Public School, Private School, or Homeschool?:
A Comparison of Social and Academic Effectiveness Among Educational Settings for Children
with Autism Spectrum Disorder

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Abstract

The purpose of this thesis was to explore which educational setting (public school, private school, homeschool) appears to be most suitable for children with autism spectrum disorder (ASD) from parent perspectives. More specifically, the aims were to distinguish which school environment positively influences the academic and social growth of children with ASD and specific features of the environments that were the most beneficial to students with ASD. A research study was conducted using a survey of 161 parents with children diagnosed with ASD ages 12 to 14 in North Carolina. In the survey, parents were asked about their child’s educational background. They were asked to express their individualized opinions and perspectives on the different school settings their child has attended or currently attends. With regards to these opinions and perspectives, parents were asked to identify the setting in which their child with ASD was the most successful both academically and socially. Results indicate that parents of this study believe public school settings are the most beneficial for students with ASD for reasons such as: special education resources, more experienced teachers, and a greater population of students for children with ASD to interact with and practice social skills.
Public School, Private School, or Homeschool?: A Comparison of Social and Academic Effectiveness Among Educational Settings for Children with Autism Spectrum Disorder

My family and I always knew my brother Ryan was different from other children. It was not until he was diagnosed with Pervasive Developmental Delay-Not Otherwise Specified (PDD-NOS) at the age of four that we realized the cause behind this difference. Still a relatively new disorder at the turn of the 21st century, my parents accepted this diagnosis believing it to be the correct one for my brother. A few years later, as required by regulations in North Carolina, my brother’s diagnosis was to be changed. After the required reevaluation, Ryan was officially diagnosed as having high-functioning autism at the age of eight. In elementary school, Ryan was included in the general curriculum, where he remained in the classroom with the rest of his peers for core subjects. Once a day, however, he was pulled out for an elective class period with a special education teacher to work on social, organization, and study skills as well to receive individual tutoring. When he entered middle school, Ryan’s Individualized Education Program (IEP) called for an inclusive setting where he was not pulled out of the general classroom; but rather, a special education teacher was to be in the classroom with him during his math and English classes. Although he spent his primary years and the majority of his middle school years in public school, he was beginning to be distanced from his classmates, both academically and socially. Fortunately, there was a boarding school for children solely with diagnoses of autism an hour from my hometown called Piedmont Academy.

My brother left the general classroom setting in the public school system during the middle of his eighth grade year to attend Piedmont. He spent a total of three semesters there with

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1 All names of: organizations, people, universities and schools were changed throughout this thesis for confidentiality purposes.
peers who had similar characteristics, with teachers who were trained to work with children with autism, and in an environment created to teach these students social expectations along with implementing instruction to meet their cognitive and academic needs. After those three semesters, however, my parents were expressing concerns as to whether or not Piedmont was encouraging or hindering Ryan’s abilities. Although his academics were improving, there was concern as to whether or not he was truly gaining social skills that would ultimately help his future endeavors and Ryan’s behavior was slowly becoming more problematic. This was unlike the Ryan we had always known, and my parents made the decision to bring him home. My brother came home at the end of his freshman year and was enrolled in a private Christian school for children with learning disabilities. Currently, he still attends Cornerstone Christian Academy and will finish his schooling experience there until he graduates in 2015. Ryan has experienced three different school environments over the course of his lifetime. This fostered the idea for my research and my thesis.

Autism spectrum disorder (ASD) continues to evolve in meaning. The most recent definition, according to the Diagnostic and Statistical Manual of Mental Disorders-V (DSM-V, 2014), is that ASD is a neurological developmental disorder recognized in the early developmental stages with two key impairments: persistent deficits in social interactions and communication and exemplifying restricted, repetitive patterns of behavior. ASD is an umbrella term that “encompasses disorders previously referred to as early infantile autism, childhood autism, Kanner’s autism, high-functioning autism, atypical autism, pervasive developmental disorder not otherwise specified, childhood disintegrative disorder, and Asperger’s disorder” (DSM-V, 2014). According to Boyd and Shaw (2010) ASD is becoming more prevalent
because (a) it is a spectrum disorder and (b) public exposure to this disorder has grown. As more research has taken place and more children are diagnosed with ASD, the general population is becoming more familiar, understanding, and accepting of this disorder.

The Autism Society mentions that ASD is the “fastest-growing developmental disability” with a growth rate of 1,148 percent (2011). The Center for Disease Control (CDC, 2014) states that the overall prevalence of ASD in the United States is one in every 68 children. According to the former Autism and Developmental Disabilities Monitoring (ADDM) network community report from two years ago, the prevalence of ASD was one in every 88 children in 2012. Along these lines, there is a substantial separation gap between diagnoses depending on gender. More boys are being diagnosed with ASD than girls, with one in 54 male children diagnosed versus one in 252 females diagnosed respectively (ADDM, 2012). Finally, since the ADDM’s first report in 2002, there has been a 78 percent increase in the prevalence of ASD. These reports have only been recorded since 2002, not since the beginning of diagnosing individuals with ASD, and there is a 78 percent growth rate solely within the past decade.

Teachers, schools, and districts are required to become more and more adequately prepared for a greater population of students with ASD in their classrooms, resulting in two important questions to be addressed in the current study. First, which schooling environment among public school, private school, and homeschool is actually the most beneficial for the academic and social needs of students with ASD? For the purposes of this study, a public school was defined as a school supported by public funds; a private school was defined as a school supported by a private organization or private individuals rather than by the government; and homeschool was simply defined as teaching school subjects to children at home ("Dictionary and
Thesaurus,” 2014). Second, why might one school setting be more beneficial than another school environment? To address this question, this study focused on three key questions related to the personal experiences and interactions with the education system children with ASD encounter: (1) What is the most effective school setting for children with ASD in terms of social/behavioral and academic characteristics? (2) What intervention strategies contribute to a setting's effectiveness for children with ASD? (3) What are the elements that make a school effective for children with ASD that could be generalized across all settings?

These questions were examined in the context of (a) a review of literature and (b) survey research. The purpose of the survey was to reach out to parents of children with ASD, ask them to express their views on how successful, or unsuccessful, their children have been in different school settings, and ask them to provide reasoning for the placement of their child in a particular environment over another. Ultimately, the decision of where to place a child in school is made by the parent or guardian of that child; therefore parents were selected as participants for the survey.
Review of the Literature

According to Lauderdale-Littin, Howell, and Blacher (2013), there has been little research conducted on how “student-specific characteristics influence decisions on placement in the LRE [Least Restrictive Environment]” (p. 470). Similarly, there has been only a small amount of research comparing and contrasting school settings for children with ASD. However, research has been conducted on school environments as a whole. The purpose of this literature review was threefold. First, I aimed to find connecting links or find the gaps between school environments (public, private, and homeschool) that stimulate a more beneficial academic and social atmosphere for students with ASD. Second, I aimed to examine previous research that compared and contrasted the positives and negatives of each school setting. Finally, I aimed to gain a better understanding of which educational setting may be most effective for children with ASD.

Public School

According to Lauderdale-Littin and colleagues (2013), there are both advocates and critics of the public school system, particularly in regards to educating children with disabilities. In brief, advocates on the inclusion model within public schools argue that children with disabilities should not be restricted to learning a different curriculum than their peers. These advocates believe that children with disabilities should be placed in general education classrooms because they deserve the right to be there, learning alongside their peers. Lauderdale-Littin et al. (2013) state that advocates also provide an argument for supporting a social standpoint, claiming that when a child with a disability is around students without disabilities, they have the ability to learn social cues and examples for appropriate behavior within a classroom setting from these
students. In contrast, critics believe that having children both with disabilities and without disabilities in the same mainstream classroom environment is not beneficial to either group (Lauderdale-Littin et al., 2013). Critics also believe that children with disabilities, such as those with ASD, require more help that is individualized and tailored to their academic and social needs.

As of 2008, over half of children diagnosed with ASD were being educated in mainstream school settings (Humphrey, 2008). Mainstreaming, or placing children with special needs in a mainstream school setting, is defined as the “integration or inclusion with normal peers in regular classes to the maximum extent possible” (Eaves & Ho, 1997, p. 278). Many studies have shown academic and social benefits to educating children in public school environments; thus, the literature suggests that the inclusion of children with ASD can be “an effective strategy” (Ferraioli & Harris, 2011, p. 25). Public school environments are considered less restrictive than non-public school settings, fostering greater levels of socialization. Therefore, children with ASD in general education classrooms are noted to have better social skills and more friends (Lauderdale-Littin et al., 2013).

Researchers note that children with ASD who benefitted the most from mainstream school settings have been placed there from the beginning of their school careers. For example, White, Scahill, Klin, Koenig, and Volkmar (2007) found “in comparing students who moved from regular to special education classes to those who stayed in regular class…students who moved to more restrictive settings exhibited somewhat greater social impairment typical of ASD” (p. 1409). In addition, according to the Vineland Adaptive Behavior Scales (a parent interview that measures the child’s competence in: communication, daily living skills, and
socialization) used during White et al.’s (2007) study, there was a major difference between the student’s social skills who remained in special classrooms in comparison to students who moved into less restrictive classrooms. Academically, students who remained in more restrictive settings throughout their schooling experience had lower IQ scores, lower levels of adaptive functioning, and showed more severe symptoms of autistic-like behaviors such as communication problems and repetitive actions (Lauderdale-Littin et al., 2013; White et al., 2007).

Four studies have examined the effects of public schools for children with ASD. In 2013, Lauderdale-Littin et al. concluded that public schools have positive effects on children diagnosed with ASD. Their study with 56 students, 56 mothers, and 40 teachers from areas in Southern California and Massachusetts analyzed the results of three assessments: (1) Child Behavior Checklist (CBCL; Achenbach & Rescorla, 2000, 2001) to assess behavior problems, (2) Social Skills Rating System (SSRS; Gresham & Elliott, 1990) to evaluate social skills, and (3) teacher ratings of the child’s social skills. The CBCL total mean score for public schools was lower than the total mean score for non-public schools, inferring that children in public school settings display less problematic behavior. The SSRS results demonstrated students with ASD educated in public schools had mean scores significantly greater than their non-public school peers, indicating students with ASD in public schools displayed better social skills. The final assessment, teacher ratings, noted no contrast between school settings in terms of total behavior problems and internalizing behaviors; however, there was a difference in externalizing behaviors. Children with ASD in public school showed less externalizing behaviors, which were defined as “rule-breaking” and “aggressive” (Lauderdale-Littin et al., 2013, p. 473).
In a study with 76 children diagnosed with ASD receiving educational services (special classes, regular classes with and without an aide) in public schools, Eaves and Ho (1997) found mixed results on the benefits of public schools. For example, based on teacher ratings, “48-58% [of these students] were considered to be average to above average in memory, both immediate and long term, and in fine-motor coordination for manipulation of materials” (p. 284). Their weaknesses, however, according to teacher ratings, were in the ability to pay attention, follow instructions, express self, think abstractly, complete tasks, work independently, and draw conclusions; all characteristics needed to be successful in a classroom setting. More recent research (Ferraioli & Harris, 2011; Humphrey, 2008) has shown that when evidence-based strategies are utilized in mainstream classroom settings, many of these same characteristics can be improved in children diagnosed with ASD; thus, allowing these children to be successful alongside their peers in public schools. According to Humphrey (2008), simple strategies such as detailed scheduling, social stories, awareness of language use, and greater teacher understanding can foster tremendous results for public schools settings for these children. When teachers make abstract concepts more concrete, provide structure and consistency within their classroom, and allow for many different learning styles by modifying the curriculum, children with ASD can flourish in mainstream classrooms (Humphrey, 2008). Additionally, other studies, such as the one conducted by Lauderdale-Littin and colleagues (2013) support Humphrey’s (2008) claim by noting that when appropriate strategies are in place, public school placements can positively impact the academics and social skills of children with ASD.

If teachers, school administration, and parents or guardians are all adequately prepared in their roles, there are benefits that may come from inclusion of children with ASD in general
educational classrooms (Ferraioli & Harris, 2011). However, research has shown both positive and negative outcomes of educating children with ASD in mainstream classrooms so results need to be addressed “tentatively” (White et al., 2007, p. 1404).

Private School

From the National Center for Education Statistics (2009), the average class size, in 2007-2008, for public school was 20.3 students per classroom, whereas, private schools had an average of 18.1 students per class. Kantrowitz (2014), however, notes that the gap in this average has widened. Evidence for smaller class sizes in private schools relates to the average number of students enrolled in private schools, along with the number of teachers employed at private schools (Kantrowitz, 2014). For example, the total student enrollment for public schools is 49.3 million, yet the number of teachers employed is 3.2 million. The total student enrollment in comparison to the teachers employed creates a student-teacher ratio of 15.4 for public schools. Whereas private schools only have 5.1 million students enrolled, yet 456,000 teachers employed total. This results in private schools having a lower student teacher ratio of 11.1 students per teacher (Kantrowitz, 2014).

Smaller class sizes allow for students to receive higher quality individual experiences and greater opportunities for one-on-one help from teachers (Leon et al., 2010, p. 912). Nye, Hedges, and Konstantopoulos (1999) argue, “Students in small classes experience an increase in achievement that persists over time” (p. 140). These students receive the academic help and individualized attention they need in order to be successful, while at the same time private schools also allow for social interaction among peers that is needed for personal growth and a more beneficial future.
The specialized schools (i.e., schools for students with physical or learning disabilities) that participated in Reed, Osborne, and Waddington’s (2012) study documented smaller class sizes, with the majority of teaching being conducted in small groups with the help of teaching assistants. Leon et al. (2010) noted, the characteristics of specialized schooling provide greater opportunity to positively impact their population of children with ASD. These authors note how these schools also displayed tasks “using highly structured visual methods” as outlined by the TEACCH methodology (Reed, Osborne, & Waddington, 2012).

According to a study by Reed, Osborne, and Waddington (2012), there has been additional evidence in favor of specialized schools for children diagnosed with ASD. Due to higher teacher expectations and a more demanding learning environment, children with ASD in mainstream school settings showed less participation in the classroom as well as exemplified greater behavior problems (Reed, Osborne, & Waddington, 2012). According to Eaves and Ho (1997), these children need “predictable” and “structured” settings that special programs can offer; thus, placing a child in a general classroom in mainstream schools is not typically effective because instruction is not given to them in the particular areas they need (p. 288). Chamberlain, Kasari, and Rotheram-Fuller (2007) argue that children with ASD in mainstream school settings experienced “lower centrality, acceptance, companionship, and reciprocity” compared to typically developing peers (p. 230). This lack of companionship among peers, particularly in non-specialized school settings, has an increased chance of leading to bullying (Boyd & Shaw, 2010), which in turn creates an overwhelming amount of stress and anxiety.

In conclusion, it is thought that more children diagnosed with ASD are being placed into mainstream schools based off of “ideological arguments” rather than “in terms of what is best for
the child” (Reed, Osborne, & Waddington, 2012, p. 751). Mainstream placement, however, may not be beneficial for either the child with ASD or their peers (Eaves & Ho, 1997). The overarching conclusions in the study by Reed, Osborne, and Waddington (2012), displays favor towards specialized schools because their research, along with others, indicate children with ASD are making greater progress in these settings.

**Homeschool**

Effects of homeschooling in regards to children with special needs has been explored, yet, as stated by Kidd and Kaczmarek (2010), research on the “impact” of homeschooling for children with ASD is extremely limited (p. 257). Parents and guardians have made it clear that there are many reasons for concern about their child receiving education through traditional settings (Kidd & Kaczmarek, 2010; Hurlbutt, 2011). As noted earlier, according to recent statistics, the prevalence of children diagnosed with ASD has increased tremendously (Boyd & Shaw, 2010; Lauderdale-Littin et al., 2013); thus, the number of children with ASD entering into the educational system is also on the rise. Hurlbutt (2011) claims that due to this rapid increase it is evident that the number of adequately prepared teachers is fewer than the number of students with ASD being placed in their classrooms. For this reason, parents are concerned that their child will not succeed and will not be supported in a general classroom setting (Hurlbutt, 2011). Along with the shortage of qualified teachers, Kidd and Kacmarek (2010) note that educational environments can be challenging for children with ASD because of the schedule changes, multi-tasking, and fast-paced classroom “style.” Interestingly, students with ASD who are in homeschool settings were found in one study to academically outperform their peers educated in
schools (Kidd & Kacmarek, 2010, p. 259). Finally, aside from academic concerns, most parents are concerned about their child’s mental and emotional well-being in social context.

Studies on homeschooling, as highlighted by Hurlbutt (2011), has verified many social benefits of this choice. First, research has shown that “social initiations and interaction of children with ASD more than tripled in 1:1 settings versus large group settings” (Hurlbutt, 2011, p. 248). Secondly, there was an increase in well-being for children who were taught from home. As Kidd and Kaczmarek (2010) claim, parents reported a rise in confidence, social skills, and feelings of happiness in their child when compared to their previous emotional state in a public school setting. Thus, students educated in homeschool settings felt an overall decrease in the negative effects of stress, anxiety, and bullying (Kidd and Kaczmarek, 2010).

A key example to illustrate how homeschooling can positively impact children with ASD was reported by Sofia (2010). Sofia reported a case study of her son Joel, who has ASD. Sofia noticed her son’s separation from his peers academically and socially early in his education, therefore made it her mission to understand why her child was struggling in the public school system. Sofia described her personal experience of pulling her son out of public school for his fourth grade year to work with him one-on-one in a homeschool setting. Sofia aimed to embrace her son’s talents and learning differences to create a curriculum that would allow him to “enjoy learning again” along with acquiring the social skills needed to succeed in a general educational setting (2010, p. 101).

As a result of her actions, Sofia gave Joel the one-on-one attention he needed over the span of a year during homeschool with the hopes that the schooling decision would allow him to continue on through his educational experience alongside his peers and achieve his ultimate goal
of attending college when he was older (Sofia, 2010). Sofia noted that although he returned to public school in the fifth grade and his academic disabilities had improved, he was still slightly behind his peers. However, as Sofia stated, “having his needs as a learner met genuinely for a year made him ready to join the learning community in his class...Readiness of this type is an absolute prerequisite for school success” (Sofia, 2010, p. 102). As evidenced in Kidd and Kacmarek’s article (2010), as well as research conducted by Hurlbutt (2011), an overarching theme in homeschooling children with ASD is that parents tend to know their children best and know how to best support their individual needs, both academically and socially.

In summary, although each setting has advocates and critics, it was evident that more research has been conducted on public schools with regards to their effectiveness for children with ASD. Public school supporters believe children with disabilities have a right to be in mainstream classrooms with their peers who do not have disabilities; yet, public school critics believe that having these two groups of students together (i.e., those with disabilities and those without disabilities) is not beneficial to either group. Critics of public school settings also believe that these settings do not have the means to be able to provide the education a child with ASD needs. Private school supporters argue against the positive claims for public school by stating that private school settings offer better individualized help, and do not have the face the challenges of being in demand for teachers and/or more demanding learning environments. Similar to the advocates for private school, the advocates for homeschool looked particularly at what was missing, or lacking, in public schools that reinforced reasoning for homeschooling a child with ASD. All the supporters of homeschool focused their argument on the lack of teacher preparation in public and private school settings for the large ASD population entering into these
schools. These proponents of homeschool also believed the feelings of anxiety that are commonly experienced in a mainstream school setting, are decreased for a child with disabilities in this setting.
Methodology

This study was designed to collect information from parents of children diagnosed with autism spectrum disorder (ASD) for the purpose of answering three primary research questions: (1) What did parents believe to be the most effective school setting for children with ASD in terms of social/behavioral and academic characteristics? (2) What did parents believe to be the intervention strategies that contribute to a setting's effectiveness for children with ASD? and (3) What did parents believe are the elements that make a school effective that could be generalized across all settings? First, the research design of the study will be described. Next, the process for obtaining Institutional Review Board permission to perform the study will be outlined. Then, the recruitment of the participants will be described. Finally, methods used for data collection and analysis will be described.

Research Design

The design consisted of a brief survey that was sent to parents of children with ASD (ages 12 - 14). Responses were based off their personal experiences and feelings or opinions regarding their child’s past and current schooling experiences. As shown in Appendix A, the survey asked parents to report the current school setting in comparison to previous school settings their children may have been placed in. If alternative school settings have been considered, parents were asked to report why they chose to place their child in an alternative school setting, or why they considered placing their child in alternative school settings but ultimately chose not to. Finally, a key part of the survey focused on comparing and contrasting the different school placements in terms of academic and social success that the child has encountered. This research
is intended to provide information and guidance from parents currently navigating the school placement process with their own children.

**Obtaining Institutional Review Board Approval**

To begin the research, approval was sought from the University’s Institutional Review Board (IRB) to work with human subjects. After completing the Collaborative Institutional Training Initiative (CITI) course for Social and Behavioral Research through the Office of Human Research Ethics, an IRB application was submitted requesting exemption status for the study. The survey study application to the IRB was ruled exempt, and thus approved, on April 21, 2014. The IRB number for my survey study is 14-0839.

**Recruitment**

With IRB approval, the associate director of the Autism Research Registry, was allowed to send the survey to prospective participants on April 28, 2014. The survey participants included parents of middle school aged children diagnosed with ASD within the state of North Carolina. I chose to survey the parents because they are responsible for what school environment their child is placed in, and due to this responsibility, I believed that they would add validity to the research findings. I needed a way to access my desired survey participants so initially I emailed three ASD groups who offered support to families who had children with ASD either statewide or nationwide. I received responses back from these groups; however, I choose to work with the associate director because of her connections to the parents needed to participate in the survey and their methods for recruiting these parents. I partnered with the associate director of the Autism Research Registry to gain access to the survey participants. Since I was not a researcher participating or hired by the Registry she was not able to give me access to their database or
listserv, but she was able to be the liaison between the participants and myself. After IRB was approved, the associate director distributed my survey link to the sample population. The sample population receiving the survey was an estimated 850 families across the state of North Carolina who were registered with the Autism Research Registry and had a child between the ages of 12 to 14 diagnosed with ASD (Autism, Aspergers, and PDD-NOS). The survey was available to these families for an estimated four months (April 28, 2014 to August 22, 2014). A total of 161 completed responses were received prior to the survey close date resulting in 19 percent of the possible survey population size.

**Participant Characteristics**

Although the parents were the ones who participated in the survey, the majority of the participants’ children were male (86%) in comparison to the lower percentage of female children (14%). These statistics fall in line with the male to female ratio (5:1; CDC, 2014). The majority of the children were in sixth grade (35%), followed by seventh grade (33%), and finally eighth grade (22%). Ten percent of the survey participants did not respond to this question. The ages of the children were difficult to average due to the variety of responses with regards to how the parent interpreted the question (“how old is your child who is diagnosed” or “how old was your child when they were diagnosed”).

**Data Collection Procedures**

Data was collected using a Qualtrics survey. Qualtrics is an online survey tool available to create and distribute surveys and analyze survey responses. Through Qualtrics, survey responses were anonymous and there were no identifiers except for an identification label consisting of numbers and letters assigned to separate the responses. Data collected from the
survey’s responses was downloaded into an Excel spreadsheet along with a coded guide of how to interpret the numerical representations of the data. The survey consisted of varying types of questions depending on what information was needed (i.e. grade, gender) as well as a five-point Likert scale to identify parents’ opinions on the setting’s effectiveness, ranging from very dissatisfied to very satisfied. A full copy of the online survey can be found in Appendix A.

**Data Coding Procedures**

The data was recorded in an Excel spreadsheet and a coded “guide” was downloaded through Qualtrics to interpret numerical data within the spreadsheet. Seeing as the survey was opinion-based rather than quantifiable data, it was necessary for analysis to look for key themes or phrases that the parents had in common. Since ASD is a spectrum disorder, as previously discussed, the responses were expected to vary depending on the severity of the child’s symptoms along with their experiences. These key themes or phrases allowed for me to make generalizations about how parents feel overall, or as a whole, regarding a school placement. Also, there was an examination of the data for outliers or contrasting views. While certain parents expressed their own views that a particular school placement was beneficial academically and/or socially for their child, other parents would contradict those views based off of their child’s experience in that same school setting.
Results

The results of the survey for exploring the social and academic impact of school settings on children with ASD from a parent perspective are shared in this section. The survey was designed to answer the following three research questions: (1) What is the most effective school setting for children with ASD in terms of social/behavioral and academic characteristics? (2) What intervention strategies contribute to a setting's effectiveness for children with ASD? (3) What are the elements that make a school effective that could be generalized across all settings? The results chapter will break down the survey responses from 161 participants in both quantitative and qualitative data forms. Results were organized by: (a) participants’ characteristics and school settings of their child with ASD; (b) academic and social successes among public, private and homeschool settings; (c) effective strategies for students with ASD that should be incorporated in the classroom; and (d) elements of school settings that are best for children with ASD.

Characteristics of Participants and their Children

There were 161 responses to the survey, or 19 percent of the estimated possible population of 850 parents. To gain a better understanding of the population of children with ASD to whom the families were addressing in their response, gender, age and grade were requested. There were 139 male children (86%) and 22 female children (14%) identified in the sample population. The percentage of male children to female children identified in the study aligns with previous research determining that ASD is five times more common in males than in females (CDC, 2014). Age was a difficult factor to account for in the survey results because of misinterpretation. The question was viewed differently depending on the participant, which
caused this part of the data to be inaccurate, and thus unusable. The question stated, “What is the age of your child diagnosed with Autism?” which could be interpreted as “How old is your child with ASD?” or “How old was your child with ASD when they were diagnosed?” This potential misinterpretation led to outliers that could not be included in the mean average of age because it was out of the range of middle school ages. For example, one parent’s answer to this question was, “two and a half years old,” which evidently is not the appropriate age for a middle school student. Grade was taken into account to make sure that the goal population was being accurately targeted. While the majority of responses were children in typical middle school grades (sixth through eighth), there were two outliers in which one student was in fifth grade and one student was in ninth. However, age range fell in line with the requirements that the associate director used to narrow their search in the Autism Registry that targeted families who had children with ASD in the middle school age range. Each grade level was fairly represented with 57 of the children in sixth grade (35%), 53 of the children in seventh grade (33%), and finally 35 of the children were in eighth grade (22%). Sixteen participants (10%) did not respond to this question.

**Current School Setting**

The survey was designed to capture the educational background of the participants’ children with ASD requesting that families identify their child’s current school setting and any previous schools settings their child may have experienced over the course of their educational experience. The majority of the participants’ children with ASD currently attend public school or have attended a public school. The results for current school setting are located in Table 4.1.

Table 4.1.
Current School Setting

<table>
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<tr>
<th></th>
<th>Public (1)</th>
<th>Private (2)</th>
<th>Homeschool (3)</th>
<th>Charter (4)</th>
<th>Other (5)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of Responses</td>
<td>123</td>
<td>10</td>
<td>10</td>
<td>15</td>
<td>2</td>
</tr>
<tr>
<td>Percentage</td>
<td>77%</td>
<td>21%</td>
<td>6%</td>
<td>6%</td>
<td>1%</td>
</tr>
</tbody>
</table>

It was assumed that not every child with ASD from this survey remained in the same school setting until the current school year. In order to determine the range of school settings that the participants’ children with ASD have experienced, a total for Q13 (see Appendix A) within each individual survey response was calculated. This calculation indicated the number of school settings that students have been exposed to until their current middle school placement. Table 4.2 below shows the results of the collected responses. A handful of participants’ children have experienced a range of school settings; however, the majority of the participants’ children have only experienced one or two different school setting placements.

Table 4.2. How many students were in a certain number of different school settings across their educational careers to date?

<table>
<thead>
<tr>
<th></th>
<th>One</th>
<th>Two</th>
<th>Three</th>
<th>Four</th>
<th>Five</th>
<th>No Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of Students</td>
<td>102</td>
<td>43</td>
<td>8</td>
<td>1</td>
<td>0</td>
<td>7</td>
</tr>
</tbody>
</table>

Research Question 1: Academic and Social Success

Parents were asked six questions related to academic and social success in order to answer the research question “What is the most effective school setting for children with ASD in
terms of social/behavioral and academic characteristics?” Each participant was asked if their child attended each of the three school settings and if so what their opinion of their child’s success was within the school setting on a five point Likert scale: very dissatisfied, dissatisfied, neutral, satisfied, or very satisfied. If their child did not attend one or more of the school settings, parents were allowed to choose “Not Applicable” which is incorporated in the analysis of these six questions, as well. Table 4.3 displays the findings of all six questions. The lack of response or the inaccuracy of the data due to misinterpretation of the question was taken into consideration when evaluating the responses to Q7 through Q12 (i.e., “If your child has attended a public/private/home school, how satisfied are you with their academic/social progress?”). Overall, according to the participating parents there was a majority of “satisfied” and “very satisfied” responses for all school settings in terms of academic development; yet, in terms of social and emotional development, there was only a majority of “satisfied” and “very satisfied” responses for the private school and homeschool setting. Parents whose children attended reported the same number of responses for “very dissatisfied” and “dissatisfied” (57) along with “satisfied” and “very “satisfied” (57) in regards to social and emotional development.

Table 4.3.

<table>
<thead>
<tr>
<th>Type of Success</th>
<th>Type of School Setting</th>
<th>NA (1)</th>
<th>Very Dissatisfied (2)</th>
<th>Dissatisfied (3)</th>
<th>Neutral (4)</th>
<th>Satisfied (5)</th>
<th>Very Satisfied (6)</th>
<th>No Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>Academic</td>
<td>Public</td>
<td>11</td>
<td>13</td>
<td>24</td>
<td>20</td>
<td>63</td>
<td>27</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Private</td>
<td>124</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>7</td>
<td>5</td>
<td>16</td>
</tr>
<tr>
<td></td>
<td>Homeschool</td>
<td>127</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>6</td>
<td>7</td>
<td>19</td>
</tr>
<tr>
<td>Social/Emotional</td>
<td>Public</td>
<td>11</td>
<td>16</td>
<td>41</td>
<td>31</td>
<td>45</td>
<td>12</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>Private</td>
<td>123</td>
<td>2</td>
<td>3</td>
<td>2</td>
<td>8</td>
<td>6</td>
<td>17</td>
</tr>
<tr>
<td></td>
<td>Homeschool</td>
<td>128</td>
<td>1</td>
<td>2</td>
<td>0</td>
<td>7</td>
<td>5</td>
<td>18</td>
</tr>
</tbody>
</table>
This collective data leads into three succeeding survey questions: Q14) If your child has attended more than one school setting, which did you think was the most beneficial for them academically? Why?, Q15) If your child had attended more than one school setting, which do you think was the most beneficial for them socially? Why? and, Q16) If your child has NOT attended more than one school setting, have you considered placing them into a different school setting? Why or why not? Although there were limited results for this section of the survey because the requirements were that the student had to attend more than one school setting over the course of their educational experience, the majority of responses favored public schools, without the inclusion of charter schools, as an environment that positively affected social and emotional growth.

When analyzing the data, not all of the participants responded to each question even though some participants met the question’s criteria. For example, a parent could have reported that their child attended both public and private school, but only marked answers about the level of effectiveness in one school setting, marking “Not Applicable” in the other two settings. This could potentially lead to a change in the favored school setting for academic benefit. There were four participants total who either did not answer the survey question even after checking multiple school settings, or did not chose one school setting that they believed was more beneficial over the other[s]. Private school was the second favored school setting with 14 favored responses, followed by homeschool (eight favored responses), and charter school (ten favored responses). One outlier response favored a specialized public magnet school and another outlier favored a boarding school. Families also were asked to reflect on whether or not they ever considered an alternative school setting for their child with ASD, if they had not attended more than one
setting. Similar to other questions, the results were slightly skewed due to participants responding to this question although their child did not meet the questions criteria, yet the responses were predominantly similar. Participants who answered “Yes” claimed they had considered alternative school settings for their children because they believed the new school setting would offer their children a safe environment that satisfies students with ASD’s needs, greater acceptance and support for their children, and greater teacher experience in dealing with children with ASD. A small portion of the participants believed that a new school setting might not be beneficial in the long run for their child, but they would never know if they did not try-or using trial and error with school settings.

Families had the opportunity to respond with their reasoning for both the “Yes” and “No” responses to considering alternative school setting for their child. Some participants stated they considered an alternative school setting, but did not place their child in one because of cost, time, and effort-all particularly relevant to private school or homeschool. Therefore, even though these participants said, “Yes,” they had considered an alternative placement they did not move their child from their current school setting. Parents also responded to the question for the same reasons why they did not consider an alternative school setting in the first place. That is, when a parent responded “No” to this question they also noted it was due to cost, time, and effort. Parents who either said “Yes” but did not move their child, or “No” initially also felt this way because they believed they did not have the ability or resources to homeschool, and that public schools had stricter requirements with IEP and 504 plans, public schools offered special education services, and/or that there were not appropriate alternative school settings available in their area.
The results are summarized below in a Venn Diagram representation, Diagram 4.1.

Diagram 4.1.

If your child has NOT attended more than one school setting, have you considered placing them into a different school setting? Why or why not?

Research Question 2: Effective Intervention Strategies for School Settings

Parents were asked what schooling environment they believed most positively affected their child’s overall academic and economic growth in order to answer the following research question: “What intervention strategies contribute to a setting's effectiveness for children with ASD. The three final survey questions (reference Appendix A) were open-ended in hopes for a variety of responses allowing participants to express their personal opinions, stories, and thoughts on the matter. Based on all of the responses, themes were identified and used as analysis
results rather than reporting quantitative data. The generalizations do not reflect the voice of all participants; however, these themes are the most common among participants.

Participants were asked to reflect on the best way their child learns in the classroom, responses ranged. The list of common themes is presented below in Table 4.4.

Table 4.4.

Overarching Themes for How Students with ASD Learn Best in Schools

<table>
<thead>
<tr>
<th>Common Themes</th>
<th>Structured Classroom Setting</th>
</tr>
</thead>
<tbody>
<tr>
<td>One on One settings</td>
<td></td>
</tr>
<tr>
<td>Individual Attention or Help</td>
<td>Lots of Repetition</td>
</tr>
<tr>
<td>Incorporating Use of Technology</td>
<td>Examples and Modeling</td>
</tr>
<tr>
<td>NOT in a Traditional Classroom Setting</td>
<td>Few Distractions</td>
</tr>
<tr>
<td>Using Different Sensory Techniques: Auditory, Tactile, Visual</td>
<td>Reading</td>
</tr>
<tr>
<td>Small Group Settings</td>
<td>Logically</td>
</tr>
<tr>
<td>Hands-On Activities</td>
<td>Using Subjects of Interest</td>
</tr>
<tr>
<td>Through Slow Processes</td>
<td>Step by Step</td>
</tr>
</tbody>
</table>

The following quote from a parent highlights common themes: “He learns best when he can take control over the subject matter.” Another parent shared, “He is especially effective in an environment where people understand and accept his challenges, and can make the simple accommodations that his autism requires.” Similarly, one parent reported, “Just a worksheet and a pencil does not last; he needs interaction.” These three descriptions exemplify the general idea of how parents of children with ASD believe their children should be taught in a classroom setting because of how their children best receive information and knowledge.

Survey question, Q18, asked parents to distinguish what they believed to be the most beneficial classroom environment for their child with ASD. Some parents stated that their child had only experienced one type of classroom over their educational experience. However, other
participants responded that they purposefully had their child remain in the same classroom setting from the beginning of their schooling because their child has flourished in this particular environment and has not needed a change. Once again, common themes were recorded of factors that parents believed made for a beneficial classroom environment and are presented below in Table 4.5.

Common Themes of Classroom Environments that are Beneficial for Students with ASD

<table>
<thead>
<tr>
<th>Common Themes</th>
<th>One where students feel welcome</th>
<th>One that has few to no distractions</th>
<th>Has a “safe” space</th>
</tr>
</thead>
<tbody>
<tr>
<td>In a small classroom setting</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A structured environment</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Depending on how the teacher “designs” or sets up their environment/classroom</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

As can be seen in Table 4.5 fewer common themes were identified in regards to specific environmental benefits than for student learning needs. Each student with ASD is different; thus, the most beneficial environment for each of these students will vary. However, nearly every response for Q18 included the need for a small classroom setting in order for their child to flourish in school. As one parent shared, “Smaller classrooms with understanding teachers!” Similarly, another parent reported, “Small, consistent, friendly.” These participants’ responses reflected almost the entire survey population’s opinions. Depending on available funding, it might be difficult to reduce class sizes or hire additional experts on ASD to be in the classroom alongside the teacher helping those particular students. However, as smaller classrooms were the most common theme in the responses, this is a goal that parents whom participated in this study hope for with the goal of success for their children.

Based on the student and their individual needs, a mixture of classroom environments were deemed the most beneficial. The typical classroom environments listed by parents were:
mainstream classrooms, resource or self-contained classrooms, and ASD classrooms. One parent shared, “My child has been [in] a regular education classroom since Kindergarten. He receives no pullout or inclusion support as he doesn't require them.” Another parent reported, “He is in a contained classroom, now! I feel like the contained classroom is best for him.” Finally, one parent said, “The AU specific classroom has been very beneficial.” The preceding responses represent how parents positively expressed their views towards each of these classroom settings. These quotes reinforce how these environments benefitted their children. However, as previously stated because of the student’s individuality with regards to their academic and social needs, there is no guarantee that one classroom is more beneficial for students with ASD. Parents also reflected on how their children experienced mixed classroom settings throughout the day. For example, some students would experience their core academic courses in self-contained or resource classrooms while their electives were with the rest of their peers in a mainstream setting.

The most beneficial classroom environment differed among type of classroom that suited their child’s needs best; however, most parents noted that the teacher played a huge role in making a welcoming, yet structured, environment. A number of parents responded that the teacher needed to: incorporate consistency in procedures, maintain good classroom management to restrict the amount of distractions, and provide appropriate accommodations and modifications for their students with ASD. Parents also expected teachers to establish a welcoming, safe environment for these students by creating understanding and acceptance of differences among their peers. One parent specifically highlighted their son’s teacher and their effectiveness in maintaining the classroom by stating:
“She had differentiated instruction. She built up each child's strengths and gave them all a chance to shine. He excelled in the safe and structured environment her classroom offered.”

This quote leads into the final survey question, Q19, which discussed the qualities that parents believed made an effective teacher with regards to students with ASD.

Whether a parent’s child with ASD had a teacher with these characteristics and qualities in their educational experience, or a parent desired a teacher with these characteristics and qualities, participants in this study as a whole tended to have similar responses to this particular question. As previously done for analyzing the former two survey questions, common themes were emphasized from the entire population’s responses and are arranged in Table 4.6.

Table 4.6.

<table>
<thead>
<tr>
<th>Common Themes of Teacher Qualities that Make them Effective for Students with ASD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Work to the child’s strength</td>
</tr>
<tr>
<td>Has constant communication with parents</td>
</tr>
<tr>
<td>Those who want to help an make a difference</td>
</tr>
<tr>
<td>Patient, encouraging, welcoming, caring, positive</td>
</tr>
<tr>
<td>Experienced with ASD and knowledgeable on the disorder</td>
</tr>
<tr>
<td>Sets expectations and helps them reach their full potential</td>
</tr>
</tbody>
</table>

Each of these parents had high expectations of the teachers working with their children, despite the school setting they were teaching in, yet if most of these themes were embraced by educators who have students with ASD, parents believed it would benefit their child’s learning. Many noteworthy quotes came from parent responses to this question. One parents stated, “It
takes someone special to deal with these children. They are all so different.” Another parent mentioned, “It is not so much the qualities as it is the personality that matters most.” Most participants replied in a similar manner to this one’s parent’s quote, “EXPERIENCE is key! The best teachers are those who have had years of hands on experience working with kids on the spectrum - something you can't possibly learn from books or in a college classroom.” Lastly, a key quote from a parent was, “Teachers that care about him and his performance in their classroom. Teachers that understand Autism. Teachers that I can sit down and talk to them about him and they really listen. Teachers that don't get upset with him, if he doesn't get it the first time. They don't feel as, they are inconvenienced by having him in their classroom.”

**Research Question 3: Elements of School Settings that is Best for Children with ASD**

Paralleling results noted for Research Question 2, parents responded with the strategies or aspects of a school setting that they believed were the most beneficial for their children with ASD. Four key elements were noted to be best for this population of students: tolerance of teacher and peers within a classroom, experienced and knowledgeable teachers, smaller classroom environments, and communication with parents. For example, one parent mentioned that their child’s school had “ZERO tolerance for bullying,” and this made all of the difference for their child with ASD socially and academically. Another parent noted that tolerance is a key for students’ with ASD success by responding that teachers should not overlook actions by saying “it’s the normal middle school behavior,” but rather be “teaching acceptance of those with disabilities.” As highlighted repetitively through the common themes presented in the former section, parents responded, that as a whole teachers, who “understand Autism” and “small classroom settings” are necessary for increasing schooling effectiveness for students with ASD.
One parents claimed: “Teachers do not have enough training. They don't know how to handle children with autism.” Finally, many parents believed that communication between teacher and parents was fundamental: “It's not hard to determine by communication between teachers and parents what teacher will make the most difference,” “Teachers who take the time to communicate with us so we can either offer suggestions that may help them work with him in the classroom or so we can work with him at home,” and “Communication is key.”

**Conclusion**

In summary, results regarding placement fell into three overlapping categories: (1) “Yes I have considered placing my child in a different school setting,” (2) “No I have not considered placing my child in a different school setting,” and (3) “Yes I have considered placing my child in a different school setting but have not.” Parents also reflected on the most beneficial placement for their child in terms of learning styles, classroom environment, and teacher qualities. In addition, four best practices (e.g., tolerance of teacher and peers within the classroom, experienced and knowledgeable teachers, smaller classroom environments, and communication with the parents of the student with ASD) in school settings were identified.
Discussion

This study addressed three questions about school settings for children with ASD (1) What is the most effective school setting academically and socially? (2) What are effective intervention strategies? and, (3) What are the elements of effective school settings that can be generalized across all settings? The discussion focuses on connecting the analysis of survey responses to research highlighted in the literature review. The discussion is organized into what parents believed to be the most effective school setting academically and socially and the factors that play vital roles in creating an effective school setting for children with ASD. Limitations of the study and future research are examined as well as the conclusion of this section.

Research about students with ASD in the classroom, previously addressed in the literature review section, argues opposing ends of the same points about the effectiveness of different school settings. For example, some studies addressed the positive aspects of public schools (Lauderdale-Littin et al., 2013; Ferraioli & Harris, 2011; White et al., 2007), where others contradict the public school claims and support private school settings (Leon et al., 2010; Chamberlain, Kasari, & Rotheram-Fuller, 2007; Reed, Osborne, & Waddington, 2012). This has the potential to cause confusion, along with frustration, for parents or guardians who are taking into consideration research when trying to decide on an adequate placement for their child. As noted in survey results, a potential solution to gaps in academic and social effectiveness in different environments could be to implement evidence-based practices and similar strategies across all settings for these children. There has been numerous research on different school environments for children with ASD as cited in the literature review, however, the research is lacking not only the impact of placing children in these environments, but also the comparison between these environments. Research, however, will need to be extended after closing this
comparison gap among different schools settings, and begin to look at the question of “how” (Reed, Osborne, & Waddington, 2012, p. 761); “how” schooling environments as a whole can better implement strategies to benefit children with ASD despite their particular placement.

Based off of Kantrowitz’s (2014) findings about private school characteristics and supported by my literature review, I believed that my results would conclude that private school environments would be the most academically and socially beneficial for children with disabilities, particularly in the case of children with ASD. However, I developed a different perspective after conducting the survey and examining results. One parent’s response to the survey was: “I want to CAUTION YOU in making generalizations about which is better because this is highly individualized-teacher, child's needs, PARENT involvement/advocacy strongly influence in either setting.” With this quote in mind, the results of this study were difficult to interpret or analyze with a definitive answer to the initial research question: What is the best environment for a child diagnosed with ASD? The measurement of effectiveness throughout this study was broken into academic and social/emotional success. For those children who have experienced multiple school settings, the overall consensus made by participating parents was that public schools were the most effective for their children academically and socially.

**Discussion of the Most Effective School Setting Academically**

Twenty-four parents reported public schools as the most beneficial school setting academically in comparison to 14 parents choosing private school and 8 parents choosing homeschool. Interestingly, parents included options - boarding school, charter school, and specialized schools - not examined in this study. However, the number of responses favoring these school settings was lower than the overall public school count. Parents explained their
choice by claiming that public school was the most effective because of the implementation of IEPs and 504 plans, special education resources (e.g., trained teachers in special education), more structured environments, and greater exposure to, thus experience with, ASD. Although resources support the breakdown of classroom settings, survey responses reinforced that public schools offer a variety of classroom settings by listing settings such as inclusion (mainstream classes), self-contained (separate setting with a special education teacher), or mixed (mainstream classes for certain periods of the day and separate settings for others). Along with these three classroom types available to children with special needs, in this case ASD, parents alluded to the support of special education teachers in mainstream classes for these students, providing individual help as needed throughout the class.

Parents who noted that public schools did not benefit their children argued that public schools had too large of classroom sizes, did not have a challenging enough curriculum, and provided little to no individualization for students. The negative beliefs of public schools throughout the survey stemmed from the size of classes. Unfortunately, the increase in class sizes is demonstrated in the North Carolina General Assembly (NCGA) fiscal note, House Bill 443: Increase Class Size in the Public Schools (2009). In this note, class sizes were to be increased one to two students per classroom in the following school year. With these adjustments made, the maximum class size for grades sixth through eighth was 30 (NCGA, 2009); resulting in a ratio of 30 students to one teacher. This high student-teacher ratio makes it difficult for the one-on-one instructional time participants of the survey believed would benefit their child with ASD. The idea of reduced class sizes in the future has the potential to eliminate these challenges and benefit
all of the students being educated in the public school system, including those diagnosed with ASD.

Two additional findings were noteworthy. First, the population of students with ASD who were in homeschool settings was limited because many parents agreed that one needed to have the means (e.g., finances, time, resources) and ability (e.g., personal education) in order to homeschool their children. Parents who chose homeschool as the most beneficial academic setting for their children believed they have the best knowledge of their child’s learning, thus can best suit their educational needs. Therefore, because all the survey responses regarding homeschool settings were positive, one might be lead to think that if more students with ASD are able to be in a homeschool setting that it would be the most beneficial setting for them in terms of academic success. Interestingly, children with ASD in this study who experienced multiple school settings initially started in a non-public school setting before moving to mainstream classrooms in public schools. Parents who made these placement decisions for their children claimed that the initial start in a non-public school setting adequately prepared their children for the transition into the more common public school setting in which they ultimately felt greater success rather than stress and anxiety.

**Discussion of the Most Effective School Setting Socially**

Similar to the findings on academic success for children with ASD in public schools, 23 parents chose public schools as being the most beneficial for their children in terms of social/emotional success. Ten parents chose private schools and nine parents chose homeschool as the most socially and emotionally beneficial for their child. As noted earlier, parents also incorporated different school setting options (e.g., charter, boarding) for this question. Parents
believed a lot of factors (e.g., the environment, the teacher, tolerance of classmates) influenced their child’s social and emotional development in school. However, parents appeared to have ambiguous responses because many of their decisions reflected on specific schooling incidents or peer acceptance. For example, one parent claimed that bullying was horrible at a public school setting so they would never think to place their child there. Whereas, another parent shared that the worst bullying her daughter encountered was at a private school so the transition to public school was a “blessing.”

The majority of parents, however, chose public school for a number of reasons. They believed that public school settings allowed their child to meet other children from all different backgrounds, giving them a greater population of students to build friendships with, or as one parent said, “a variety of friends to chose from.” According to some parents, public schools offer more opportunities for social skills learning and various classroom settings. For example, a child with ASD can potentially be placed in a classroom with other children with ASD (i.e. autism classrooms, self-contained), creating more chances for socialization. A few parents referenced the favorable aspect of the advanced classes (e.g., academically gifted) available in public schools for children diagnosed both with ASD and gifted academic abilities. These advanced classes allow children to be in a setting with peers who are of similar academic abilities, creating a more welcoming environment. Another positive of public schools for socialization of children with ASD was noted in the consistency in the student population. For example, if a child has remained in the public school setting in the same area over time they tend to be familiar with the students they encounter on a yearly basis.
Parents who criticized the public school systems’ lack of effectiveness did so in terms of their child’s social/emotional success, believing that other school settings did not have the issue of bullying. Although a couple of parents disagreed, saying their child was bullied worse in private school settings than they were in a public school setting. Despite placement, a majority believed that bullying was detrimental to their child’s self-esteem and emotional development. One parent stated that in public schools, their child was always seen as the “kid that is different,” which could result in the bullying. In contradiction, according to survey results, a number of positive public school socialization scenarios stem from knowledge that teachers and peers have of ASD. When children are better informed, and taught tolerance and acceptance of others’ differences, the classroom dynamic is impacted greatly for those students with ASD (Ferraioli & Harris, 2011). This could in turn potentially eliminate a lot of the bullying inflicted towards children with ASD in public school settings.

**Discussion of the Factors that Cause Effectiveness**

According to the survey results, there are many factors that support a setting’s effectiveness for children with ASD. Several of the participants’ responses to the open-ended questions aligned with research found in my review of literature, particularly Q17 (How do you feel your child best learns?), Q18 (What classroom environment has been the most beneficial for your child?), and Q19 (What are the qualities of teachers that have been the most effective in your child’s education?). Humphrey (2008), for example, emphasized the need for “routine and predictability” while working with students with ASD, as well as establishing a daily schedule that allows students to know in advance what will be happening on a given day (p. 43). Parents repeatedly stated that their child learns best in a structured environment with an organized
teacher; thus, these two support systems should be strongly considered when planning for having a child with ASD.

Humphrey (2008) also discussed the “key principles” that teachers need to utilize in their classrooms. A few of these “key principles” were also noted by participants in their responses: (a) allow for multiple learning differences and opportunities, (b) teaching concepts in different forms to address the varied learning styles that students bring into the classroom, and (c) provide clarity when giving instructions. Many parents either referenced successful teachers (e.g., understanding, experienced, knowledgeable about ASD, implement different strategies, structured) or unsuccessful teachers (e.g., little to no experience working with students with ASD, unwilling to accommodate their classroom or teaching for a student with ASD, not well-planned or knowledgeable about ASD) in their responses.

In survey responses, parents alluded to the need of a specific type of teacher in order to build a successful classroom for children with ASD. Thus, the survey responses pointed to the need for recruiting and hiring more knowledgeable teachers as well as educating the current teaching staff about ASD and effective practices for students with ASD. There is a shortage of educators qualified to teach children with ASD; and, teachers in mainstream schools admit to not having the “necessary training and support” to be helpful educators for these students (Humphrey, 2008, p. 42). The phrase “experienced teacher” was consistently used in response to the final three survey questions (see Appendix A); thus, with the exception of homeschooling, this was clearly a constraint across the school systems reviewed. Reed (2012) provides supporting evidence claiming that the effect of “gains in a variety of areas” in one type of a school versus another was overcome when the original teaching practices of specialized schools
were added to, and implemented more equally, in mainstream schools (p. 750). In short, when knowledgeable, experienced teachers and effective teaching strategies are shared among school environments more students with ASD benefit in their placements.

The necessity of resources was also an important theme. Twelve of the survey participants who have children placed in public schools discussed their appreciation of having an Individualized Education Plan (IEP) or a 504 plan in place to help their child receive specific accommodations and modifications. Another benefit of public schools was the option for different classroom settings (e.g., self-contained classes, mainstream classrooms) and having a trained special education teacher assist the student in mainstream classes. Those children with ASD who experienced multiple school settings, according to their parents, either lost or gained these so-called “privileges” in private settings, ultimately had a positive or negative effect on their success in school. A suggested element that could make all school settings of equal benefit for the schools’ students with ASD would be the implementation of IEP, 504 Plans, or a similar concept across educational environments.

Finally, there were four key elements that parents believed were essential to ensure success, academically and socially, despite the school setting for children with ASD: tolerance of teacher and peers within the classroom, experienced and knowledgeable teachers, smaller classroom environments, and communication with the parents of the student with ASD. Three of these four elements are feasible to address and achieve through teacher preparation programs. As previously quoted, one parent argued that teachers do not know enough about ASD, let alone are prepared to teach children diagnosed with ASD in their classrooms. Based on the survey responses, it is concluded that if teachers are able to appropriately and successfully create a
classroom environment that is both welcoming and tolerant, as well as extend effort to communicate regularly with parents about their child’s needs, students with ASD will flourish. However, this knowledge of ASD specifically and how to teach all students tolerance should be addressed while teachers are being prepared for the field. Redesigning teacher preparation programs with acknowledging these parents’ suggestions for greater tolerance, knowledge, and communication could be a big step towards improvement of school settings’ interactions with the ASD population. Lastly, the fourth element, small classroom sizes, needs to be noted since it was a key essential that nearly every parent who participated in this survey mentioned in their responses. However, with regards to the legislative decisions made for public schools, evidently students with ASD are disadvantaged in the public school setting when placed in middle school classrooms which can have 25 or more students. The goal of having smaller class sizes when children with special needs are included in the classroom might be achievable with advocacy for policy changes. In order to see if this change in the number of students per class could be a positive one for students with ASD, shifts in classroom sizes policy for public schools need to be carried out. Parents’ responses and emphasis on small classroom sizes having an effect on their child’s learning can be an argument for implementing size restrictions to “even the playing field.” If all school settings incorporate the four essentials, it might be possible that children with ASD can succeed in any of the school settings in which they are placed.

**Limitations**

Limitations of this research have to be taken into consideration when evaluating study results. First, the sample population was restricted. Only those who were registered to the ASD Registry received the opportunity to complete the survey, representing only a small portion of the
entire population of children with ASD across the state. The survey was collected from voluntary participants within the state of North Carolina who were registered with the Autism Registry. Even though the initial sample size was 850 registrants, 161 registrants agreed to participate. This is only 19 percent of the total sampled population. These participants may have a biased perspective of their child’s school placement or a differentiating involvement in their child’s education than non-responders.

The second key limitation is restrictions inherent in the state of North Carolina and potential regional differences. Due to the large ASD organizations available and multiple support systems in the state, parent opinions may differ in North Carolina when compared to other states. Also, school regulations, educational practices, and school systems vastly differ from state to state; which in turn may play a role in a parent’s opinion of the North Carolina school system or the school environments that are offered within the state. In addition, the area or region may have played a role in their survey responses. Schools vary from region to region depending on the surrounding population, the teacher population, the available local funds, the available resources, and more. Each one of these factors may influence the school’s overall success and effect on their special needs population in schools. As discussed previously, schools that have smaller class sizes, more equipped special education staff, and/or the ability to cater to individual students with ASD, through person-specific accommodations or modifications, are evidently more successful than those who do not have these options.

Along with differences of schools from region to region, schools vary greatly within their own categories, which in turn results in a limitation of this study. Schools that are broadly categorized as public schools may consist of a variety of different types of public schools, such
as charter schools or magnet schools. Similarly, private schools may consist of a range of schools like ones that are specialized solely for children with learning disabilities, Montessori schools, and/or religious schools (e.g., Catholic, Lutheran). This study generally categorized public schools and private schools; when, in fact, these schools may display a wide variety of individualized implementations in their policies from school to school that may play a role in their effectiveness.

**Future Research**

Implications for further research stem from my original question; which environment is the most beneficial academically and socially for students with ASD? The current study received results solely from parents of middle-school aged children. Although children have been in school from six to eight years, opinions or perspectives regarding the effects of a particular school setting on a child’s success could be limited at this age. Similar research as in this study can be extended to follow a set group of students in longitudinal study and to evaluate parents’ opinions across additional school years. Further, research could follow different age groups such as high school or post-secondary education. Allowing individuals with ASD to speak and reflect on their own personal experiences would provide another valuable source of information.

Research could be extended to examine additional school settings (i.e. specialized schools, technology schools, magnet schools) that may be beneficial to students with ASD. These school settings, unfortunately, are not an option to all of the ASD population. After determining these distinctions between schools through the research, one could use the findings to build an argument or case for how to make schools more acceptable for, and accepting of, students with ASD across regions.
Conclusion

When making the decision of where to place a child with ASD or how to go about choosing the educational environment appropriate for a child with ASD, parents, guardians, and educators need to take into consideration the benefits and consequences of all environments “in terms of what is best for the child,” not merely “ideological arguments” (Reed, Osborne, & Waddington, 2010, p. 751). A lot of external factors contribute to a parent’s decision, but when determining a school placement, the child’s needs should be the main determinant and parents should choose based on what options are available (Eaves & Ho, 1997). Although the answer to the complex question of school placement is questionable because of the range of opinions, I hoped to better inform parents of children diagnosed with ASD of the valid research that both advocate for and critique the different settings. With this research, parents can have more information to reference while deciding the most beneficial environment for their own child. My research indicated that parents of children with ASD are concerned about the education their child is receiving and many do not feel their child’s education is adequately preparing them for their futures (Hurlbutt, 2008). I hope that more attention can be brought to these matters in the education and that changes can be made to ensure success of the growing ASD population in schools. A young man with ASD was quoted in Humphrey’s (2008) study, and his quote sums up the entire purpose of my thesis: “People with AS [Asperger’s syndrome] are like salt-water fish who are forced to live in fresh water. We’re fine if you just put us in the right environment. When the person with AS and the environment match, the problems go away and we even thrive” (p. 42).
References


Appendix A

Electronic Questionnaire Survey: The Effectiveness of School Placement on Children with Autism in Terms of Academic and Social Success

Q1.

My name is Katelyn Kiefer and I am an Honors student in the Middle Grades program in School of Education at the University of North Carolina at Chapel Hill. For my Honors Thesis, I am researching the effectiveness of placements in the educational system for children with Autism on their overall academic and social success. With this knowledge I hope my research will help better understand the impact that placements have on children from a family’s perspective that can serve to inform practice. That is why I am contacting you for your help, which will be invaluable to my study. This research will not be possible without your voice. Your participation will require approximately 30-45 minutes and may be completed online at your computer.

By checking the box below and completing this questionnaire:

- I understand that participation in this survey is voluntary and I have the right to stop at any time.

- I agree to participate in this study, and state that I am at least 18 years of age and a U.S. citizen.

- I understand that my responses will be kept strictly confidential, and digital data will be stored in secure computer files. Any report of this research that is made available to the public will not include your name or any other individual information by which you could be identified.

- I understand that the risks of participating in this study are minimal.

The results of my honors thesis will be available in early December. If you would like a copy of the results of my project or have any questions, please contact me, Katelyn Kiefer, at kkiefer@email.unc.edu.

Please feel free to print a copy of this consent page to keep for your records.

I give my consent to participating in this study and agree to the terms listed above.

Q2. * Note: Please give examples and situations when applicable throughout the survey. You may use your child's first name only or a pseudonym, whichever you feel most comfortable. In the results and my thesis, I will be using pseudonyms to eliminate any potential identifying information. Thank you for your help and understanding!

Click the "Next" button to continue on to the survey questions.
Q3. Gender of your child:
1
2 Male
3
4 Female

Q4. What is the age of your child diagnosed with Autism?

Q5. What grade is your child diagnosed with Autism in?
1
2 6th
3
4 7th
5
6 8th

Q6. What school setting is your child in currently?
1
2 Public School
3
4 Private School
5
6 Homeschool
7
8 Charter School
9
10 Other

Q7. If your child has attended a PUBLIC school, how satisfied are you with their academic progress?
Not Applicable Very Dissatisfied Neutral Satisfied Very Satisfied

Q8. If your child has attended a PUBLIC school, how satisfied are you with their social and emotional development?
Not Applicable Very Dissatisfied Neutral Satisfied Very Satisfied
Q9. If your child has attended a PRIVATE school, how satisfied are you with their academic progress?
Not Applicable  Very Dissatisfied  Neutral  Satisfied  Very Satisfied
Dissatisfied

Q10. If your child has attended a PRIVATE school, how satisfied are you with their social and emotional development?
Not Applicable  Very Dissatisfied  Neutral  Satisfied  Very Satisfied
Dissatisfied

Q11. If your child has attended HOMESCHOOL, how satisfied are you with their academic progress?
Not Applicable  Very Dissatisfied  Neutral  Satisfied  Very Satisfied
Dissatisfied

Q12. If your child has attended HOMESCHOOL, how satisfied are you with their social and emotional development?
Not Applicable  Very Dissatisfied  Neutral  Satisfied  Very Dissatisfied

Q13. What school setting[s] (public, private, boarding, charter, homeschooling, etc) has your child attended over the course of their educational experience? (Check all that apply.)
PUBLIC SCHOOL, PRIVATE SCHOOL, OR HOMESCHOOL?

1. Public
2. Private
3. Boarding
4. Charter
5. Homeschool

Q14. If your child has attended more than one school setting, which did you think was the most beneficial for them academically? Why?

Q15. If your child had attended more than one school setting, which do you think was the most beneficial for them socially? Why?

Q16. If your child has NOT attended more than one school setting, have you considered placing them into a different school setting? Why or why not?

Q17. How do you feel your child best learns? Please explain your response.

Q18. What classroom environment has been the most beneficial for your child? Please provide a brief explanation.

Q19. What are the qualities of teachers that have been the most effective in your child’s education? Why?