduate-level class sessions or courses involving information about autism, and (3) previous experiences in educating students with an ASD, which was measured by the number of times a teacher has previously taught a student with an ASD, and if the teacher’s perceptions of these experiences were positive or negative. The criterion variable was perceptions held by teachers regarding educating students with an ASD in the inclusive classroom, which was measured by the amount of survey questions answered consistently with favorable perceptions of students with an ASD.
Participants

Participants in the current study included \((n = 108)\) PreK-12 general education teachers in public, private, or charter schools in Ohio. Only general education teachers’ responses were included in the analysis. Any responses received from special education teachers, school administrators, specials teachers in elementary school settings (e.g., music, gym, art, etc.) or other school professionals were excluded, as were incomplete surveys. Surveys missing only one or two responses were included.

Of the 108 general education teachers with completed surveys, 80.5% reported teaching for more than five years. Currently, 63.9% teach at the elementary (K-5\textsuperscript{th} grade) level. Sixty-two percent of respondents teach at a suburban school and 39.8% teach at a public school. Ninety-two percent of the general education teachers who responded have taken additional graduate courses beyond their Bachelor’s degree. Overall, 88.9% of participants were female. For complete demographic statistics on participants, see Table 1.

Table 1

Demographics of Participants

<table>
<thead>
<tr>
<th>Variable</th>
<th>Number</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Number of Years Teaching</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0-1 years</td>
<td>4</td>
<td>3.7</td>
</tr>
<tr>
<td>2-5 years</td>
<td>17</td>
<td>15.7</td>
</tr>
<tr>
<td>6-10 years</td>
<td>20</td>
<td>18.5</td>
</tr>
<tr>
<td>11-20 years</td>
<td>39</td>
<td>36.1</td>
</tr>
<tr>
<td>More than 20 years</td>
<td>28</td>
<td>25.9</td>
</tr>
<tr>
<td><strong>Grade Level Currently Teaching</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Preschool</td>
<td>1</td>
<td>.9</td>
</tr>
<tr>
<td>Elementary (K-5\textsuperscript{th} grade)</td>
<td>69</td>
<td>63.9</td>
</tr>
<tr>
<td>Middle School (6-8\textsuperscript{th} grade)</td>
<td>32</td>
<td>29.6</td>
</tr>
<tr>
<td>Location and Type of Schoola</td>
<td>6</td>
<td>5.6</td>
</tr>
<tr>
<td>-----------------------------</td>
<td>-----</td>
<td>-----</td>
</tr>
<tr>
<td>Urban</td>
<td>23</td>
<td>21.3</td>
</tr>
<tr>
<td>Suburban</td>
<td>67</td>
<td>62.0</td>
</tr>
<tr>
<td>Rural</td>
<td>15</td>
<td>13.9</td>
</tr>
<tr>
<td>Charter</td>
<td>2</td>
<td>1.9</td>
</tr>
<tr>
<td>Public</td>
<td>43</td>
<td>39.8</td>
</tr>
<tr>
<td>Private</td>
<td>7</td>
<td>6.5</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Education Levels</th>
<th>16</th>
<th>14.8</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bachelor’s degree</td>
<td>16</td>
<td>14.8</td>
</tr>
<tr>
<td>Some post-graduate courses</td>
<td>23</td>
<td>21.3</td>
</tr>
<tr>
<td>Master’s degree</td>
<td>53</td>
<td>49.1</td>
</tr>
<tr>
<td>Additional courses taken</td>
<td>10</td>
<td>9.3</td>
</tr>
<tr>
<td>Master’s degree</td>
<td>96</td>
<td>88.9</td>
</tr>
<tr>
<td>Missing data</td>
<td>2</td>
<td>1.9</td>
</tr>
</tbody>
</table>

a Participants were asked to select all options that apply.

**Materials**

**Measures.** A quantitative survey (see Appendix A) was created and hosted electronically on www.qualtrics.com. The survey was based on a review of current research literature regarding perceptions of educating students with an ASD in an inclusive classroom. The survey was divided into two components: (1) demographics and background and (2) teachers’ perceptions of educating students with an ASD in an inclusive classroom. Demographic and background questions were collected through a multiple choice format. Twenty statements regarding teachers’ perceptions were assessed with a Likert scale (i.e., 1 = Disagree, 2 = Slightly Disagree, 3 = Neutral, 4 = Slightly Agree, and 5 = Agree). Topical areas in these statements included: perceptions of autism characteristics, perceptions of educating students with an ASD in an inclusive classroom, perceptions of challenges in managing students with an ASD in the classroom, and
perceptions of needs regarding educating students with an ASD. The survey was reviewed by the thesis committee and pilot tested with a convenience sample \((n = 12)\) of school psychology graduate students to refine wording and content of questions.

**Procedures**

Approval for this research study was obtained through the Institutional Review Board (IRB) at the University of Dayton. Data collection occurred through a web-based survey hosted by www.qualtrics.com. Consent was voluntary and participants provided informed consent by clicking through the survey. Participants’ names were not collected; all data were analyzed in the aggregate.

Participants were recruited via a convenience sampling approach. The primary researcher emailed 423 principals of area schools (see Appendix B) requesting they forward the email to teachers in their building. Once a teacher clicked on the survey link, an *Invitation to Participate* letter (see Appendix C) appeared on the website and the participant chose whether to move forward into the survey. An incentive was offered to the teachers who participated in the study to assist in recruitment. After completing the survey, teachers were invited to email the researcher with a completion code provided at the end of the survey. With this code, the participants received additional information on autism spectrum disorder and interventions available for students with an ASD.

Participants voluntarily responded to the survey at their own convenience. No deadline was given to the participants. The researcher closed the survey soon after a minimum of 100 participants completed it in full.
CHAPTER IV
RESULTS

Data Analyses

The survey results yielded nominal, ordinal, and interval data. Mean scores and percentages were used to summarize participant background and demographic information. Descriptive and parametric statistics were used to analyze the data.

Research question 1. A one-sample $t$-test was used to analyze the mean percentage of perceptions based on the percent responses consistent with favorable perceptions of students with an ASD on the Likert-scale survey (i.e., 1 = Disagree, 2 = Slightly Disagree, 3 = Neutral, 4 = Slightly Agree, and 5 = Agree). Several statements were reverse scored in order to remain consistent with favorable perceptions of students with an ASD. For example, a response of “Disagree” or “Slightly Disagree” when given the statement “An ASD diagnosis does not affect a student’s academic progress” was reverse scored where “Disagree” equaled a score of 5 and “Slightly Disagree” equaled a score of 4. Responses for three of the four perceptions areas surveyed were used in the $t$-test: perceptions of autism characteristics, perceptions of educating students with an ASD, and perceptions of challenges in managing students with an ASD in the classroom.
The $t$-test value was the midpoint of the 5-point Likert-scale which is a score of 3. The mean percentage scores of the survey were compared to the test value to evaluate whether the mean was significantly different from 3. The sample mean of 3.30 ($SD = .38$) was significantly different from 3, $t(100) = 7.75, p = .00$. The 95% confidence interval for the survey mean ranged from 3.22 and 3.37. The results support the hypothesis that general education teachers hold somewhat favorable perceptions of educating students with an autism spectrum disorder in the inclusive classroom. Figure 1 provides the distribution of mean perception scores for general education teachers.

Figure 1: Mean Perceptions Scores.
Descriptive data from questions addressing perceptions of needs in regards to educating students with autism are found in Table 2. Based on this data, the majority of general education teachers either disagree (29%) or slightly disagree (23%) that their school provides adequate resources to educate students with an ASD in an inclusive setting. Furthermore, they either disagree (54%) or slightly disagree (32%) that their undergraduate and/or post-graduate training was sufficient to educate students with an ASD in an inclusive setting, and finally, they agree (37%) or slightly agree (41%) that they would like to receive additional training from their employer on educating students with an ASD in an inclusive classroom. Despite these findings, the majority of general education teachers agree (11%) or slightly agree (39%) to feeling prepared to educate students with an ASD in an inclusive classroom and also disagree (14%) or slightly disagree (41%) that there is not enough support from other school personnel to meet these needs.

Table 2

Needs Regarding Educating Students with an ASD

<table>
<thead>
<tr>
<th>Variable</th>
<th>Disagree</th>
<th>Slightly Disagree</th>
<th>Neutral</th>
<th>Slightly Agree</th>
<th>Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>My school provides adequate resources to educate students with an ASD in a general education classroom.</td>
<td>29%</td>
<td>23%</td>
<td>19%</td>
<td>19%</td>
<td>10%</td>
</tr>
<tr>
<td>I would like to receive more training from my employer that focuses on educating students with an ASD.</td>
<td>2%</td>
<td>0%</td>
<td>20%</td>
<td>41%</td>
<td>37%</td>
</tr>
</tbody>
</table>
I feel prepared to educate students with an ASD.  

| Percentage | 11% | 20% | 18% | 39% | 11% |

There is not enough support from other school personnel to meet the educational needs of students with an ASD.  

| Percentage | 14% | 41% | 15% | 18% | 12% |

My undergraduate and/or postgraduate training was sufficient for educating students with an ASD in the general education classroom.  

| Percentage | 54% | 32% | 8%  | 5%  | 1%  |

**Research question 2.** Several parametric statistics were conducted to examine the relationship between teachers’ training, education, and previous experiences in the area of autism and teachers’ perceptions of educating students with an ASD in an inclusive classroom.  

**Training.** Two separate one-way analyses of variance (ANOVA) were conducted to evaluate the relationship between teachers’ training in the area of autism and their perceptions of educating students with an ASD in an inclusive classroom. The predictor variable, training in the area of autism, was separated into two components: (1) the number of trainings teachers attended within their (current or previous) place of employment and (2) the number of trainings teachers attended outside of their place of employment. Each component of the training predictor variable included four levels: 0 trainings, 1-2 trainings, 3-4 trainings, and 5 or more trainings. The dependent variable was the mean perception scores from each teacher. The first ANOVA (trainings at current or previous place of employment) was not significant at the .05 level, $F(3, 97) = .92, p = .44$. The second ANOVA (trainings outside their place of employment) was not
significant at the .05 level, $F(3, 97) = .23, p = .88$. For both ANOVAs, the condition means were different, but they are not meaningful, therefore, no follow-up tests were necessary. There was not a significant relationship between a teachers’ perceptions of educating students with an ASD in an inclusive classroom and the number of trainings a teacher has attended (either in the employment setting or outside of it). The results of the one-way ANOVAs do not support the hypothesis that there is a moderate relationship between teachers’ training in the area of autism and their perceptions of educating students with an ASD in the inclusive classroom.

**Education.** An independent samples $t$-test was conducted to evaluate the relationship between teachers’ obtained information on autism in their undergraduate or graduate level education and their perceptions of educating students with an ASD in an inclusive classroom. A total of 36% of teachers reported taking undergraduate or graduate level courses that included information on autism, while 64% of participants indicated that they had not received education regarding autism. The $t$-test was not significant, $t(99) = 1.24, p = 4.74$, suggesting no significant relationship between receiving information on autism in undergraduate or graduate level courses and the teachers’ perceptions on educating students with an ASD in an inclusive classroom. The results of the independent samples $t$ test do not support the hypothesis that there is a moderate relationship between teachers’ education in the area of autism and their perceptions of educating students with an ASD in the inclusive classroom.

Further analysis of education in the area of autism included a one-way ANOVA to evaluate the relationship between the specific amount of education on autism that the
38 teachers received in their undergraduate or graduate level courses and their perceptions of educating students with an ASD in an inclusive classroom. The predictor variable, receiving information about autism in an undergraduate or graduate level course, included four levels: part of or a whole class session, multiple class sessions, an entire course, and not sure. The criterion variable was the perceptions teachers held about educating students with an ASD in the inclusive setting. The one-way ANOVA was not significant at the .05 level, \( F(3,34) = .49, p = .69 \), suggesting no significant relationship between the amount of education in the area of autism and a teacher’s perceptions of educating students with an ASD in an inclusive classroom. The condition means were not significantly different; therefore, no follow-up tests were necessary.

**Previous experience.** An independent samples \( t \)-test was conducted to evaluate the relationship between a teacher’s current or past experiences educating a student with an ASD in the general education classroom and their perceptions of educating students with an ASD in an inclusive classroom. Ninety-three percent of teachers reported currently teaching or having previously taught a student with an ASD in an inclusive classroom. The results of the \( t \)-test were not significant, \( t(99) = -.41, p = .11 \), suggesting no significant relationship between current or previous teaching of a student with an ASD in the general education classroom and the teacher’s perceptions on educating students with an ASD in an inclusive classroom. The results of the independent samples \( t \) test do not support the hypothesis that there is a moderate relationship between teachers’ previous experiences in the area of autism and their perceptions of educating students with an ASD in the inclusive classroom.
Further analysis of previous experiences in the area of autism included a one-way ANOVA to evaluate the relationship between the number of students currently or previously taught by the 94 teachers and their perceptions of educating students with an ASD in an inclusive classroom. The predictor variable, currently or previously teaching a student with an ASD in an inclusive classroom, included four levels: 1-3 students, 4-7 students, 8-10 students, and 11 or more students. The criterion variable was the perceptions teachers held about educating students with an ASD in the inclusive setting. Results of the one-way ANOVA were not significant at the .05 level, $F(3,90) = 1.62, p = .19$, suggesting no significant relationship between the number of students with an ASD that a teacher has taught in an inclusive classroom and a teacher’s perceptions of educating students with an ASD in an inclusive classroom. The condition means are different, but not meaningful; therefore, no follow-up tests were necessary. However, it should be noted that those teachers who reported having taught 8-10 students or 11 or more students with an ASD held higher, though not significant, mean perception scores. Table 3 provides a breakdown of the mean perception scores based on the number of students a teacher has taught.

Table 3

<table>
<thead>
<tr>
<th>Number of Students</th>
<th>N</th>
<th>Mean Perception Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-3 Students</td>
<td>53</td>
<td>3.29</td>
</tr>
<tr>
<td>4-7 Students</td>
<td>24</td>
<td>3.22</td>
</tr>
<tr>
<td>8-10 Students</td>
<td>10</td>
<td>3.39</td>
</tr>
</tbody>
</table>

33
Additional results. Additional descriptive statistics were used to compare the number of trainings on autism (within and outside of the employment setting) that a teacher attended with the amount of educational information each teacher received in their undergraduate or graduate coursework. Results indicate high percentages of teachers received no employment training on autism regardless of educational information obtained at a college or university (see Table 4). Additionally, it is important to note there is a higher percentage of teachers who obtained educational information on autism and also attended at least one training outside the employment setting compared to teachers who did not receive educational information on autism through a college or university.

Table 4

Autism Education and Training

<table>
<thead>
<tr>
<th></th>
<th>Teachers Who Did Not Receive Educational Information</th>
<th>Teachers Who Did Receive Educational Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>Training Within the Employment Setting</td>
<td></td>
<td></td>
</tr>
<tr>
<td>0 Trainings</td>
<td>76.8%</td>
<td>74.4%</td>
</tr>
<tr>
<td>1-2 Trainings</td>
<td>17.4%</td>
<td>23.1%</td>
</tr>
<tr>
<td>3 or More Trainings</td>
<td>5.8%</td>
<td>2.6%</td>
</tr>
<tr>
<td>Training Outside the Employment Setting</td>
<td></td>
<td></td>
</tr>
<tr>
<td>0 Trainings</td>
<td>76.8%</td>
<td>59.0%</td>
</tr>
<tr>
<td></td>
<td>Percentage 1</td>
<td>Percentage 2</td>
</tr>
<tr>
<td>------------------</td>
<td>--------------</td>
<td>--------------</td>
</tr>
<tr>
<td>1-2 Trainings</td>
<td>17.4%</td>
<td>33.3%</td>
</tr>
<tr>
<td>3 or More Trainings</td>
<td>5.8%</td>
<td>7.8%</td>
</tr>
</tbody>
</table>
CHAPTER V
DISCUSSION

Review of Purpose and Major Findings

Previous research indicates that teachers hold favorable perceptions regarding the inclusion of students with autism in the classroom (Robertson, Chamberlain, & Kasari, 2003). This study aimed to explore general education teachers’ perceptions of educating students with an ASD in an inclusive classroom and the relationship between these perceptions and a teacher’s training on autism, education on autism, or previous experience educating a student with an ASD. Results of this study indicate that while general education teachers hold somewhat favorable perceptions of educating students with an ASD in an inclusive classroom, there is not a significant relationship between these perceptions and a teacher’s training on autism, education on autism, or previous experiences educating students with an ASD in an inclusive classroom. These results differ from findings by Syriopoulou-Deli, Cassimos, Tripsianis, and Polychronopoulou (2012), which found that teachers who held specializations or had previous experience with individuals with autism held more positive perceptions on inclusion in the classroom for this population.
Additional data in this study suggests the majority of general education teachers perceive that their school does not provide adequate resources to educate students with an ASD in an inclusive setting, their undergraduate and/or post-graduate training was not sufficient to educate students with an ASD in an inclusive setting, and that they would like to receive more training from their employer on educating students with an ASD in an inclusive setting. These findings are similar to a study by Busby et al (2012) in which perceived needs of general education teachers teaching students with an ASD included: more information regarding the process, procedures, and practices for teacher and family collaboration; more case and field-based experiences for pre-service teachers; and increased access to current research and best practice teaching strategies for supporting students with autism in the classroom. Current findings are consistent with the findings of a study that reported general education teachers have feelings of inadequacy regarding the training they have received to meet the needs of students with disabilities (Lohman & Bambara, 2006). However, data from this study also suggests the majority of general education teachers report feeling prepared to educate students with an ASD in an inclusive classroom and also perceive there is enough support from other school personnel to meet these needs. These results are different than a report from the U.S. Department of Education and Rehabilitative Services in 2002 which stated that most general education teachers did not feel adequately prepared to work with or provide instructional accommodations for students with disabilities.

A high percentage of teachers (93%) who participated in the current study are currently teaching or have previously taught a student with an ASD in an inclusive
classroom. However, this study indicated high percentages of teachers who have not received any training (within or outside the employment setting) on autism regardless of the amount of educational information on autism received in undergraduate or graduate courses. Previous studies have indicated the importance of receiving staff training and implementing policies to ensure such training occurs (Booth & Ainscow, 2002; Jordan & Jones, 1997). Teacher training not only ensures that students are included more in lessons, but it can also make teachers feel more confident in working with students with an ASD in the classroom (Glashan, Mackay, & Grieve, 2004).

Limitations

The current study is not without limitations. While recruitment of participants did yield the adequate sample size of at least 100 responders, this required significant effort on the part of the author, who contacted approximately 423 schools in the surrounding area. The sample size is considered adequate for data analysis; however, results may have been strengthened with a larger and more geographically diverse sample. In addition, recruitment of general education teachers was completed through convenience sampling. Because a web-based survey was utilized, there was a high non- or partial response rate due to the anonymity of the survey. Also, when using a web-based survey, responses rely on individuals’ self-reported perceptions. Thus, the validity of the information is contingent on the honesty of the respondents. A final limitation was the use of the survey itself. The survey was created by the author, and thus, does not have established reliability or validity. The survey was, however, pilot tested to strengthen both reliability and validity of the measurement.
Implications for Schools and School Psychologists

It is promising that general education teachers hold somewhat favorable perceptions of educating students with an ASD in an inclusive classroom. These results are similar to those from a study by Avramidis, Bayliss, and Burden (2000). Their research suggested that teachers with more positive perceptions tend to put forth more effort and time to help the child be successful in the classroom than those with less favorable perceptions of students with an ASD. It is important to foster these favorable perceptions and help teachers become more confident in their skills in educating this population. Given the increasing rates at which students with an ASD are included in the general education classroom, even for partial periods of the day, providing more employment-based trainings should be a priority. These trainings should provide teachers with more information on: the characteristics of ASD, evidence-based behavioral interventions, and teaching strategies for supporting these students in the general education classroom. Additionally, the high percentages of general education teachers who report having little to no previous education or training on autism further indicates schools should focus on providing this information to their teachers.

General education teachers report that their school does not provide adequate resources, their undergraduate and/or post-graduate training was not sufficient, and they would like to receive more training from their employer on educating students with an ASD in an inclusive setting. School psychologists are in a good position to help oversee
these types of trainings to general education teachers. With knowledge of both autism spectrum disorder and evidence-based behavioral interventions, school psychologists can help inform general education teachers on ways to better educate students with an ASD in an inclusive classroom. School psychologists can also play a role in implementing these practices in the classroom, whereas a trainer from an outside agency may have difficulty with this type of follow-up.

It is also important to consider the education that pre-service teachers are currently receiving in teacher preparation programs. While in the past the education on autism spectrum disorder may not have been a priority, the current increasing prevalence rates (CDC, 2014) and Ohio inclusion rates (ODE, 2012) make it crucial to instruct pre-service teachers about autism spectrum disorder. While school psychologists may not have the opportunity to become directly involved in the undergraduate or graduate education of pre-service teachers, they might provide community outreach trainings and invite students in these programs to attend the trainings. Providing training to new school staff on teaching strategies and evidence-based interventions for students with an ASD at the beginning of the school year is another way school psychologists can help educate new teachers on these practices. Regardless, a focus on providing more information on autism spectrum disorder characteristics, teaching strategies, and behavioral interventions should become a priority for teacher preparation programs at the undergraduate and graduate levels.
Implications for Future Research

Future studies might consider employing a qualitative approach to examine the relationship between a teacher’s perceptions of educating students with an ASD in an inclusive classroom and their own previous training, education, and experiences in educating students with an ASD. A qualitative approach may yield more elaborate data on why teachers generally hold favorable perceptions regarding educating students with an ASD. Teachers could share their teaching strategies for educating students with an ASD and, perhaps, a general theme could develop. Lastly, a qualitative approach could also provide more information on exactly what types of training teachers would appreciate receiving.

When considering the issue of response bias through an anonymous survey, it may beneficial to conduct direct observations of teachers educating students with ASD in their classrooms. This approach could yield better data on the types of teaching styles and classroom approaches that best educate students with ASD. Additionally, classroom observations could be paired with before or after interviews and/or trainings to help teachers better prepare themselves when working with this population of students. Classroom observations and interviews could supply researchers with information on how to better train teachers as well as indicate teacher needs in educating students with ASD.

Other studies might examine the types of information pre-service teachers are learning in their undergraduate and graduate education programs. For those who responded they had received information on autism through education, the response
choices were limited to: part of or a whole class session; several class sessions; or an entire class course. It may be beneficial to examine more closely what is being taught in only part of or one class session versus an entire class course, as well as the differences in what these general education teachers later perceive as needs regarding educating students with an ASD in an inclusive classroom.

Finally, a quantitative research study with a greater sample size may provide more significant data than this study. A larger sample size would provide the author with more data to support the findings. The data would yield more valid results and strengthen the findings. A cross-country study could prove effective as well, as it may yield different information than was provided from participants in only the state of Ohio.

**Conclusion**

Results of the current study indicated general education teachers reported somewhat favorable perceptions in educating students with an ASD in an inclusive classroom. There was no significant relationship between a teacher’s perceptions and the teacher’s training on autism, education on autism, or previous experiences educating students with an ASD in an inclusive classroom. However, general education teachers report their pre-service training on autism as insufficient and that they rarely take part in employment-based trainings regarding autism. School psychologists could serve as effective trainers in providing information to general education teachers on autism and evidence-based behavioral interventions, as well as teaching strategies for effectively including this population in the general education classroom. A greater focus on pre-service teachers might be considered in future research.
Future qualitative studies could support educational services for the growing population of children with ASD in inclusive classroom settings. Examining teachers’ perceptions of needed training on autism could help school systems further understand the need for employment-based training. Exploring the differences in educational information on autism that pre-service teachers experience in a college or university setting could improve supports for teachers before they complete coursework. Teachers would then enter the workforce feeling confident and prepared to educate students with an autism spectrum disorder. Better pre-service coursework and employment-based training for general education teachers would likely lead to better supports for students with an autism spectrum disorder in the general education setting.
REFERENCES


Code of Federal Regulations. (2013). Title 34, 300.8 (c), revised as of 2013.


National Association of State Directors of Special Education (NASDSE).


APPENDIX A

Survey Instrument

Autism Spectrum Disorder

Thank you for your participation in this survey. Please answer the following questions with the most appropriate answers.

1. Please indicate your current teaching position:
   a. General Education Teacher
   b. Special Education Teacher
   c. Extracurricular Teacher (Gym, Music, Art, etc.)
   d. Other

2. How many years have you been teaching?
   a. 0-1 years
   b. 2-5 years
   c. 6-10 years
   d. 11-20 years
   e. 20+ years

3. Please indicate the grade level you currently teach:
   a. Preschool
   b. Elementary (K-5th grade)
   c. Middle School (6-8th grade)
   d. High School (9-12th grade)

4. Select the most appropriate choice for the type and location of your school. Select all that apply.
   a. Urban
   b. Suburban
   c. Rural
   d. Charter
   e. Public
   f. Private
   g. Other
5. Select the most appropriate choice for your education level.
   a. Bachelor’s degree
   b. Some post-graduate courses taken
   c. Master’s degree
   d. Additional courses taken after completing Master’s degree

6. Select your gender.
   a. Male
   b. Female

7. Are you currently or have you previously taught a student with an autism spectrum disorder (ASD) in a general education classroom?
   a. Yes
   b. No

If yes…

8. How many students diagnosed with autism have you taught in a general education classroom?
   a. 1
   b. 2
   c. 3
   d. 4
   e. 5 or more

If yes…

9. Has your perspective of teaching a student with an ASD changed since having him or her in your classroom?
   a. No.
   b. Yes, I feel MORE POSITIVE about teaching students with an ASD.
   c. Yes, I feel MORE NEGATIVE about teaching students with an ASD.

10. If a new student with an ASD was assigned to your classroom you would feel (please select the one that best describes how you would feel):
    a. optimistic about teaching this student
    b. pessimistic about teaching this student
    c. hesitant, but willing to teach this student
    d. indifferent

11. I completed an undergraduate or a graduate level course that included specific information on autism spectrum disorder.
    a. Yes
    b. No

If yes…
12. The information on autism spectrum disorder was included in:
   a. part of one class session
   b. one class session
   c. multiple class sessions
   d. an entire course

13. I have attended ___ trainings focused on autism spectrum disorder WITHIN my place of employment (current or past school districts).
   a. 0
   b. 1-2
   c. 3-4
   d. 5+

14. I have attended ___ trainings focused on autism spectrum disorder OUTSIDE of my place of employment (i.e. a location other than a current or past school district).
   a. 0
   b. 1-2
   c. 3-4
   d. 5+
Please answer the following questions using the scale below:

1 = disagree    2 = slightly disagree    3 = neutral    4 = slightly agree    5 = agree

<p>| | | | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>A general education classroom is the most appropriate placement for a student with an autism spectrum disorder (ASD).</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>2</td>
<td>Students with an ASD are more hyperactive than their peers.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>3</td>
<td>My school provides adequate resources to educate students with an ASD in a general education classroom.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>4</td>
<td>Most students with an ASD get upset too easily.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>5</td>
<td>An ASD diagnosis does not affect a student’s academic progress.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>6</td>
<td>Teaching a student with an ASD creates too many challenges.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>7</td>
<td>I would like to receive more training focused on educating students with an ASD.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>8</td>
<td>A lesson involving a lecture is a more effective teaching method for students with an ASD than a lesson involving hands-on materials.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>9</td>
<td>Students with an ASD should always receive extra help outside of the classroom.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>10</td>
<td>Autism spectrum disorder is a mental illness.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>11</td>
<td>With appropriate training, teachers can effectively handle a student diagnosed with an ASD in the general education classroom.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>12</td>
<td>I feel prepared to educate students with an ASD.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>13</td>
<td>It is easy to modify negative behaviors from a student with an ASD.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>14</td>
<td>There is not enough support from other school personnel to meet the educational needs of students with an ASD.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>15</td>
<td>It is easy to have a conversation with most individuals diagnosed with an ASD.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>16</td>
<td>Students with an ASD learn better with rote activities (e.g. worksheets, flash cards, etc.).</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>17</td>
<td>My undergraduate or post-graduate training on was sufficient for educating students with an ASD in the general education classroom.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>18</td>
<td>A student with an ASD has trouble following directions.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>19</td>
<td>Most students with an ASD have friends.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>20</td>
<td>A student with an ASD needs many modifications and accommodations to be successful in the general education classroom.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>
APPENDIX B

Letter to Principals

February 5, 2014

To Whom It May Concern:

My name is Kelley Stidham and I am a school psychology graduate student at the University of Dayton. I am currently seeking participants to partake in my thesis project under the guidance of Dr. Elana Bernstein, a Clinical Faculty member in the school psychology program. My thesis involves completion of a brief online survey through www.qualtrics.com examining general education teachers’ perceptions of educating students with an autism spectrum disorder (ASD) in an inclusive classroom. The increased prevalence rate in the clinical and educational diagnosis of autism is well documented through the Centers for Disease Control and the Ohio Department of Education (ODE). The ODE also provides information reflecting the increase in placements of students with an ASD in an inclusive general education classroom for longer periods of time throughout the day. Current research suggests general education teachers’ perceptions of a student with an ASD plays an important role in the inclusive classroom experience. I have attached an Invitation to Participate letter for my survey. Please forward the letter and the survey link to general education teachers in your district. Additionally, please feel free to contact me or my advisor via email or phone with any questions or concerns.

Sincerely,

Kelley Stidham, M.S.
School Psychology Graduate Student
University of Dayton
(937) 750-4456
stidhamk1@udayton.edu

Elana R. Bernstein, Ph. D.
Clinical Faculty in School Psychology
University of Dayton
(937) 229-3624
ebernstein1@udayton.edu
APPENDIX C

Invitation to Participate

Dear Teacher,

This letter is a request for you to take part in a research project entitled: *General Education Teachers’ Perceptions of Educating Students with an Autism Spectrum Disorder*. This project is being conducted by Kelley Stidham, MS, a school psychology graduate student at the University of Dayton, under the supervision of Dr. Elana Bernstein, a clinical faculty member in the Department of Counselor Education and Human Services. Your participation in this project is voluntary and greatly appreciated. Completion of the survey will take approximately 10-15 minutes.

Your involvement in this project is completely confidential. No information collected in the survey will be connected back to your identity as a participant. All data will be reported in the aggregate, thus your name will not be connected with your responses or any published use of the data. Your participation is completely voluntary. By clicking the attached link to the survey you are providing your consent to participate. You may skip any question that you do not wish to answer and you may discontinue your participation at any time. The University of Dayton’s Institutional Review Board’s (IRB) approval of this research project is on file.

At the end of the survey you will be provided with the opportunity to receive an informational factsheet about autism spectrum disorder (ASD) that includes examples of effective interventions to use with students with ASD in the classroom. Participants who wish to receive this information may email the identified survey code to the following email address: asdsurveyud@gmail.com. The information on ASD will be provided to you within one week of receipt of your email.

We hope that you will participate in this research project, as it may be beneficial in learning more about teachers’ perceptions of educating students with an ASD. Should you have any questions about this letter, the survey, or the research project, please feel free to contact Kelley Stidham by phone at (937) 750-4456 or by email at stidhamk1@udayton.edu, Dr. Elana Bernstein by phone at (937) 229-3624 or by email at ebernstein1@udayton.edu, or the IRB Chair, Mary Connolly, by phone at (937) 229-3493 or by email at IRB@udayton.edu.
Thank you for your time and help with this project.

Sincerely,

Kelley Stidham, M.S.
Graduate Researcher

Elana R. Bernstein, PhD
Clinical Faculty