A PHENOMENOLOGICAL STUDY OF THE EXPERIENCES OF MIDDLE SCHOOL

TEACHERS WORKING WITH GIRLS WITH HIGH FUNCTIONING AUTISM

by

Kelly P. Alves

Liberty University

A Dissertation Presented in Partial Fulfillment

Of the Requirements for the Degree

Doctor of Education

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ABSTRACT

The purpose of this transcendental phenomenological study was to describe the experiences of middle school teachers who work with girls with high functioning autism or autism spectrum disorder (ASD) in eastern North Carolina. The theory guiding this study was disability theory, also known as critical disability theory (CDT). CDT, as described by Pothier and Devlin, Garland-Thomson, Glynne-Owen, Oliver, and Siebers was appropriate for this study as it sought to embrace individuals with disabilities rather than seeing disabilities as a deficiency to be cured. Because girls with ASD represent a seldom-studied group, this study may add to the literature by examining the experiences of teachers who work with these students. The central research question for this study was: How do middle school teachers in eastern North Carolina describe their experiences working with girls with high functioning autism spectrum disorder? A transcendental phenomenological qualitative design was used. Participants were recruited from middle schools in one eastern North Carolina county and included 10 teachers who have experience teaching at least one female student with high functioning autism. Data was collected through demographic surveys, semi-structured, face-to-face interviews, focus groups, and personal artifacts. Data was analyzed using Moustakas's modification of the Stevick-Colaizzi-Keen process. Consistent with prior research, this study identified the need for better training and greater understanding of girls with high functioning autism. This study may contribute to the current research and shape practical application by providing understanding of how teachers describe their experiences and how those experiences impact students. Future research should consider a broader group of participants and quantitative methods.

Keywords: Autism spectrum disorder, ASD, Asperger's syndrome, high functioning, Critical Disability Theory, girls, females

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Dedication

I dedicate this dissertation to my husband, Robert, who supported, encouraged, and sometimes pushed me through this entire process. Without his loving support I would not have made it this far. He has dried many tears, listened to many rants, and always reminded me to pray about it, get back in there, and get it done.

Acknowledgments

There are several people who helped make this possible. I would like to thank everyone who offered words of encouragement as I stressed, worried, and contemplated quitting. Thank you to my entire dissertation committee. Dr. Claxton, you were a great inspiration and encourager throughout this process. I would also like to thank my coworkers for standing by me, offering encouragement, and covering for me a few times. To my friends and family, your smiles, text messages, and love made this possible. I do apologize for all of the cancelled plans, but I will make it up to you. To the participants who so willingly gave of themselves to share their experiences, I would like to thank you for your openness, honesty, and time. Finally, although you have no idea you were the inspiration for this study, I would like to thank the girls with high functioning autism with whom I work every day. You young ladies have taught me more than I could ever teach you.

But Jesus looked at them and said, "With man this is impossible, but with God all things are possible." Matthew 19:26

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List of Abbreviations

Asperger's Syndrome (AS)

Autism Spectrum Disorder (ASD)

Centers for Disease Control and Prevention (CDC)

Critical Disability Theory (CDT)

Diagnostic and Statistical Manual of Mental Disorders, 5th edition (DSM-5)

Exceptional Children (EC)

Extreme Male Brain Theory (EMB)

Girls Night Out (GNO)

Institutional Review Board (IRB)

National Center for Education Statistics (NCES)

Teacher Attitudes Toward Inclusion Scale (TATIS)

Theory of Mind (ToM)

Union of the Physically Impaired Against Segregation (UPIA)

CHAPTER ONE: INTRODUCTION

Overview

The purpose of this study is to describe the experiences of middle school teachers in eastern North Carolina who work with girls diagnosed with autism spectrum disorder (ASD) in order to better understand their perceptions regarding this population of students. The first chapter provides a background into the need for this type of research and identifies the gap found in the literature regarding girls on the autism spectrum. Additionally, the chapter provides information into my background, including my motivation for undertaking this study. The problem and purpose statements, the empirical, theoretical, and practical significance, and the research questions are also found in the first chapter. Finally, a list of significant definitions and a summary concludes Chapter One.

Background

ASD has been identified as one of the fastest growing disabilities in the United States with incidence rates increasing significantly over the last 20 years (Lai, Lombardo, & Baron-Cohen, 2014). Recent studies indicate a dramatic increase in the number of children being diagnosed with ASD, with one out of every 59 children being diagnosed in the Unites States (Centers for Disease Control [CDC], 2018a). Though exact reasons are unknown, that number is even higher in the state of North Carolina, where one in 57 children is identified as being on the autism spectrum (CDC, 2018a). Approximately 70% of individuals with ASD are considered high functioning (CDC, 2018a). High functioning autism, sometimes known as Asperger's syndrome (AS), describes students who meet diagnostic criteria for ASD but have average or higher intellectual functioning (Jarman & Rayner, 2015) and have higher levels of communication and verbal skills (Rynkiewicz et al., 2016).

While the numbers of children with ASD have increased, there is still a distinct disproportionality between the numbers of boys and girls diagnosed with ASD (Attwood & Grandin, 2016; Dworzynski, Ronald, Bolton, & Happè, 2012). Research shows that boys with ASD outnumber girls at a ratio of almost five to one (Mandy et al., 2012). These disproportionate numbers are even higher for high functioning autism, with a ratio of almost 10 to one (Sarris, 2013). Additionally, girls are generally diagnosed at a much later age than boys (Cridland, Jones, Caputi, & Magee, 2014). One key focus of current research is determining why the ratio of males to females diagnosed with ASD is so unbalanced (Sarris, 2015). Several possible causes have been studied, including behavioral, social, and communicative differences between male and female students (Cridland et al., 2014).

It is important to understand the reasons for the widely varying numbers (Cridland et al., 2014; Mandy et al., 2012; Rynkiewicz et al., 2016). While these causes are under investigation, girls with ASD are being educated in various classroom settings across the country (Cridland et al., 2014; Jarman & Rayner, 2015; Sarris, 2015). For teachers, paraeducators, and other professionals who are responsible for ensuring positive educational outcomes for these students, it is vital to understand the challenges that girls with ASD, particularly those with high functioning autism, face in the classroom (Sarris, 2015).

Historical Context

The earliest mentions of autism in research were in the 1940s. Leo Kanner first described the symptomology in 1943 after studying the behavior of children in a group consisting predominately of boys (Lai et al., 2014). In particular, Kanner wrote about one of those children, a young boy named Donald (Grandin & Panek, 2013) who preferred to be alone and was preoccupied with inanimate objects. Additionally, he, along with the others studied, had a

tendency to obsessively demand rituals or sameness (Verhoeff, 2013). Although indicators of autism had been retrospectively identified prior to Kanner's work (Verhoeff, 2013), Kanner is most often credited as being the discoverer of the disorder (Buron & Wolfberg, 2008).

Working concurrently with Kanner, in 1944 Hans Asperger described similar characteristics that he observed while studying behavior (Attwood, 2015). Although they were working independently from one another, there were similarities in their observations. Like Kanner, the subjects of Asperger's observations were also males (Verhoeff, 2013). Asperger's subjects were more intellectually capable than those observed by Kanner. They did, however, exhibit odd behaviors compared to the typical child of similar age (Attwood, 2015). Kanner and Asperger both developed their observations from studying the behaviors of males (Verhoeff, 2013). Historically, autism has been considered a male disorder (Sarris, 2013). Much of the previous research in the field of autism has focused exclusively on males, and the majority of studies that included females have done so as part of mixed samples (Harrop, Gulsrud, & Kasari, 2015; Jarman & Rayner, 2015).

One of the most famous individuals with autism, Temple Grandin, wrote extensively about her experiences as a girl with ASD (Grandin & Panek, 2013). She discussed her experiences from a historical perspective, due to being born during the same timeframe that Kanner and Asperger were publishing their work. Because autism and AS were not widely identified at the time, she was diagnosed with brain damage. Her mother took a proactive approach that led to very successful outcomes for Grandin. She further explained that, had she been born a decade later, the diagnosis would have been very different, and she likely would have been institutionalized, as this was the general practice at the time (Grandin & Panek, 2013).

Over the last 20 years, there has been a dramatic increase in the number of children diagnosed with ASD (Lai et al., 2014). According to information from the CDC, the prevalence rate for ASD in the year 2000 was determined to be one in 150. The most recent data, collected in 2014, indicated a prevalence rate of one in 58 (CDC, 2018b). Along with the increased rates of diagnosis, research also showed an increase in awareness (Lai et al., 2014). Grandin and Panek (2013) provided an example of this by comparing the audiences of Grandin's lectures over the last 30 years. In the 1980s, the audience consisted of low functioning, nonverbal individuals. In recent years, however, there was a shift to include far more high functioning students who would not have been recognized as individuals with ASD in previous years (Grandin & Panek, 2013).

Recent changes to diagnostic procedures and criteria have been put into place. Although AS falls on the autism spectrum, prior to 2013, it was considered to be a separate diagnosis (Land, 2015). With the 2013 update of the *Diagnostic and Statistical Manual of Mental Disorders* (5th ed.; *DSM-5*; American Psychiatric Association, 2013), AS was removed as a separate diagnostic condition and was absorbed into the broader category of ASD. In research, the terms AS and high functioning autism are often still used interchangeably (Land, 2015; Solomon, Miller, Taylor, Hinshaw, & Carter, 2012).

Although research has historically focused on male students with ASD (Moyse & Porter, 2015), various implications for education have emerged. Research indicated that over half of all individuals with ASD fail to participate in post-secondary educational opportunities or paid employment (Lai et al., 2014). Many individuals with ASD leave school without adequate job skills or the social skills necessary to obtain and maintain employment (Yakubova, Hughes, &

Hornberger, 2015). These findings showed the need for greater understanding of the educational impacts of ASD, not only for boys, but also for girls on the autism spectrum.

Social Context

Statistics indicate that 40% of students with ASD in kindergarten through 12th grade are educated in the general education classroom, with this percentage being higher for students on the high functioning end of the autism spectrum (National Center for Education Statistics [NCES], 2016). Because more students with ASD are educated in these general education settings, it is important to understand these students as well as the impact they have on the classroom (NCES, 2016). Considerable research has already been done in the field of autism education. The majority of this research, however, is focused on males or includes a minimal number of female participants (Cridland et al., 2014; Jamison & Schuttler, 2017).

In the United States, ASD is the third largest group of students served by special education services (Chiang, Cheung, Li, & Tsai, 2013). The majority of students with ASD spend approximately 80% of the school day in general education settings (NCES, 2016). Girls with ASD, in particular, are more likely to be placed in general education rather than special education classrooms (May, Cornish, & Rinehart, 2014). Based on diagnostic criteria, individuals with ASD struggle with communication, have social deficits (Land, 2015), and have sensory sensitivities, all of which may contribute to behavioral problems in the classroom (Harrop et al., 2015). Additionally, long-term outcomes, including postsecondary education and employment opportunities, are greatly impacted by a child's ASD diagnosis (Chiang et al., 2013; Test, Smith, & Carter, 2014).

Socially and behaviorally, girls with ASD, particularly those on the high functioning end of the autism spectrum, may exhibit differences when compared to boys (Attwood & Grandin,

2016; Horiuchi et al., 2014). Several studies have been done to examine the differences in how these characteristics present between the sexes (Harrop et al., 2015; Harrop, Green, & Hudry, 2017; Horiuchi et al., 2014; May et al., 2014). As a hallmark characteristic of ASD, emotional and social deficits can greatly impede classroom success (Horiuchi et al., 2014; Jamison & Schuttler, 2017). Though these challenges may manifest differently in girls than in boys (Cridland et al., 2014; Horiuchi et al., 2014; Nichols, Moravcik, & Tetenbaum, 2009; Rynkiewicz et al., 2016), the social impact for girls with ASD may actually be more intense with greater levels of withdrawal (Land, 2015), anxiety (Horiuchi et al., 2014), and depression (Land, 2015; Solomon et al., 2012).

Girls with high functioning autism appear to be better able to initiate social interactions, but they struggle greatly to maintain these interactions over time due to a propensity to lack reciprocity and display socially inappropriate behaviors, such as interrupting others and making contextually inappropriate comments (Land, 2015). It is common for girls with ASD to display more social anxiety (May et al., 2014) as well as general anxiety and depression (Horiuchi et al., 2014) compared to their male counterparts with ASD and typically-developing female peers. As these girls reach adolescence, the risks for anxiety and depression become more severe and concerning (May et al., 2014; Moyse & Porter, 2015; Sarris, 2013; Solomon et al., 2012).

Although they do display behavioral problems (Horiuchi et al., 2014), girls with ASD present a different type of behavior profile than boys. Whereas boys with ASD are more likely to exhibit externalizing and aggressive behaviors, girls on the autism spectrum tend to internalize their aggression and appear passively defiant (Moyse & Porter, 2015; Solomon et al., 2012). Rather than acting-out, these girls tend to appear stubborn and avoid participating in challenging activities or completing difficult tasks (Sarris, 2013). These internalizing behaviors, along with

their heightened awareness of differences and exclusion (Land, 2015), may contribute further to the increased anxiety and depression (Horiuchi et al., 2014; Solomon et al., 2012).

One key area of concern for individuals with ASD focused on postsecondary education outcomes (Chiang et al., 2013; Yakubova et al., 2015). Since 2000, prevalence rates of ASD have increased from one in 150 to one in 59 (CDC, 2018b). As the number of students with ASD increases, the number of students being served in high schools across the country is also increasing. As a result, a greater number of individuals with ASD are leaving high school every year (Wehman et al., 2012). Research has shown that young adults with ASD are less likely to be gainfully employed than individuals of the same age with other disabilities, including intellectual and learning disabilities (Shattuck et al., 2012).

Students with ASD frequently struggle with the concept of transition in general (Smith & Anderson, 2014). Small changes to daily routines can be difficult for individuals with ASD, and major life changes, such as graduating and transitioning to further educational endeavors or employment, can lead to exceptionally high levels of stress, which may cause many young people with ASD to completely avoid those situations (Smith & Anderson, 2014). In addition to difficulty with change, in many individuals, the social deficits and communication challenges associated with ASD often make navigating a new campus or workplace problematic (Smith & Anderson, 2014; Test et al., 2014).

Coupled with the innate characteristics of ASD that make transitioning to adulthood difficult, young people who have been diagnosed with ASD also tend to lose many of their related services and supports once they exit their secondary educational setting (Smith & Anderson, 2014). To make matters more difficult, many of these students leave high school with limited independent living skills. Findings indicated that 80% of those students continue to live

with their parents, and only 36% ever obtain a driver's license (Wehman et al., 2012).

While considerable research has been conducted in the field of autism, the vast majority of this research focused exclusively on males or included only a small number of female subjects (Cridland et al., 2014; Jarman & Rayner, 2015). In fact, females make up only 15% of research participants in ASD studies (Jamison & Schuttler, 2017). Of those studies that have focused on females with ASD, many sought to identify social and emotional differences between boys and girls (Harrop et al., 2015, 2017; Hiller, Young, & Weber, 2014; Horiuchi et al., 2014; May et al., 2014). Other studies attempted to determine genetic predispositions or other factors that may lead to more boys being diagnosed with ASD (Horiuchi et al., 2014; Lehnhardt et al., 2016; Sarris, 2013). Much of what is available addressed females with ASD who were preschool age (Harrop et al., 2017), adolescents (Cridland et al, 2014), or adults (Baldwin & Costley, 2016). Few studies specifically targeted the experiences of middle school girls with ASD, and none did so from the perspective of classroom teachers.

Theoretical Context

Critical disability theory (CDT) proposes a different way of viewing individuals with disabilities (Mladenov, 2015; Siebers, 2011). There is a widely held belief that all disabilities are medical issues that should be cured or eliminated (Garland-Thomson, 2012; Siebers, 2011). This belief can lead to discrimination, bias, and stigmatization (Pothier & Devlin, 2006). Specifically, many consider individuals with autism to be defective (Biklen et al., 2005) based on deficiencies in neurobiological systems (O'Dell, Rosqvist, Ortega, Brownlow, & Orsini, 2016). Looking at disabilities through the lens of CDT requires research to shift from a perspective of disability to one of different abilities (Glynne-Owen, 2010).

Much of the prior research, which relied on various theories that contradict CDT, used a deficit-based identification model to compare children with ASD to neurotypical peers (Biklen et al., 2005; Glynne-Owen, 2010) and ignored individuality and diversity (Glynne-Owen, 2010). Rather than viewing disabilities as negative qualities to be eliminated, CDT embraces these differences as inherent traits that should be conserved and appreciated (Garland-Thomson, 2012; Glynne-Owen, 2010; Siebers, 2011). Despite autism and AS being generally defined as neurological developmental disabilities (Attwood, 2015; Baker, 2007; Biklen et al., 2005; Glynne-Owen, 2010), few researchers have used CDT as a theoretical framework for studying individuals with ASD. Baker (2007) and Biklen et al. (2005) relied on CDT in their studies of adults on the autism spectrum, while Glynne-Owen (2010) focused on the early childhood years.

Many current explanations of ASD focus on what is missing from the individual (Biklen et al., 2005). For example, theory of mind, or mind blindness, indicates that individuals with ASD lack the ability to understand the mindset of others (Attwood, 2015; Biklen et al., 2005). A newer branch of CDT, critical autism studies, emerged in 2010 to specifically address the need to reframe these widely held, deficit-based views of ASD (O'Dell et al., 2016). Rather than focusing on the deficiencies associated with ASD, CDT through the lens of critical autism studies, celebrates the neurodiversity of autism as a series of differences rather than deficits (O'Dell et al., 2016).

Situation to Self

I undertook this study with the hope of getting a better understanding how middle school teachers describe their own experiences working with girls who have been diagnosed with high functioning autism or AS. As a professional in the field of special education, I have an enduring interest in better understanding how teachers interact with students who have disabilities.

Specifically, as an administrator in a school exclusively for students with ASD, I have a distinct interest in this particular population of students. As a result of my current position, I underwent a change in my own view of ASD and the individuals who are impacted by that diagnosis. I began to see each student as a unique individual with specific talents and abilities that need to be encouraged and celebrated.

Additionally, I have also seen the disparity between the number of boys and girls who receive this diagnosis. By observing my own students, I have noticed several characteristics in female students that present differently than in boys. I have also spoken with many parents of girls with ASD who feel their daughters' needs are not always met because of a lack of understanding of those differences. My hope was that, through this research, I might better comprehend the perceptions of teachers who work with these young ladies and how they view girls with ASD.

Because each young lady with ASD represents a unique experience for teachers (O'Dell et al., 2016), this study required the voices and perspectives of several teachers from a variety of educational settings. I believe that by using varying perspectives to describe the daily experiences of teachers with first-hand experience working with girls with ASD, a transcendental phenomenological approach was best (Moustakas, 1994; Schwandt, 2015). Despite experiencing the same phenomenon, each individual views the experience from a unique perspective (Moustakas, 1994). This reliance on multiple perspectives was indicative of an ontological philosophical assumption and was consistent with my own philosophy of establishing reality from gathering the thoughts of several people who have similar experiences (Creswell, 2013). Because this was a qualitative study focused on subjective perceptions of individual participants, I relied on an epistemological assumption for this research (Creswell, 2013). Finally, because

my own values as an educator, researcher, and Christian were present throughout the process, leading to some level of subjectivity and researcher bias, the axiological assumption was also evident (Creswell, 2013).

Through my own observations with students, particularly girls, who have been diagnosed with ASD, I have seen the struggles a deficit-based understanding of autism can create. This belief system can cultivate misconceptions that further alienate people with autism and prevent them from meeting the potential they have (Milton, 2014). I hope this research contributed to changing from a mindset of curing deficits to one of celebrating differences. This shifting thought process was consistent with a critical theory paradigm, specifically the critical disability interpretive lens (Creswell, 2013). Critical disability theory argues that disability is the result of restrictions and limitations placed on individuals by society rather than the differences in those individuals (Oliver, 1990, 2009; Valle & Connor, 2011). Keeping with a social constructivist paradigm, the social model of disability seeks to change from a view of curing deficits to one of embracing differences (Oliver, 1990; Pfeiffer, 2002).

Problem Statement

Recent data indicate that one out of every 59 eight-year-old children is diagnosed with ASD in the United States (CDC, 2018a). In the state of North Carolina, that number is even higher, with one in 57 children being diagnosed with ASD (CDC, 2018a). There is also a significant disproportionality between sexes, with boys being diagnosed almost five to 10 times more often than girls (CDC, 2018a; Sarris, 2013). While there is considerable research in the field of autism, little focused specifically on girls who were diagnosed with ASD (Cridland et al., 2014; Jarman & Rayner, 2015). Those studies that did address girls on the spectrum primarily targeted possible reasons for the disparity, such as genetic predisposition, problems with

diagnostic measures (Horiuchi et al., 2014; Lehnhardt et al., 2016; Sarris, 2013), or differences between boys and girls related to restrictive interests or behaviors (Hiller et al., 2014; Sarris, 2015). The few phenomenological studies that exist provided the perspectives of adult and adolescent females with autism or their mothers (Cridland et al., 2014; Jarman & Rayner, 2015). There is no research giving a voice to the teachers who work with these girls on a daily basis. The problem is that little is known about how teachers specifically perceive girls with high functioning autism and how those perceptions may influence or may be influenced by their experiences working with these particular students in order to better serve girls with high functioning autism in the classroom.

Purpose Statement

The purpose of this transcendental phenomenological study was to describe the experiences of middle school teachers who work with girls with high functioning autism in eastern North Carolina. At this stage in the research, girls with high functioning autism was generally defined as female students who have received an educational or medical diagnosis of ASD or AS and have average or above average intellectual ability (Hallahan, Kauffman, & Pullen, 2015; Hiller et al., 2014). The theory guiding this study is disability theory, also known as CDT, as it seeks to embrace the neurodiversity of individuals with disabilities rather than seeing those disabilities as a deficiency to be cured (Garland-Thomson, 2012; Glynne-Owen, 2010; O'Dell et al., 2016; Pothier & Devlin, 2006; Siebers, 2011).

Significance of the Study

This study may add empirically to the current body of literature in that it provided teachers with an opportunity to describe their experiences working with girls in middle school, or grades six, seven, and eight, who have been diagnosed with high functioning autism or AS. It

may allow for better understanding of how these experiences are reflected in the perceived

performance or behavior of these girls (Moustakas, 1994). The research was guided by CDT

(Mladenov, 2015; Pothier & Devlin, 2006; Siebers, 2011), as it has embraced the idea of

changing perceptions of autism as strictly a disability (Garland-Thomson, 2012; Glynne-Owen,

2010; Siebers, 2011) to focusing on the abilities those individuals possess (Glynne-Owen, 2010).

The goal was to contribute to the literature related to CDT, which has been used very little in the

field of autism research (Biklen et al., 2005; Glynne-Owen, 2010; O'Dell et al., 2016). The

study may add an extra dimension to both the field and theory by providing insight into how

teachers' experiences with girls on the autism spectrum shape their attitudes and practices.

This study may add practical knowledge of teachers' experiences while working with

middle school girls with high functioning autism (Patton, 2002). This research shared strategies

that teachers often used with these students as well as the effectiveness, outcomes, and impact of

those strategies (Patton, 2002; Schwandt, 2015). Teachers may benefit as the study may provide

better insight into how teacher attitudes influence student success. This information may also

help administrators when making placement decisions for these students. The study may benefit

both parents of girls on the autism spectrum by providing information to assist them when

advocating for the best educational options for their children and the girls themselves when

advocating on their own behalves.

Because the North Carolina prevalence rates of ASD are higher than the national average,

this information may be of particular interest to practitioners in this state (CDC, 2018a).

Additionally, as more research is done regarding girls on the autism spectrum (Cridland et al.,

2014; Harrop et al., 2017; Horiuchi et al., 2014) and better diagnostic tools are developed for

diagnosing girls with ASD (Rynkiewicz et al., 2016; Sarris, 2015; Solomon et al., 2012), there is

a greater need for understanding the perspectives of teachers working with these students in order to shape teaching practice by providing information regarding effective strategies (Attwood & Grandin, 2016; Valle & Connor, 2011).

Research Questions

The purpose of this study is to describe the experiences of middle school teachers who work with girls with high functioning autism in eastern North Carolina. The research was guided by one central question, which identified the broad purpose of the study (Creswell, 2013). In addition to this central question, there were three sub-questions. These sub-questions provided further insight into the experiences of the participants (Creswell, 2013). In keeping with the purpose of describing the experiences of teachers working with girls with high functioning autism, the research questions that guided this study were:

Central Question

How do middle school teachers in eastern North Carolina describe their experiences working with girls with high functioning autism?

Much of the available research regarding the education of students with ASD focused on boys or included a small number of female participants (Cridland et al., 2014; Jamison & Schuttler, 2017; Jarman & Rayner, 2015). The subject of girls with ASD is consistently absent from literature, with a few exceptions. Many studies focused on biological factors or sex-differences (Hiller et al., 2014; Horiuchi et al., 2014; Lehnhardt et al., 2016; Rynkiewicz et al., 2016), while others investigated the perspectives of high school girls and their mothers (Cridland et al., 2014) or adult women on the autism spectrum (Baldwin & Costley, 2016). The available studies that investigated the perspectives of teachers focused on inclusion in general and did not specifically address female students (Roberts & Simpson, 2016).

Sub-questions

1. How do middle school teachers in eastern North Carolina describe girls with high functioning autism?

Critical disability theory focuses on changing the view of disabilities from a deficit-centered view to one that accepts the differences and abilities of the individual (Glynne-Owen, 2010; Mladenov, 2015; Pothier & Devlin, 2006; Siebers, 2011). By specifically investigating and identifying how teachers perceive girls with ASD and their understanding of these girls, the study may bring attention to the existence of strengths and talents (Milton, 2014; O'Dell et al., 2016) as well as challenges the girls face (Attwood, 2015; Attwood & Grandin, 2016; O'Dell et al., 2016) and how they are framed by teachers' understanding. The CDT draws attention to these challenges in order to reframe the thoughts of neurotypical individuals regarding ASD (Biklen et al., 2005).

2. How do middle school teachers in eastern North Carolina describe their greatest successes and failures with working with girls with high functioning autism?

Lawmakers, educators, and parents often debate the proper placement and procedures for educating students with disabilities, in particular those on the autism spectrum (Chiang et al., 2013; May et al., 2014; Oliver, 2009; Valle & Connor, 2011). Regardless of placement, each student with ASD has unique needs in the classroom that must be met in order to be successful in the classroom (Valle & Connor, 2011) and, ultimately, in the working world (Oliver, 2009). In order to best provide an appropriate level of education, it is important to understand what teaching and learning strategies teachers have found to work well with these students and what techniques have not worked well for teaching girls with high functioning autism (Valle & Connor, 2011).

3. How do middle school teachers in eastern North Carolina describe their own attitudes toward working with girls with high functioning autism and the evolution of those attitudes?

The goal of CDT is to restructure attitudes toward individuals with disabilities (Creswell, 2013; Garland-Thomson, 2012; Mladenov, 2015; Pothier & Devlin, 2006). In particular, the emerging field of critical autism studies seeks to accomplish this goal specifically in the area of ASD (O'Dell et al., 2016). A key factor in changing the attitudes of others toward individuals with ASD is understanding those attitudes (Biklen et al., 2005; Glynne-Owen, 2010; Milton, 2014; O'Dell et al., 2016).

Definitions

1. *Asperger's syndrome (AS)* - Prior to the 2013 update of the *DSM-5*, AS was a separate diagnosis of a mild or high functioning form of autism, which, with that update, was absorbed into the diagnosis of ASD (Attwood, 2015; Land, 2015). Despite the removal of AS as a separate diagnosis, many professionals, individuals, and researchers continue using the term to describe an individual with ASD who has average or above average intellectual functioning and communication skills (Attwood, 2015; Jarman & Rayner, 2015; Land, 2015). AS is often used interchangeably with high functioning autism (Attwood, 2015).

2. *Autism spectrum disorder (ASD)* - ASD was first introduced in the 1940s (Glynne-Owen, 2010; Grandin & Panek, 2013; Lai et al., 2014). It is generally defined as a developmental disorder (Glynne-Owen, 2010; Grandin, 2008) and presents with impairments in social communication and restrictive and repetitive behaviors and interests (American Psychiatric Association, 2013).

3. *Critical autism studies* - Critical autism studies is a relatively new field under the umbrella of CDT. Critical autism studies focuses solely on the area of autism and embracing neurodiversity rather than curing the deficits commonly associated with autism (O'Dell et al., 2016).

4. *Critical disability theory (CDT)* - CDT is a branch of critical theory that focuses on changing social perceptions in order to correct injustices (Creswell, 2013). CDT specifically addresses the needs of individuals with disabilities (Garland-Thomson, 2012; Siebers, 2005). The end goal of CDT is to change the view of disabilities to remove the focus from deficits to differences and embrace diversity (Glynne-Owen, 2010).

5. *High functioning autism* - High functioning autism is often used interchangeably with AS (Attwood, 2015) and refers to a mild form of autism in which the individual exhibits the general signs of autism but has average or above average intellectual and communicative abilities (Jarman & Rayner, 2015).

6. *Neurodiversity* - Neurodiversity is a term that has emerged from the field of critical autism studies, which emphasizes differences in brain functioning rather than deficits related to autism (O'Dell et al., 2014).

7. *Neurotypical* - This is a word used in recent research to identify individuals who are not diagnosed with ASD and, thus, are considered to have normal or typical brain functioning (Biklen et al., 2005).

8. *Theory of Mind (ToM)* - ToM is one of the common areas in which individuals with ASD are generally believed to be deficient (Milton, 2014). ToM refers to an ability to identify the thoughts and feelings of others and to see situations or events from others' perspectives (Attwood, 2015).

Summary

The prevalence rate of ASD is growing in the United States with one out of every 59 children diagnosed as having ASD. The rates in the state of North Carolina are greater than the national average with ASD affecting one out of every 57 children (CDC, 2018a). Historically, since the first research into autism by Leo Kanner and Hans Asperger in the 1940s (Lai et al., 2014; Verhoeff, 2013), ASD has been considered to be primarily a male disorder (Cridland et al., 2014; Verhoeff, 2013), and males are five to 10 times more likely to be diagnosed with ASD than females (Mandy et al., 2012; Sarris, 2013). There is a considerable lack of research focusing on girls on the autism spectrum (Cridland et al., 2014; Jarman & Rayner, 2015), and no research describes this phenomenon from the perspective of classroom teachers. This study used the principles of CDT to describe the experiences of middle school teachers in eastern North Carolina who work with girls with high functioning autism.

CHAPTER TWO: LITERATURE REVIEW

Overview

The purpose of this chapter is to provide a synthesis of the literature available regarding girls with high functioning autism or AS. Critical disability theory served as the theoretical framework for this study. In order to provide an adequate background into ASD and on teachers who work with girls on the high functioning end of the autism spectrum, this chapter will explore available research related to differences between males and females with ASD and some of the possible reasons for the disparity between the sexes. The chapter will also investigate qualitative information regarding the experiences of girls with ASD and the challenges and future outcomes they face.

Theoretical Framework

The main purpose of the theoretical framework is to guide the research and allow me to focus the study around a specific goal (Merriam & Tisdell, 2016). In addition, a solid theoretical framework is used to identify the problem related to the research topic, guide the development of the research questions, and determine the best type of research method for answering those questions (Merriam & Tisdell, 2016). This study is grounded in the social model of disabilities as defined by CDT (Oliver, 1990, 2009) to determine how teachers' experiences working with girls with high functioning autism and how those girls may be understood in order to change negative assumptions and stereotypes toward these particular students (Glynne-Owen, 2010; O'Dell et al., 2016; Oliver, 1990, 2009).

Historically, disabilities have been viewed through a variety of lenses, including that of a personal tragedy in which those afflicted by disabilities are victims in need of sympathy (Oliver, 1990). This view of disability as a tragedy, also referred to as the symbolic model (Couser,

2011), in which the general population felt compelled to help or heal individuals with disabilities, led to the development of what has been called the medical model of disability (Oliver, 2009). The medical model identifies disabilities as being defective traits that should be cured or healed (Siebers, 2011) and prevented or eradicated in future generations (Garland-Thomson, 2012; Siebers, 2011). Through diligent work by advocates with various physical impairments (Oliver, 2009), there is an emerging shift from the medical model to a social model of disability (Oliver, 1990, 2009; Siebers, 2011).

The social model of disabilities and the resulting CDT are rooted in the development of the Union of the Physically Impaired Against Segregation (UPIAS), which was organized in 1976 in the United Kingdom (Oliver, 2009). As stated in the name, the UPIAS was an organization specifically for individuals with physical impairments, and the organization worked to create better outcomes for themselves and others with physical disabilities (Oliver, 1990, 2009). This social model stipulates that disability is quite different than impairment, with impairment being innate characteristics that cannot be controlled by the individual and can hinder daily life (Couser, 2011; Oliver, 1990, 2009; Pothier & Devlin, 2006). By contrast, in accordance with the social model of disability and CDT, disabilities are defined as constraints or limitations placed on individuals with impairments by society (Anastasiou & Kauffman, 2013; Couser, 2011; Goodley, 2001; Oliver, 1990, 2009; Siebers, 2011). By this definition, an example of a disability would be the limitations surrounding wheelchair accessibility in public places (Oliver, 2009) or a lack of meaningful accommodations and modifications in a general education classroom (Brydges & Mkandawire; 2017; Valle & Connor, 2011).

CDT critically analyzes the concepts addressed by the medical model as well as the cultural implications of current systems, such as diagnosis procedures and instruments (Slee,

2001) as well as stereotypes and advocacy (Biklen, 2000; Couser, 2011). In particular, proponents of CDT argue that the medical model of disability promotes political and economic agendas while justifying the discrimination and segregation of individuals with disabilities (Biklen, 2000; Brydges & Mkandawire, 2017). Additionally, CDT addresses the need for avoiding stereotypes and the assumptions that individuals with autism and other disabilities require charity and unsolicited help (Biklen, 2000; Brydges & Mkandawire, 2017; Goodley, Hughes, & Davis, 2012; Slee, 2001). This is exceptionally important in the educational environment where students with autism, among other disabilities, are being prepared for future endeavors (Biklen, 2000; Brydges & Mkandawire, 2017; Slee, 2001; Valle & Connor, 2011) with inconsistent results (Cai & Richdale, 2016; Shattuck et al., 2012; Smith & Anderson, 2014; Test et al., 2014; Wehman et al., 2012).

The field of critical autism studies is emerging and is designed to specifically address the needs of individuals on the autism spectrum under the social model and CDT (O'Dell et al., 2016). In keeping with the departure from the medical model, critical autism studies underscore the belief that autism is only a disability because societal norms identify it as being such (Couser, 2011; O'Dell et al., 2016). Through this focus on critically addressing ASD, there is beginning to be a shift toward the neurodiversity movement (O'Dell et al., 2016). Proponents of viewing ASD through the lens of neurodiversity see autism, not as a set of deficits needing to be cured or prevented, but as a neurological difference with its own set of strengths and benefits (Biklen, 2000; Biklen et al., 2005; Couser, 2011; Glynne-Owen, 2010; O'Dell et al., 2016). In keeping with CDT and critical autism studies, there is a movement of researchers, scholars, and advocates who are arguing to change the phrasing from autism spectrum disorders to autism spectrum conditions in order to promote the ideas of neurodiversity and remove the connotations

and stigma associated with ASD (Bargiela, Steward, & Mandy, 2016; Lai et al., 2014). Because

critical autism studies is a relatively new area within CDT, there is a need to address the field of

autism research through the CDT lens, especially in children (Glynne-Owen, 2010). In

particular, certain beliefs about stereotypical traits of autism, such as theory of mind deficits

(Milton, 2014) and visual learning preferences (Trembath, Vivanti, Iacono, & Dissanayake,

2015), require critical analysis (Milton, 2014).

Despite the rise in popularity of other critical theories such as feminist theory, race

theory, and queer theory, CDT has yet to gain broad acceptance due to the fact that considerable

stigma is still associated with disabilities (Goodley et al., 2012). CDT and the social model of

disabilities are not without criticism. Some argue that disassociating disabilities from the

medical model creates a distrust of the medical field in those with disabilities, resulting in a

reluctance to seek medical treatment or participate in medical research (Couser, 2011). As a

result, it is argued that both the medical model and the social models must work in tandem in

order to provide the best supports (Anastasiou & Kauffman, 2013; Couser, 2011). Additionally,

because individuals with physical impairments initially developed disability theory, there is some

debate as to whether CDT adequately acknowledges the needs of individuals with cognitive

disabilities such as autism (Bernal & Roca, 2016; Couser, 2011; Oliver, 2013). Others oppose

viewing disabilities through the social model because they argue that disabilities are not social

disadvantages in the same way that race or gender may be (Anastasiou & Kauffman, 2013).

Because of the nature of CDT, it fits very well into the qualitative approach to research

(Brydges & Mkandawire, 2017). CDT focuses on investigating the perspectives of individuals

impacted by disabilities with the hope of improving their lives (Biklen, 2001; Biklen et al., 2005;

Garland-Thomson, 2012; Goodley et al., 2012; Mladenov, 2015; Oliver, 1990, 2009). In order to

understand multiple perspectives, research involving CDT must seek out the individual

testimonies of multiple individuals who experience the phenomenon (Brydges & Mkandawire,

2017; Couser, 2011). Therefore, a qualitative phenomenological approach fits well with a study

grounded in a CDT framework (Brydges & Mkandawire, 2017; Couser, 2011; O'Dell et al.,

2016).

Related Literature

Understanding the available literature related to the research topic allows me to critically

analyze the work of previous researchers in order to determine what further studies need to be

conducted and the manner in which these studies should be approached (Moustakas, 1994;

Schwandt, 2015). The process allows for an overall historical depiction of what previous

researchers have uncovered and the questions left unanswered (Schwandt, 2015). For this study,

the review of related literature focuses on the historical background and current understanding of

autism spectrum disorders. Additionally, the review examines gender differences associated

with ASD and how those differences may impact diagnostic processes and treatment of girls on

the high functioning end of the autism spectrum. Current literature related to perspectives of

individuals with ASD as well as teachers and caretakers were examined in order to determine

what gaps are present within the literature.

Background of ASD

Leo Kanner and Hans Asperger introduced the conditions now encompassed into ASD in

1943 and 1944 respectively (Lai et al., 2014; Verhoeff, 2013). Throughout the history of autism,

researchers have worked to understand its causes and characteristics (Cridland et al., 2014; Hiller

et al., 2014; Lai et al., 2014; Trembath et al., 2015). The generally accepted definitions and

diagnostic criteria have changed considerably however since Kanner and Asperger first

published their papers describing this condition in predominately male children (Ramsey, Kelly-Vance, Allen, Rosol, & Yoerger, 2016; Verhoeff, 2013).

In general, the characteristics associated with individuals with ASD are fairly consistent across studies (Bhat, Acharya, Adeli, Bairy, & Adeli, 2014; Hiller et al., 2014; Tyson & Cruess, 2012). Autism and the related disorders integrated into ASD are generally understood as being neurodevelopmental disorders that impact communication, social interactions, and behaviors (Bhat et al., 2014; Cai & Richdale, 2016; Sciutto, Richwine, Mentrikoski, & Niedzwiecki, 2012; Smith & Sharp, 2013; Tyson & Cruess, 2012). Individual with ASD are also likely to exhibit sensory sensitivities (Shankar, Smith, & Jalihal, 2013; Smith & Sharp, 2013; Wigham, Rodgers, South, McConachie, & Freeston, 2015). While cognitive delays are also common in individuals on the lower functioning end of the autism spectrum (Bhat et al., 2014; Lai et al., 2014), well over half of those diagnosed with ASD are actually in the higher functioning category (CDC, 2018a; Hiller et al., 2014) with average or higher intelligence quotient (IQ) scores and verbal abilities (Hiller et al., 2014; Jarman & Rayner, 2015; Lai et al, 2014; Rynkiewicz et al., 2016; Tyson & Cruess, 2012).

Despite the greater likelihood that a child diagnosed with ASD will have average or better intellectual abilities and higher IQ scores, girls seem to be less likely to be diagnosed with ASD if they do not also present with an intellectual disability (Hiller et al., 2014; Sarris, 2013, 2015). Due to this imbalance, a significant amount of available research into autism focuses predominately on males, with few studies specifically examining girls on the autism spectrum (Harrop et al., 2015). Recognizing this disparity has led many researchers to begin investigating reasons why girls without intellectual deficits are not diagnosed with ASD at the same rate as boys (Dworzynski et al., 2012; Harrop et al., 2017; Hiller et al., 2014; Hiller, Young, & Weber,

2016; Horiuchi et al., 2014; Lehnhardt et al., 2016; Mandy et al., 2012; May et al., 2014; Rynkiewicz et al., 2016; Trembath et al., 2015). Since the focus on girls with autism has emerged, various ideas have developed to explain this gap, with several studies examining these theories which cover arguments such as a female-specific phenotype (Howe et al., 2015; Ludlow, Roberts, & Gutierrez, 2015; Torres et al., 2013), genetic protections (Gockley et al., 2015), female camouflage effect (Lehnhardt et al., 2016; Rynkiewicz et al., 2016; Sarris, 2013, 2015), and diagnostic bias (Dworzynski et al., 2012; Hiller et al., 2014; Kopp & Gillberg, 2011; Lai et al., 2014).

The typical autism journey begins with an official diagnosis. Currently, diagnostic processes for both males and females are identical and include several steps (Falkmer, Anderson, Falkmer, & Horlin, 2013; Giarelli et al., 2010; Lai et al., 2014). Although not always the case, the procedures for diagnosis usually begin in childhood when parents or other adults notice behaviors that are inconsistent with what is considered normal development (Adelman & Kubiszyn, 2017; Lai et al., 2014; Mukherjee, 2017). These observations can also be made with routine screening procedures during regular checkups with a pediatrician (Adelman & Kubiszyn, 2017). Even if the initial concerns were not raised until much later, diagnosis requires that evidence of the atypical behaviors was present during the early childhood years (Pugliese et al., 2015). Once the diagnostic process begins, children, or in some cases adults, must undergo a series of reviews, assessments, and observations in order to determine if they do, in fact, meet the requirements outlined by the *DSM-5*. Consistent with the medical model of disabilities (Oliver, 2009; Siebers, 2011), the diagnostic process often requires detailed reviews of medical records, including birth and developmental histories (Giarelli et al., 2010). Although medical tests for diagnosis are not currently available (Falkmer et al., 2013), physical examinations and

neurological testing are performed to rule out other potential causes (Giarelli et al., 2010; Lai et al., 2014). Additionally, diagnostic team members will conduct parent interviews, administer parent and teacher reporting questionnaires, and perform child observations and formal screenings (Falkmer et al., 2013; Giarelli et al., 2010; Kopp & Gillberg, 2011; Lai et al., 2014). All of these factors are considered together, which leads to clinical judgments (Falkmer et al., 2013; Giarelli et al., 2010). Despite the lengthy approach, the processes involved with diagnosis seem to underserve girls with high functioning autism (Dworzynski et al., 2012; Giarelli et al., 2010; Hiller et al., 2014, 2016; Kopp & Gillberg, 2011) and neglect CDT (Couser, 2011; Glynne-Owen, 2010; Milton, 2014).

Many researchers and institutions have sought to understand what causes ASD (Verhoeff, 2013). Despite significant research in this area, a general consensus seems to be lacking, with several theories available. In the 1940s, experts believed "refrigerator mothers," or mothers who were cold and detached from their children, were to blame (Verhoeff, 2013). Since that time, researchers have developed many other theories, including the controversial argument claiming childhood vaccines cause autism (Khol et al, 2016; Scott, 2016). Other studies have examined links between autism and genetic mutations and heredity (Bhat et al., 2014; Yu et al., 2013). Still others argue that the risk of autism is higher when mothers are 40 years or older or fathers are 50 years or older at the time of conception (Sandin et al., 2016). Neurological defects, such as macrocephaly, and environmental factors, like pollution, have also been considered as possible contributors (Bhat et al., 2014). A recent study even suggested that girls whose maternal grandmothers smoked cigarettes during pregnancy have a higher likelihood of being diagnosed with autism (Golding et al., 2017). Regardless of the potential causes of ASD, diagnosed cases have steadily increased since 2000 (Lai et al., 2014), yet the number of girls

diagnosed with ASD is still considerably lower than the number of boys (Dworzynski et al., 2012; Hiller et al., 2014; Hiller et al., 2016; Lai et al., 2014). In order to better understand the reasons for the disparity between the numbers of boys and girls diagnosed with ASD, newer research is emerging specific to this field (Begeer et al., 2013; Hiller et al., 2014; Lai et al., 2014; Sarris, 2013, 2015).

Gender Differences Associated with ASD

There is considerable evidence to indicate that females who are eventually diagnosed with high functioning autism or AS receive their diagnosis much later than their male counterparts (Begeer et al., 2013; Giarelli et al., 2010; Harrop et al., 2017; Lai et al., 2014; Van Wijngaarden-Cremers et al., 2014). Research indicated that girls receive a diagnosis of ASD almost two (Begeer et al., 2013) to four years later than males (Ketelaars et al., 2017). Girls are also much more likely than boys to be misdiagnosed or go undiagnosed completely (Bargiela et al., 2016; Harrop et al., 2017; Kauschke, van der Beek, & Kamp-Becker, 2016; Lai et al., 2014). Although females make up an estimated 25% of all individuals diagnosed with autism, females only represent about 15% of research participants in recent literature, indicating a distinct lack of generalizability from males to females (Cridland et al., 2014; Dean et al., 2014; Jamison & Schuttler, 2017). Even fewer studies address female participants with high functioning autism (Harrop et al., 2015; May et al., 2014). This lack of available literature specifically investigating the characteristics and needs of females with high functioning autism signifies a distinct gap where further research could be beneficial (Cridland et al., 2014; Harrop et al., 2015; May et al., 2014; Van Wijngaarden-Cremers et al., 2014).

Behavior and interests. Much of the available literature pertaining specifically to females with ASD examines gender differences as possible reasons fewer diagnoses (Begeer et

al., 2013; Hiller et al., 2014, 2016; Jamison & Schuttler, 2017; Kreiser & White, 2014; Sharpley, Bitsika, Andronicos, & Agnew, 2016; Solomon et al., 2012). It is generally understood that children with ASD, regardless of gender, struggle with behavior, emotional regulation, and communication (Harrop et al., 2017; Hiller et al., 2014; Kopp & Gillbert, 2011; Mandy et al., 2012; Van Wijngaarden-Cremers et al., 2014). There is, however, evidence that suggests these difficulties present differently, and less stereotypically, in girls (Dworzynski et al., 2012; Harrop et al., 2015, 2017; Hiller et al., 2015, 2016; Kok, Groen, Becke, Fuermaier, & Tucha, 2016; May et al., 2014).

One of the hallmark characteristics used to diagnose ASD is the area of restrictive interests and repetitive behaviors (American Psychiatric Association, 2013). In boys, these behaviors and interests are often characterized by spinning the wheels or propellers of toys or putting objects in lines (Hiller et al., 2016; Mandy et al., 2012). These male-specific interests are considered to be somewhat disruptive and concerning for professionals and caregivers (Hiller et al., 2016; Lehnhardt et al., 2016; Solomon et al., 2012; Van Wijngaarden-Cremers et al., 2014). Although girls with ASD also exhibit restrictive interests (Harrop et al., 2015, 2017; Hiller et al., 2016; Kok et al., 2016), these interests are often considered to be much more socially acceptable, less intense, and less disruptive (Harrop et al. 2015; Hiller et al., 2016; Kok et al., 2016; Lehnhardt et al., 2016; Van Wijngaarden-Cremers et al., 2014). Whereas boys may fixate on technology or favorite video games (Harrop et al., 2015), girls tend to develop obsessional interest in objects, specific toys, collections, or topics (Hiller et al., 2016; Lehnhardt et al., 2016; Sarris, 2015). In addition, females with ASD generally exhibit less severe or disruptive repetitive behaviors than those demonstrated by boys (Harrop et al., 2015; Mandy et al., 2012).

In addition to the repetitive behaviors used to diagnose ASD (American Psychiatric Association, 2013), behavioral challenges are also commonly associated with autism (Begeer et al., 2013; Harrop et al., 2017; Hiller et al., 2016; Horiuchi et al., 2014; May et al., 2014). In a stereotypical representation of a child with ASD, the behavioral descriptions most commonly depict predominately male behaviors (Kreiser & White, 2014). Boys typically exhibit hyperactivity, aggression, or other externalizing behaviors (Lehnhardt et al., 2016; Mandy et al., 2012; May et al., 2014). By contrast, girls with high functioning autism tend to display more internalizing behaviors, such as refusal or withdrawal (Hiller et al., 2016; Mandy et al., 2014; Sarris, 2015). Rather than being hyperactive, girls tend to be more inattentive (Lehnhardt et al., 2016; Mandy et al., 2012; May et al., 2014; Solomon et al., 2012). Because girls tend to display behaviors that are considered less disruptive, particularly at school, warning signs may go unnoticed by teachers (Cridland et al., 2014; Hiller et al., 2016; Lehnhardt et al., 2016; Mandy et al., 2012; May et al., 2014). As a result, in order for a teacher to refer a female for further evaluation for ASD, a girl must exhibit more severe behavioral problems (Harrop et al., 2017), particularly if that girl is also intellectually capable (Begeer et al., 2013; Cridland et al., 2014; Kauschke et al., 2016). While teachers tend to notice fewer behavioral challenges, the opposite is true of parents (Cridland et al., 2014; Hiller et al., 2016). In fact, parents have expressed frustration in convincing both teachers and medical professionals of their concerns because of these differences in behaviors observed at home as opposed to school (Cridland et al., 2014; Jarman & Rayner, 2015).

Theories. The Extreme Male Brain (EMB) theory is one explanation often used to describe the discrepancy in males and females diagnosed with ASD (Hauth, de Bruijn, Staal, Buitelaar, & Rommelse, 2014; Sarris, 2013). EMB theory argues that the traits commonly

associated with ASD are merely more pronounced manifestations of characteristics that are generally associated with males, such as a preference for systematic reasoning rather than empathy. The justification behind EMB theory reasons that, because ASD is an extreme manifestation of innately male traits, males are naturally more predisposed to the condition (Baron-Cohen, 2002, 2010; Baron-Cohen et al., 2011; Hauth et al., 2014; Sarris, 2013). The EMB theory further argues that those females who are diagnosed with ASD are more likely to be seen as less feminine than neurotypical females. Women on the autism spectrum, however, often reject this idea because they do not see themselves as having male brains (Kanfiszer, Davies, & Collins, 2017).

Educationally, girls with high functioning autism tend to exhibit weaker verbal skills than boys on the high functioning end of the spectrum (Lehnhardt et al., 2016). Despite weaker verbal skills, they may be able to mask communication difficulties because their voices do not tend to have the monotone characteristics noted in males with ASD (Sarris, 2013). Girls also have a greater ability to use disfluency patterns to linguistically camouflage pragmatic language difficulties (Parish-Morris et al., 2017). Because girls with ASD tend to be better communicators, and their social, emotional, and behavioral characteristics allow them to mask many of the signs of ASD, they may exhibit what is known as the female camouflage effect (Rynkiewicz et al., 2016). Many of their social behaviors may be misidentified. For example, a key diagnostic trait of ASD, failure to make and maintain eye contact, is often overlooked in girls as shyness (Sarris, 2013). This ability to camouflage signs of ASD could be doing girls on the spectrum a disservice by delaying referral for assessment (Sarris, 2013). While girls with ASD may have weaker verbal abilities and motor development (Lai et al., 2014) than boys with ASD, it is important to note that they do have greater abilities to quickly process information,

better visual reception, and more creative imaginations (Lai et al, 2014). They also exhibit greater executive functioning skills (Lai et al, 2014), including the ability to plan and self-monitor as well as the use of working memory and flexibility (Lehnhardt et al., 2016).

Socially, there are inconsistent reports as to what differences may be observed between boys and girls who have ASD (Baldwin & Costley; 2016; Harrop et al., 2017; Horiuchi et al., 2014; Mandy et al., 2012). Most of the literature suggests that girls with ASD are much better with social interactions than their male counterparts (Harrop et al., 2017; Lehnhardt et al, 2016; Schneider et al., 2013). Conversely, there is evidence that suggests the opposite is true, and girls with ASD have greater social challenges than boys, especially as they reach adolescents (Kok et al., 2016; Horiuchi et al, 2014). Other studies have found no difference in social impairments between males and females (Mandy et al., 2012). These inconsistencies could be explained by a possible likelihood that social impairments worsen as girls with ASD get older, and social deficits that are not evident in childhood become more pronounced as females approach adolescence (May et al., 2014). Girls with ASD may also be more likely than boys to mask their social deficits through imitation of others during social interaction (Hiller et al., 2016; Lehnhardt et al., 2016). They are also better able to adjust and adapt to social contexts (Dworzynski et al., 2012; Lehnhardt et al., 2016; Schneider et al., 2013). Further evidence suggests that adults, such as teachers and caretakers, may not notice social incompetency in females because girls with ASD appear to be isolated by choice rather than because of peer rejection (Dean et al., 2014).

Comorbidity. In addition to these challenges, individuals with autism may also exhibit emotional difficulties that can present as comorbid conditions (Horiuchi et al., 2014; Lai et al., 2014; Mandy et al., 2012). Some of these emotional difficulties include anxiety and depression (Bhat et al., 2014; Lai et al., 2014; Sharpley et al., 2016; Solomon et al., 2012). These emotional

challenges seem to be more pronounced in females with ASD, particularly in those who are considered high functioning and may be more aware of their condition (May et al., 2014). It is also more likely for girls with high functioning autism to develop worsening comorbid emotional challenges as they reach adolescence and adulthood (May et al., 2014; Solomon et al., 2012).

Regarding comorbid emotional issues, it is particularly concerning that conditions, such as anxiety and depression, can further manifest as physical problems (Arnold, 2016; Dudova, Kocourkova, & Koutek, 2015; Lai et al., 2014). Individuals with ASD commonly display unusual or abnormal restrictive eating patterns (Dudova et al., 2015; Mari-Bauset, Zazpe, Mari-Sanchis, Llopis-Gonzalez, & Morales-Suarez-Varela, 2014). These eating patterns, combined with higher levels of anxiety and depression (Arnold, 2016; Bhat et al., 2014; Lai et al., 2014; Sharpley et al., 2016; Solomon et al., 2012) as well as obsessive compulsive disorder (Lai et al., 2014) and the need to control environmental factors (Hiller et al., 2016), frequently develop into eating disorders, particularly anorexia nervosa, in girls with high functioning autism or Asperger syndrome (Arnold, 2016; Dudova et al., 2015). Research indicated a significant number of females with anorexia nervosa also have ASD (Huke, Turk, Saeidi, Kent, & Morgan, 2013) or characteristics consistent with undiagnosed ASD (Rhind et al., 2014). In fact, between 23% and 37% of women who were hospitalized for anorexia treatment also met the diagnostic threshold for an ASD diagnosis (Mandy & Tchanturia, 2015; Westwood, Mandy, & Tchanturia, 2017). These findings could indicate that females with ASD are highly likely to also develop anorexia nervosa (Mandy & Tchanturia, 2015). This information is particularly concerning considering anorexia nervosa symptoms have been observed in girls with ASD as young as five and half years old (Dudova et al., 2015). Because undiagnosed autism can impede treatment for eating

disorders, it is especially important to understand how ASD presents in females (Dudova et al., 2015; Huke et al., 2013; Rhind et al., 2014).

In addition to eating disorders, other comorbid psychiatric and physical conditions are also common in girls with ASD (Bhat et al., 2014; Dudova et al., 2015; Horiuchi et al., 2014; Lai et al., 2014). These conditions include epilepsy and seizures, which occur in approximately 25% of children with ASD (Bhat et al., 2014; Lai et al., 2014). Sleep disorders are also common (Bhat et al., 2014; Devnani & Hegde, 2015; Lai et al., 2014; Mandy et al., 2012), with 56% experiencing insomnia and 25% suffering from sleep apnea (Devnani & Hegde, 2015). Additionally, children with ASD also frequently suffer from gastrointestinal issues, such as chronic constipation, acid reflux, and Chron's disease, as well immune disorders (Lai et al., 2014). Consistent with obsessive tendencies (Lai et al., 2014) and restrictive interests (Dudova et al., 2015; Mari-Bauset et al., 2014), hoarding behaviors were found in over 27% of children and adolescents with ASD (Storch et al., 2016). These behaviors included things like obsessive collecting of desired objects and severe distress when objects are misplaced (Storch et al., 2016). Additionally, across the lifespan, individuals with ASD tend to exhibit concerning self-injurious behaviors, such as head banging and skin picking (Wise, Smith, & Rabins, 2017). Other research found a correlation between ASD in females and an increased likelihood of hormonal issues. In particular, women and teen girls with ASD seem predisposed to polycystic ovarian syndrome and hirsutism, or excessive body hair. Females with ASD are also likely to suffer irregular menstrual cycles. Some evidence indicated that females with ASD have greater rates of certain types of cancers and tumors, although this finding is inconsistent with other studies (Kirkovski, Enticott, & Fitzgerald, 2013).

By understanding how ASD may present differently in girls than in boys, it is possible to better understand these girls and how to meet their needs (Cridland et al., 2014; Hiller et al., 2014, 2016; Jarman & Rayner, 2015; Kreiser & White, 2014). Much of the available research focused on gender differences for the purposes of understanding how ASD may impact girls differently than boys (Dean et al., 2014; Harrop et al., 2017; Hiller et al., 2014; Horiuchi et al., 2014; Kopp & Gillberg, 2011; Kreiser & White, 2014; Lai et al., 2014). In addition, further investigation into these differences could lead to improved understanding of the female camouflage effect (Lehnhardt et al., 2016; Rynkiewicz et al., 2016; Sarris, 2013, 2015) as well as potential biases in diagnostic tools and procedures (Dworzynski et al., 2012; Hiller et al., 2014, 2016; Kopp & Gillberg, 2011; Solomon et al., 2012) based on predominately male stereotypical definitions (Hiller et al., 2014; Jarman & Rayner, 2015; Sarris, 2013; Solomon et al., 2012). Another key area in the current research regarding both males and females with ASD is investigations into the personal experiences of individuals with ASD, their caregivers, and teachers (Baldwin & Costley, 2016; Cai & Richdale, 2016; Cridland et al., 2014; Moyse & Porter, 2015; Sciutto et al., 2012).

Experiences and Perspectives of Individuals with ASD and Their Caretakers

Qualitative research into autism generally consists of attempting to uncover and understand the experiences of individuals diagnosed with ASD, their parents or caregivers, and their teachers (Baldwin & Costley, 2016; Bargiela et al., 2016; Cridland et al., 2014; Moyse & Porter, 2015; Sciutto et al., 2012). When examining the perspectives of individuals with ASD, some themes emerged that were not dependent on gender, such as the need for understanding and patience (Jarman & Rayner, 2015; Sciutto et al., 2012). Many adults with high functioning autism or AS stated that teachers and peers often misunderstood their behaviors and reactions to

stimuli (Baldwin & Costley, 2016; Bargiela et al., 2016; Jarman & Rayner, 2015; Sciutto et al., 2012). This has historically been even more the case for women with high functioning autism because others' ideas of autism have been based on predominately male stereotypes (Baldwin & Costley, 2016; Bargiela et al., 2016). Women with ASD have also claimed being bullied and having a lack of social support (Pesonen, Kontu, & Pirttimaa, 2015).

Many women who participated in qualitative studies tended to have been diagnosed much later in life (Baldwin & Costley, 2016; Bargiela et al., 2016). In many cases, diagnosis occurred well after age 18 (Baldwin & Costley, 2016). Female participants identified a lack of support as a key factor hindering their success (Baldwin & Costley, 2016; Bargiela et al., 2016; Pesonen et al., 2015) with only 62% being gainfully employed (Baldwin & Costley, 2016). Many claimed that they were frequently the victims of bullying by both peers and teachers as children (Baldwin & Costley, 2016; Pesonen et al., 2015). They were also frequently involved in unhealthy relationships and self-reported as being victims of sexual abuse (Bargiela et al., 2016). One common argument among women who were diagnosed later in life seemed to be the belief that earlier diagnosis would have improved their life outcomes through greater support (Baldwin & Costley, 2016; Bargiela et al., 2016).

These difficulties, however, persist into adulthood with a significant lack of understanding from university personnel and employers (Jarman & Rayner, 2015; Pesonen et al., 2015). One female participant was told that she could not attend a university program because her AS rendered her unemployable (Pesonen et al., 2015). In another study, a participant shared that personnel in the disability services program of her university argued that she could not be diagnosed with AS because she was female (Jarman & Rayner, 2015). This anecdotal evidence demonstrated a consistent lack of acceptance and understanding regarding ASD and, in

particular, how it impacted females (Baldwin & Costley, 2016; Bargiela et al., 2016; Jarman & Rayner, 2015; Sciutto et al., 2012).

Adolescent females with ASD share similar experiences as their adult counterparts (Cridland et al., 2014). Many received their diagnoses much later than males and had difficulties with developing and maintain friendships (Cridland et al., 2014; Saggers, 2015). Even during the teen years, both males and females with ASD acknowledged that it is important for teachers to understand high functioning autism and how it impacts behaviors in the classroom (Cridland et al., 2014; Saggers, 2015; Sciutto et al., 2012). Parents tend to repeat the same information and concerns as adolescents and adult females with ASD (Cridland et al., 2014; Jarman & Rayner, 2015). Parents argued that, in many cases teachers, did not seem to have proper training in how to teach children with ASD (Cridland et al., 2014). Many mothers stated that the diagnostic process was difficult and their daughters were diagnosed long after they first mentioned their concerns because professionals were skeptical that a girl would have ASD (Navot, Jorgenson, & Webb, 2017; Rabbitte, Prendeville, & Kinsella, 2017). Additionally, because most information available is based on research with males, mothers found it difficult to find material, resources, and services that could help them meet their daughters' needs (Navot et al., 2017). Though this information was based on personal experiences and anecdotal evidence, it showed a common need for more information specific to how ASD impacts females from early childhood to diagnosis to adulthood (Baldwin & Costley, 2016; Bargiela et al., 2016; Cridland et al., 2014; Jarman & Rayner, 2015; Navot et al., 2017; Pesonen et al., 2015; Rabbitte et al., 2017).

One common theme that seems to be prevalent among qualitative studies of personal experiences is a lack of understanding or knowledge of ASD in females on behalf of teachers. While there is an abundance of literature examining the perspectives of teachers, much of it

focused on attitudes or experiences with inclusion (Chung et al., 2015; Donohue & Bornman, 2015; Majoko, 2016; Roberts & Simpson, 2016). Many teachers have favorable attitudes toward inclusion and students with ASD (Roberts & Simpson, 2016; Chung et al., 2015) but admitted that inclusion of students with ASD presented unique challenges (Majoko, 2016). Teachers also acknowledged that they would be better able to facilitate inclusion if they had more training and preparation (Chung et al., 2015; Majoko, 2016). Despite an abundance of literature examining teacher experiences, perceptions, and attitudes of teaching students with ASD, there is a gap related to experiences working specifically with girls with high functioning autism.

Age Related Needs and the Impact of Puberty

The middle school years can be particularly challenging for all students due to the increased reliance on peer networks and social relationships (Tonnsen & Hahn, 2016). This emphasis on socialization and peer interactions can create greater challenges for middle school students with ASD due to the social deficits commonly associated with autism (Cook, Ogden, & Winstone, 2017; Tonnsen & Hahn, 2016). For girls on the autism spectrum, social interactions can be even more difficult due to the nature of pre- and early adolescent relationships developing in females at this age (Cook et al., 2017). In addition, the social and emotional difficulties associated with ASD often become more pronounced for females as they enter adolescence (Jamison & Schuttler, 2015).

Whereas neurotypical girls in middle school begin to develop close-knit, intimate peer networks, girls with ASD tend to prefer companionship based on common interests (Cook et al., 2017). Despite having different goals for friendship, girls with ASD do state that they have a desire to have friends (Cook et al., 2017; Sproston, Sedgewick, & Crane, 2017). Social incompetency and awkwardness, however, often make it difficult for these young ladies to fit in

with their peers (Cook et al., 2017; Sproston et al., 2017). This social ineptitude can often lead to social rejection, isolation, or relational aggression from peers and classmates (Cook et al., 2017; Sproston et al., 2017; Tonnsen & Hahn, 2016).

A large percentage of middle school students with ASD are educated in general education classrooms (NCES, 2016; Scheil, Bowers-Campbell, & Campbell, 2017). Despite increased exposure to peers with ASD, most neurotypical middle school students cannot accurately define autism or describe its characteristics (Scheil et al., 2017). As a result of their limited understanding, many typically-developing middle school students display negative attitudes toward their peers with ASD (Scheil et al., 2017; Tonnsen & Hahn, 2016). These negative attitudes often result in bullying (Baldwin & Costley, 2016; Pesonen et al., 2015) as well as sexual harassment and abuse (Bargiela et al., 2016; Kanfiszer et al., 2017; Navot et al., 2017; Nichols et al., 2009). Often, these social difficulties have repercussions that present themselves as behavioral and academic challenges in the classroom (Sproston et al., 2017).

In addition to the social and emotional challenges girls with ASD are facing at this age, there is also a myriad of physical changes occurring with the onset of puberty (Ballan & Freyer, 2017; Jamison & Schuttler, 2015; Nichols et al., 2009). Despite the fact that many young ladies with ASD are delayed in their social, emotional, and communicative development, their physical development is normally on pace with their typically-developing peers (Ballan & Freyer, 2017; Nichols et al., 2009). Due to sensory sensitivities, the development of breasts (Navot et al., 2017) and having to wear a bra can cause a significant amount of stress for girls with ASD at this age (Nichols et al., 2009). That particular aspect of physical development can also cause anxiety due to unwanted attention from others (Ballan & Freyer, 2017; Navot et al., 2017).

A young lady's first experience with menstruation generally occurs during the middle school years (Ballan & Freyer, 2017; Navot et al., 2017; Nichols et al., 2009). While this is difficult for many females, those with ASD can be particularly vulnerable to the effects of menstruation (Ballan & Freyer, 2017; Jamison & Schuttler, 2015). The physical symptoms such as abdominal cramps, headaches, and general discomfort can be exacerbated in girls with ASD (Ballan & Freyer, 2017). Additionally, because girls with ASD tend to be less independent than their typically-developing counterparts, the hygiene habits needed for proper self-care are often lacking (Cridland et al., 2014; Jamison & Schuttler, 2015; Moyse & Porter, 2015; Navot et al., 2017; Nichols et al., 2009). These challenges with independence and hygiene can create situations that expose these girls to further ridicule and rejection from their peers (Jamison & Schuttler, 2015).

To further compound these challenges associated with puberty and adolescent development, girls with ASD at this age have a particularly difficult time with anxiety and depression (Horiuchi et al., 2014; Jamison & Schuttler, 2015; Land, 2015; May et al., 2014; Solomon et al., 2012). Social deficits, emotional changes, and physical development can all lead to lower self-confidence and poorer quality of life (Jamison & Schuttler, 2015). They are also much more likely to socially withdraw and suffer from internalizing mental health issues (Pisula et al., 2017). Additionally, the physical changes associated with the onset of puberty can increase the likelihood of flawed body image and make eating disorders, such as anorexia nervosa, even more prominent at this age (Nichols et al., 2009). Because of sensory issues, hormonal changes, and physical symptoms, it is common for girls with ASD to display increased anxiety and more severe behavioral issues during menstruation (Ballan & Freyer, 2017; Navot et al., 2017). Naturally, these challenges and behavioral issues can have a great impact on

classroom performance and teachers' experiences working with these girls, making it even more important for middle school teachers to understand how ASD may impact the girls they see in their classrooms (Sproston et al., 2017).

Future Outcomes for Girls with ASD

As the number of individuals diagnosed with ASD has increased, the number of students being served in schools across the country has also increased (Wehman et al., 2012). Although the transition from school to either postsecondary education or the workplace is still several years away while these young ladies are in middle school, it is still important to consider the implications for their futures and prepare these students for the time after high school (Wehman et al., 2012). It is also necessary to consider the impact that the relationships with and expectations of teachers have on their futures (Baldwin & Costley, 2016; Bargiela et al., 2016; Sproston et al., 2017).

Considerable research has examined the long-term impact ASD has on post-secondary education and employment outcomes (Lai et al., 2014; Shattuck et al., 2012; Sung, Sanchez, Kuo, Wang, & Leahy, 2015; Taylor, Henninger, & Mailick, 2015; Taylor & Mailick, 2014; Wehman et al., 2012; Yakubova et al., 2015). Many findings concur that individuals with ASD are likely to reject post-secondary education and be underemployed or even unemployed (Shattuck et al., 2012; Taylor et al., 2015; Taylor & Mailick, 2014). These findings appear consistent regardless of where the individual falls on the autism spectrum (Taylor et al., 2015; Taylor & Mailick, 2014). For those with high functioning autism, the challenge does not seem to be with enrolling in college or finding employment but with maintaining enrollment or employment consistently over time (Taylor et al., 2015). In fact, over half of individuals with high functioning autism who had graduated from high school had never participated in any type

of employment, and only 28% were considered competitively employed (Taylor et al., 2015).

The outcomes appear to be even more grim for women, with only 9% participating in some form

of paid employment and none maintaining employment over a 10-year time span (Taylor et al.,

2015; Taylor & Mailick, 2014). A different study found that 62% of females acquired paid

employment but were not competitively employed (Baldwin & Costley, 2016).

     One key factor believed to contribute to future employment and success is obtaining

some form of post-secondary degree (Taylor et al., 2015). Beyond preparation for employment,

post-secondary education can also provide an opportunity for emotional growth (Claxton, 2016).

While completing college is certainly possible, students with ASD can face considerable

challenges in reaching this goal (Baldwin & Costley, 2016; Claxton, 2016). There are several

reasons why these students struggle in post-secondary settings (Baldwin & Costley, 2016;

Claxton, 2016; Gobbo & Shmulsky, 2014). In particular, the college setting is generally less

structured, which requires the learner to be more independent and self-directed (Claxton, 2016).

Additionally, the social skills deficits associated with ASD along with challenges in critical

thinking and increased levels of anxiety make successfully navigating the college environment

particularly difficult for individuals with ASD (Gobbo & Shmulsky, 2014). As a result, only

11% of females with high functioning autism complete post-secondary education and obtain a

degree (Baldwin & Costley 2016). Interestingly, obtaining a college degree did not appear to

improve future outcomes for individuals with high functioning autism; less than 10% were

competitively employed in the field in which they obtained their degree (Taylor et al., 2015).

     For many individuals with ASD, independent living seems to be a lofty goal in that few

ever leave their parents or caregivers to live on their own (Smith & Anderson, 2014). Despite

cognitive abilities in the range that would indicate independent living is attainable, many

individuals with high functioning autism struggle with the functional life skills that make this possible (Chiang, Ni, & Lee, 2017). Approximately 80% of parents of children with ASD report that their children were not adequately prepared for life outside of the home, even if they received life skills training in high school (Chiang et al., 2017). Whether a student with ASD plans to attend college or pursue employment after graduating high school, certain independent daily living skills are necessary to successfully navigate the transition and prepare for independent life (Chiang et al., 2017; Test et al., 2014; Zeedyk, Tipton, & Blacher, 2016). These essential life skills should be taught well before the student leaves high school (Chiang et al., 2017; Zeedyk et al., 2016); however, most students who do receive instruction in independent living skills do so after the age of 15 years old (Chiang et al., 2017).

One area that repeatedly emerged as a need for life skills instruction is that of self-care (Chiang et al., 2017; Zeedyk et al., 2016). Self-care encompasses a wide array of skills related to the ability to live a functionally independent life (Bal, Kim, Cheong, & Lord, 2015). These are skills that promote the ability to take care of oneself on a regular basis and include both personal care and domestic living skills (Chiang et al., 2017). For example, one key to successful self-care is personal hygiene (Bal et al., 2015; Ninci et al., 2015; Zeedyk et al., 2016), which many individuals with high functioning autism struggle to perfect (Jamison & Schuttler, 2015; Navot et al., 2017; Nichols et al., 2009). Due to sensory sensitivities, young ladies with ASD often struggle with regular showering, using deodorant, and oral hygiene (Jamison & Schuttler, 2017; Nichols et al., 2009). Instruction in this area should begin early and include the steps involved in appropriate hygiene as well as the reasoning behind its importance (Chiang et al., 2017; Jamison & Schuttler, 2017; Zeedyk et al., 2016).

Along with understanding how and why to properly care for one's hygiene, it is important for young ladies with high functioning autism to learn about proper attire and dressing (Bal et al., 2015; Jamison & Schuttler, 2017; Nichols et al., 2009). As with personal hygiene, many girls with ASD struggle with appropriate dress due to sensory issues and the need for comfort (Moyse & Porter, 2015; Nichols et al., 2009). Because of the vague social rules associated with fashion, these girls may also struggle with knowing what type of clothing is appropriate in various situations (Jamison & Schuttler, 2017; Nichols et al., 2009).

Individuals with ASD also need to be proficient in healthy living skills, such as meal planning, grocery shopping, and cooking (Bal et al., 2015; Honeybourne, 2016; Ninci et al., 2015). Healthy living also addresses physical exercise and sleep (Honeybourne, 2016; Jamison & Schuttler, 2017) and healthy choices related to relationships and sexual situations (Nichols et al., 2009). Direct instruction and modeling can help in these areas (Nichols et al., 2009), as can programs such as the Girls Night Out (GNO) curriculum (Jamison & Schuttler, 2017). The GNO program is designed specifically for girls with ASD and uses a variety of evidence-based methods for teaching social and self-care skills. The program meets weekly for 12-16 weeks, and small groups of adolescent girls with ASD are partnered with trained neurotypical peers to learn and practice social conversation, relationship building, body care, and goal setting. GNO promotes self-confidence and self-determination through peer modeling, video modeling, role-playing, and visual supports. Additionally, facilitators develop community partnerships with local businesses, such as hair salons, restaurants, and clothing retailers, to offer opportunities to practice the skills and promote generalization outside of the academic setting (Jamison & Schuttler, 2017).

Other skills for daily living fall in the area of domestic living skills (Chiang et al, 2017). Domestic skills, or household chores, include things like housecleaning and laundry (Ninci et al., 2015; Zeedyk et al., 2016). Money management, budgeting, and financial accountability are also domestic skills that are important for successful independent living (Bal et al., 2015; Ninci et al., 2015; Zeedyk et al., 2016). Although direct instruction in these concepts should be age and developmentally appropriate, these skills should be taught as early as possible (Chiang et al., 2017; Honeybourne, 2016; Zeedyk et al., 2016).

In addition to skills associated with self-care and domestic living, young ladies with ASD need to have the ability to independently access the community and meet responsibilities (Bal et al., 2015; Ninci et al., 2015; Zeedyk et al., 2016). One such skill is the ability to access and use transportation, whether it be public transportation, learning to navigate as a pedestrian, or obtaining a driver's license (Ninci et al., 2015; Zeedk et al., 2016). This skill also includes the concept of timeliness and knowing when to wake in the morning to allow ample time to attend to personal self-care needs, such as showering, dressing, and eating breakfast as well accessing transportation (Honeybourne, 2016; Ninci et al., 2015; Zeedyk et al., 2016) in order to arrive at school or work when expected (Honeybourne, 2016).

Although there is considerable emerging research into the differences displayed by males and females with ASD (Attwood & Grandin, 2016; Cridland et al., 2014; Harrop et al., 2015, 2017; Horiuchi et al., 2014; May et al., 2014), and despite the fact that women with ASD are clearly impacted by negative future outcomes, little research has focused on how these differences impact employment (Sung et al., 2015). When considering the experiences of those women who are considered successful, however, one interesting finding dealt with the expectations of others (Webster & Garvis, 2017). Many of the women reported that they had

negative experiences in their youth, with caregivers, teachers, and peers having low expectations in their abilities (Webster & Garvis, 2017). Having one or more individuals in their lives who set high expectations and believed in their abilities provided a catalyst for their own success (Webster & Garvis, 2017). During the middle school years, classroom teachers played a considerable role in the lives of these young ladies, and the relationship with teachers was identified as one of the most influential factors in the educational experience (Sproston et al., 2017). Teachers who lack understanding of ASD in females or have unrealistic expectations created negative experiences for these students (Baldwin & Costley, 2016; Bargiela et al., 2016; Jarman & Rayner, 2015; Sciutto et al., 2012; Sproston et al., 2017). Conversely, teachers who took the time to understand these students and provided support in the classroom often fostered more positive experiences that led to greater school success (Sproston et al., 2017). For these reasons, it is important to understand how girls with high functioning autism learn and what teaching strategies work best to support their needs (Baldwin & Costley, 2016; Cridland et al., 2014; Sciutto et al., 2012; Valle & Connor; 2011).

Classroom Needs of Girls with ASD and Their Teachers

Because girls on the autism spectrum tend to receive their diagnoses much later than boys (Baldwin & Costley, 2016; Begeer et al., 2013; Giarelli et al., 2010; Harrop et al., 2017; Ketelaars, 2017; Lai et al. 2014; Van Wijngaarden-Cremers et al., 2014), their educational needs may not be recognized and, consequently, go unmet in the classroom (Baldwin & Costley, 2016; Bargiela et al., 2016; Sproston et al. 2017). Females with high functioning autism also widely reported that teachers frequently failed to understand their needs due stereotypical beliefs as to what ASD should look like (Bargiela et al., 2016; Sproston et al., 2017). A recent survey of individuals within the autism community conducted in the United Kingdom found a large

number of these people felt that more research should be done on understanding females with ASD and strategies for working with this population (Pellicano, Dinsmore, & Charman, 2014; Sproston et al., 2017). Despite this area being a priority for the autism community, research tended to focus more heavily on biology, risk factors, and treatments without considering the specific needs of girls and women (Pellicano et al., 2014) or how to best meet the needs of females in the educational setting (Sproston et al., 2017). As a result, little is understood about specific needs of girls with ASD, and the strategies used with girls are often identical to those used with boys (Harrop et al., 2015; Lindsay, Proulx, Scott, & Thomson, 2014).

A large percentage of students with ASD spend most, if not all, of their school day in the general education classroom (Sciutto et al., 2012). The typical general education classroom requires extensive amounts of social interaction throughout the school day (Majoko, 2016); however, many individuals with high functioning autism struggle significantly with social reciprocity (Moyse & Porter, 2015). For many of these students, the hidden curriculum involved with social interactions, rules, and expectations create as many problems as the academic material, if not more (Moyse & Porter, 2015). Students are often required to be active contributors to group activities, causing considerable stress to students with ASD who struggle with that type of interaction (Majoko, 2016). Collaborative group activities can be particularly difficult for females with high functioning autism who, according to research, tend to attempt to take control in these situations (Lai, Lombardo, Auyeung, Chakrabarti, & Baron-Cohen, 2015; Moyse & Porter, 2015). This leads others to perceive them as being overbearing or pushy, which can lead to further social isolation (Moyse & Porter, 2015). To further complicate cooperative interactions, children with ASD may actually prefer being and working alone and, as a result, isolate themselves from peers and refuse to participate (Majoko, 2016; Moyse & Porter, 2015).

In addition to the natural difficulties associated with social interaction, students with ASD also tend to exhibit other behaviors that peers consider unusual (Moyse & Porter, 2015). Because they prefer order and routine (McGillicuddy & O'Donnell, 2014), children with ASD frequently struggle with transition and change (Majoko, 2016; Smith & Anderson, 2014). Even the slightest alteration to their typical routine, such as an assembly or fire drill, can cause great levels of stress for these children (Smith & Anderson, 2014). In fact, even normal transitions from one activity to another, such as changing from reading to math, can cause similar problems (Majoko, 2016), which can manifest in behavioral issues that further isolate the child from peers (Moyse & Porter, 2015; Sciutto et al., 2012). These challenges, as well as the tendency to struggle with the social aspects of communication, or pragmatic language, can create several difficulties when these students interact, not only with peers, but also with teachers and support staff (Cai & Richdale, 2016).

Although students with high functioning autism are generally intelligent (Cai & Richdale, 2016), they often struggle to understand and recognize the mental states of others (Scheeren, de Rosnay, Koot, & Begeer, 2013). As a result, they may not understand when peers or adults are becoming frustrated or upset (Scheeren et al., 2013). Students with high functioning autism also tend to be self-critical perfectionists who avoid attempting tasks they do not believe they can easily accomplish and become frustrated when making mistakes (Lai et al., 2015; Moyse & Porter, 2015). They often lack the self-control required to attend to classroom activities (Majoko, 2016). Additionally, children on the autism spectrum have a propensity for intense, restricted, or obsessive interests (Horiuchi et al., 2014; Majoko, 2016). These obsessions can easily overtake the thoughts of these children, resulting in withdrawal from classroom activities (Horiuchi et al., 2014).

Symptoms involving sensory processing challenges are strong indicators of the presence of ASD in both boys and girls (Duvekot, et al., 2017; Goodall, 2015). In fact, the presence of sensory symptoms is one factor that appears to be similar regardless of gender (Duvekot et al., 2017). Although few studies explicitly examine how these sensitivities may impact females differently than males (Ludlow et al., 2015), there are some indicators that females have greater sensory sensitivities than males (Kreiser & White, 2014). Many girls with ASD reported experiencing sensory sensitivities (Jarman & Rayner, 2015), and parents confirmed noticing these sensitivities (Ludlow et al., 2015). According to Grandin (2008), "There are many highly intelligent adults with Asperger's, with brilliant minds in their field, who have such severe sensory issues that they cannot tolerate a normal job environment" (p. 61). While she specifically addressed adults and employment, it is reasonable that the same could be said of students in the school environment (Cai & Richdale, 2016; Moyse & Porter, 2015). The typical school day involves an exorbitant amount of sensory stimulation (Sciutto et al., 2012), such as loud noises, harsh lighting, and unpleasant smells (Goodall, 2015) that can lead to stress and anxiety for a student with ASD (Goodall, 2015; Jarman & Rayner, 2015). Self-reports from females with AS showed that these individuals believe sensory needs are among the least understood challenges they face, which was also confirmed by parent reports (Jarman & Rayner, 2015). It is difficult for teachers who do not experience these challenges to understand what their students are going through (Grandin, 2008). Teachers with direct experience working with girls with high functioning autism have better understanding of the strategies that have been used effectively for alleviating the stress (Jarman & Rayner, 2015) or physical discomfort (Grandin, 2008) that can be associated with sensory sensitivities (Jarman & Rayner, 2015).

Teachers expressed a variety of methods for fostering success for their students with ASD (Lindsay et al., 2014). Additionally, students and parents provided information as to what strategies used by their teachers have better enabled classroom success (Baldwin & Costley, 2016; Sciutto et al., 2012; Sproston et al., 2017). As previously noted, girls with ASD often have special interests (Harrop et al., 2015, 2017; Hiller et al., 2016; Kok et al., 2016; Lehnhardt et al., 2016; Sarris, 2015; Van Wijngaarden-Cremers et al., 2014). One strategy frequently used with students with ASD is using those special interests to engage the students in the material (Lindsay et al., 2014; Sciutto et al., 2012). Teachers have expressed success with this technique when the material is something that may not otherwise interest the student (Lindsay et al., 2014). By taking the time to learn and understand what things interest these students, teachers show acceptance (Sciutto et al., 2012). Relating these interests back to the material allows the students to better grasp the concepts taught in the classroom (Lindsay et al., 2014; Sciutto et al., 2012). Additionally, allowing the student to incorporate her special interests fosters greater levels of motivation to participate and engage in learning (Lindsay et al., 2014).

Research, though not consistent, has shown that girls with ASD exhibit strengths in visual reception and processing (Lai et al., 2015) and prefer visual learning strategies (Trembath et al., 2015). In keeping with this perceived strength, both teachers and students commonly identify the use of visual strategies as being successful (Banire, Jomhari, & Ahmad, 2015; Sciutto et al., 2012; Yakubova, Hughes, & Shinaberry, 2016). One method used in many classrooms is a visual schedule to create structure and prepare for change to routine (Lindsay et al., 2014). Visual methods of instruction could include the use of manipulatives (Bouck, Satsangi, Doughty, & Courtney, 2014), picture steps of academic concepts such as the steps involved in working mathematics problems (Miller, Doughty, & Krockover, 2015), and video

modeling (Banire et al., 2015; Burton, Anderson, Prater, & Dyches, 2013; Yakubova et al., 2015, 2016). Many studies indicated that, by recognizing the strengths students with ASD often display in visual processing and using teaching and learning methods that meet those needs, teachers can better promote success in the classroom (Yakubova et al., 2015, 2016). Despite these findings and the success of many visually-based intervention strategies (Banire et al., 2015; Bouck et al., 2014; Kellems et al., 2016; Yeo & Teng, 2015), a small number of studies concluded that students with ASD exhibit no preference for visual learning modalities (Trembath et al., 2015), indicating a need for further study in this area.

Various studies have examined the benefits of various strategies for individuals with ASD (Lindsay et al., 2014; McGillicuddy & O'Donnell, 2014; Sciutto et al., 2012; Trembath et al., 2015). These strategies included direct instruction (Flores et al., 2013) and video modeling (Banire et al., 2015; Yakubova et al., 2015, 2016), among others. It is important to note, however, that identifying specific strategies that are effective on a broad scale is difficult because each girl with ASD is a unique individual with different strengths and needs (Lindsay et al., 2014; Rubenstein, Schelling, Wilczynski, & Hooks, 2015; Sciutto et al., 2012). Teachers who recognize and respect this individuality often make a great impact on their students' experiences (Lindsay et al., 2014; Sciutto et al., 2012).

Young ladies with high functioning autism may face any number of various struggles in the classroom that may include difficulties with processing information, a lack of flexibility, and poor organization (Baldwin & Costley, 2016). Sensory and fine motor issues can also create difficulties with simple tasks such as handwriting (Moyse & Porter, 2015). Additionally, students with ASD may exhibit extreme negative responses and behavioral manifestations if they are asked to perform tasks they have already successfully mastered, making review exercises

problematic (Rubenstein et al., 2015). Individuals with ASD have expressed that positive experiences in the classroom have occurred when teachers recognized their individuality and encouraged them to focus on their strengths (Lindsay et al., 2014; Sciutto et al., 2012; Sproston et al., 2017). Interestingly, this is consistent with CDT and critical autism studies, which call for shifting away from the deficit model of understanding autism (O'Dell et al., 2016). This further helps students feel as though they are welcome in inclusive classrooms rather than having to prove that they belong there (Biklen, 2000).

Teachers, parents, and students have identified several strategies that allow students to focus on their strengths (Lindsay et al., 2014; Moyse & Porter, 2015; Sciutto et al., 2012; Sproston et al., 2017). One such technique is to provide alternative formats for demonstrating learning, such as answering questions orally or completing projects (Sciutto et al., 2012). Students have reported that alternative learning opportunities and experiential exercises, such as work experiences or hands-on learning, have also made learning more meaningful (Moyse & Porter, 2015; Sciutto et al., 2012; Sproston et al., 2017). Teachers also concurred that these experience-based learning activities are more engaging and supportive for students with ASD (Lindsay et al., 2014). Additionally, these types of learning activities allow students the opportunity to experience success and improve learning related self-image (Lindsay et al., 2014; Sproston et al., 2017).

Beyond teaching strategies, students and parents have identified several characteristics that they say good teachers possess (Sciutto et al., 2012; Sproston et al., 2017). These students identified the ability to recognize their frustration and provide alternatives as a key to helping them be successful (Lindsay et al., 2014; Sciutto et al., 2012; Sproston et al., 2017). This flexibility requires a great deal of understanding about high functioning autism in general and

how it specifically affects girls (Bargiela et al., 2016; Jarman & Rayner, 2015; Lindsay et al., 2014; Sproston et al., 2017). Additionally, these teachers have been flexible with work expectations and have been willing to modify work or time limits in order to reduce anxiety (Lindsay et al., 2014; Sciutto et al., 2012). Students also concluded that they have had the most positive experiences with teachers who were encouraging, understanding, and tolerant (Sciutto et al., 2012) while also taking an interest in them as individuals (Sproston et al., 2017).

One factor that consistently appeared to contribute to successful classroom experiences for both boys and girls with ASD was teachers' attitudes toward the inclusion of these students (Goodall, 2015; Lindsay et al., 2014; Roberts & Simpson, 2016; Rodriguez, Saldana, & Moreno, 2012; Sproston et al., 2017). Girls with ASD reported that positive encounters with teachers improved their own experiences (Jarman & Rayner; Sproston et al., 2017). Students with ASD and their parents often suggested that teachers who accepted their differences and encouraged them to use their strengths allowed for the greatest academic experiences (Jarman & Rayner, 2015; Sciutto et al., 2012; Sproston et al., 2017). Additionally, both girls with ASD and their parents expressed that those teachers who allowed reasonable accommodations for coping with sensory needs, such as wearing headphones or listening to music, fostered positive learning environments for their daughters (Jarman & Rayner, 2015; Moyse & Porter, 2015). Conversely, as would be expected, when teachers display negative attitudes toward working with these students, learning experiences are negative (Rodriguez et al., 2012).

Because the prevalence of ASD is so great (CDC, 2018a), it can be reasoned that most, if not all, teachers will encounter at least one student with ASD (Majoko, 2016). Many of the teachers who were tasked with educating children with autism felt as though they lacked the resources and support necessary to be successful (Majoko, 2016). The reoccurring theme among

research was that of the need for teachers to be better prepared for working with these students and for schools to provide professional development (Corona, Christodulu, & Rinaldi, 2017; Goodall, 2015; Jarman & Rayner, 2015; Sciutto et al., 2012). In addition, there is also a need for providing additional resources and support throughout the school year (Majoko, 2016; Roberts & Simpson, 2016). As the ultimate goal of education is to prepare children for gainful employment, it is important that educational goals for students with ASD keep this target at the forefront (Test et al., 2014). Knowing that 50% of individuals with ASD are not pursuing post-secondary education or employment (Lai et al., 2014), it is important to research ways to provide autism-friendly educational settings that accommodate the unique needs of students with ASD (Lindsay et al., 2014) and provide successful instruction (Grandin & Panek, 2013) in order to promote more positive future outcomes (Chiang et al., 2017). There is a need to learn a new way of thinking about autism, as the standard symptomology that is recognized in boys may not be obvious or may be completely different in girls (Bargiela et al., 2016; Jarman & Rayner, 2015). Teachers say they need better professional development that focuses on recognizing the subtleties of ASD in girls, understanding of the behaviors, and the need to identify stress and anxiety faced by females with ASD (Jarman & Rayner, 2015). It is also important that teachers have the tools to do more than simply provide access to information through training and preparation (Corona et al., 2017; Jarman & Rayner, 2015).

Summary

ASD has grown as a field of research over the last several years as prevalence rates have increased (CDC, 2018b). The CDT has emerged as a framework for addressing individuals with disabilities in order to change social constructs related to disabilities (Garland-Thomson, 2012; Glynne-Owen, 2010). Until recently, females on the autism spectrum have been largely ignored

in the literature (Cridland et al., 2014; Jarman & Rayner, 2015). Currently, girls with ASD are not diagnosed at the same rate as boys due to many factors, including behavioral differences (Lehnhardt et al., 2016; Mandy et al., 2012; Solomon et al., 2012), social differences (Lehnhardt et al., 2016; Solomon et al., 2012), and the female camouflage effect (Rynkiewicz et al., 2016). Along with these factors, which are internal to the child, other contributors to the lower diagnosis rates may be due to gender biased diagnostic criteria (Dworzynksi et al. 2012), gender biased diagnostic tools (Rynkiewicz et al., 2016; Solomon et al., 2012), and gender biased attitudes (Jarman & Rayner, 2015). All of these factors, combined with the high incidents of anxiety and depression (Horiuchi et al., 2014), demonstrate the need for further research and better strategies to improved education and job readiness (Grandin, 2008; Grandin & Panek, 2013; Yakubova et al., 2015). Girls face a somewhat unique set of challenges as the hallmark characteristic of ASD may present differently in girls than in boys (Harrop et al., 2017; Horiuchi et al, 2014; May et al., 2014). In addition, girls may be at greater risk for emotional, social, and internalizing behavioral problems than both boys with ASD and neurotypical girls (Cridland et al., 2014; Jamison & Schuttler, 2017; Jarman & Rayner, 2014; Solomon et al., 2012).

CHAPTER THREE: METHODS

Overview

The purpose of this transcendental phenomenological study is to describe the experiences of middle school teachers who work with girls with high functioning autism in eastern North Carolina. At this stage in the research, girls with high functioning autism are generally defined as female students who have received an educational or medical diagnosis of ASD or AS and have average or above average intellectual ability (Hallahan et al., 2015; Hiller et al., 2014). Chapter Three identifies the procedures involved in selecting participants and collecting data. In addition, this chapter will outline the processes I used for analyzing the information and establishing the trustworthiness of the study.

Design

This study used a transcendental phenomenological qualitative design. The qualitative method was best suited for this study because the study sought to examine teachers' interpretations of their own experiences (Patton, 2002). Additionally, because ASD is represented by such a heterogeneous group of individuals, a qualitative study was best for capturing multiple perspectives with varying experiences (Glynne-Owen, 2010; Milton, 2014). A goal of this study was to determine how individual participants define and describe their own experiences working with girls with high functioning autism (Moustakas, 1994). Transcendental phenomenology was derived from the methods of Edmund Husserl and is based on researcher subjectivity (Moustakas, 1994). This study relied on a transcendental phenomenological design in order to understand how teachers describe their experiences teaching girls with ASD (Moustakas, 1994; Patton, 2002) while using epoché, or bracketing, to identify and separate any personal biases of the researcher (Creswell, 2013; Moustakas, 1994). This process allowed me

to state my beliefs, values, and biases toward the topic while separating myself from those biases in order to completely understand the point of views of the participants (Moustakas, 1994). Due to the fact that I was interacting with many participants with various opinions, some of whom may not share my personal beliefs about autism and CDT, this step was important to establish full understanding of the perceptions of each individual participant and the meanings each individual assigns to the phenomenon (Moustakas, 1994). Because my ultimate goal for conducting the research was to communicate the essence of the experiences based on the perspectives of the participants rather than my interpretations, transcendental phenomenology was preferred over hermeneutic phenomenology (Creswell, 2013; Moustakas, 1994).

In addition to epoché, the study also followed the process of transcendental-phenomenological reduction in order to examine the experiences of each participant and develop textural descriptions of those experiences (Moustakas, 1994). This process served to provide detailed descriptions of the experiences as the individual participants identified them (Moustakas, 1994). Using horizonalization, a method of assigning equal value to statements in order to identify relevant themes, I was able to uncover those themes that occurred repeatedly across participants (Moustakas, 1994). Following transcendental-phenomenological reduction, I used the process of imaginative variation. This process allowed me to view the themes from varying perspectives in order to develop meanings derived from the descriptions provided by the participants and to create structural descriptions of those meanings (Moustakas, 1994). These textural and structural descriptions were then synthesized into the essence of the phenomenon (Moustakas, 1994).

Research Questions

This research was guided by the following questions:

Central Question: How do middle school teachers in eastern North Carolina describe their experiences working with girls with high functioning autism spectrum disorder?

Sub-question 1: How do middle school teachers in eastern North Carolina describe girls with high functioning autism?

Sub-question 2: How do middle school teachers in eastern North Carolina describe their greatest successes and failures with working with girls with high functioning autism?

Sub-question 3: How do middle school teachers in eastern North Carolina describe their own attitudes about working with girls with high functioning autism?

Setting

Participants for this study were recruited from the 10 middle schools located in one eastern North Carolina county. The population estimate of this county at the time of the study was approximately 124,000 (U.S. Census Bureau, 2018) with nearly 63% living in urban areas and the other 37% residing in more rural locations (North Carolina Department of Commerce, 2018). While 83% of the county's adult population has a high school diploma, only 18.7% of adults has a bachelor's degree or higher. Additionally, there are approximately 19,000 students enrolled in kindergarten through 12th grade (North Carolina Department of Commerce, 2018) with 2700 students being served in the county's Exceptional Children (EC) Program and 366 with a diagnosis of ASD (Herring, D., personal communication, January 19, 2018). As the home of a military base, the county also serves a large number of military and veteran families. An appointed superintendent governs the county's school system. In addition to the superintendent, there are four assistant superintendents who oversee various departments. Students with ASD are served by the EC program, which has one director and an assistant director (Herring, D., personal communication, January 19, 2018).

The prevalence rates of ASD in North Carolina are higher than the national average (CDC, 2018a). Because North Carolina is more greatly impacted proportionally by ASD than other states, this county was a good location from which to draw participants. The study focused on teachers employed in middle schools because the literature shows a gap in this area, as most studies focus on very young (Harrop et al., 2017) or adult (Baldwin & Costley, 2016) females with ASD. Additionally, the teacher must have worked with at least one girl with high functioning autism or AS in the sixth, seventh, or eighth grades. All interviews and focus group sessions were conducted in locations that were convenient for the participants. These locations primarily included a centrally located public establishment of the teachers' choosing, such as a coffee shop or library. One interview took place in the participant's home.

Participants

This study relied on purposeful criterion sampling to specifically choose participants who are middle school teachers and have relevant experience with the phenomenon of teaching girls with high functioning autism or AS (Creswell, 2013; Schwandt, 2015). These participants were chosen because they could offer rich descriptions of first-hand experiences (Creswell, 2013; Patton, 2002). In order to be considered as a participant, an individual must have been a middle school teacher in an eastern North Carolina public school with current or past experience teaching at least one girl with high functioning autism (Moustakas, 1994). In order to ensure a wide range of experiences and attitudes, potential participants were prescreened with the Teacher Attitudes Toward Inclusion Scale (TATIS; Cullen, Gregory, & Noto, 2010) as adapted by Wilkerson (2012) for use specifically for students with autism (see Appendix A).

The TATIS is a rating scale that was designed to measure the attitudes that teachers have toward the inclusion of students with special needs (Cullen et al., 2010). The scale was further

adapted to specifically focus on the inclusion of students with ASD (Wilkerson, 2012). The

TATIS consists of 14 questions that are rated using a 7-point Likert scale (Cullen et al., 2010).

The TATIS, as originally written, focused on inclusion of students with nonspecific disabilities

(Cullen et al., 2010; Wilkerson, 2012). A later adaptation of the TATIS was written to replace

disabilities with autism in order to specifically measure teachers' attitudes toward the inclusion

of students with ASD (Wilkerson, 2012). This adaptation also includes 14 demographic

questions (Wilkerson, 2012). The adapted TATIS was used for two purposes. The first was for

verification that potential participants meet the requirements of being middle school teachers

with experience teaching a girl or girls with autism. The second purpose of using this

questionnaire was to determine the potential participants' attitudes toward the inclusion of

students with ASD. This was to ensure that participants constituted a heterogeneous group with

varying attitudes. Scores for the TATIS were determined using the scoring protocol that

accompanies the survey (Cullen et al., 2010; Wilkerson, 2012). Both the original TATIS and the

autism specific adaptation have been tested and found to be valid and reliable for these purposes

(Cullen et al., 2010; Wilkerson, 2012).

In order to secure a sufficient number of participants, snowball sampling was also used.

Initial recruitment was done through recommendations from EC program directors (Creswell,

2013; Patton, 2002). The program directors were asked to provide the names and contact

information for potential participants. Participants were then asked to provide information for

other individuals who had relevant experiences with the phenomenon (Creswell, 2013; Patton,

2002). Interviews and focus groups were conducted with a sample of 10 participants at which

point data saturation was achieved (Creswell, 2013; Moustakas, 1994).

As shown in Table 1, the participants consisted of 10 middle school educators, all of whom were female with four being general education teachers and six being special education teachers. The youngest participant was in her 20s, and the oldest participant was over 60 years old. The other eight participants were between 40 and 59 years old. None of the participants were considered beginning teachers, with the years of experience ranging from six years to over 21 years.

Table 1

Participant Demographic Data Summary

Participant	Gender	Age Range	Years Teaching	Teaching Position
Alice	Female	60+	11-15	Special Education
Beth	Female	20-29	6-10	General Education
Catherine	Female	50-59	11-15	General Education
Donna	Female	40-49	6-10	General Education
Ellen	Female	40-49	6-10	Special Education
Frances	Female	40-49	11-15	General Education
Grace	Female	40-49	21+	Special Education
Helen	Female	50-59	21+	Special Education
Irene	Female	50-59	11-15	Special Education
Jennifer	Female	50-59	11-15	Special Education

Procedures

Before any data collection began, an application was submitted to the Liberty University Institutional Review Board (IRB) for approval. Once the research application was approved by the IRB (see Appendix B), participant recruitment was conducted. The director and assistant director of the EC Programs for the public school system located in this eastern North Carolina county were contacted to identify possible participants (see Appendix C). The individuals

identified through these contacts were then asked to recommend other teachers who fit the recruitment criteria.

Potential participants completed the modified TATIS (Cullen et al., 2010; Wilkerson, 2012), and final selections were made. Each participant was given an informed consent form (see Appendix D) that described the research, confidentiality, and early withdrawal options. The participants signed these forms, and interviews began. Interviews were digitally recorded and transcribed verbatim by me (Creswell, 2013; Patton, 2002; Schwandt, 2015). In-person focus groups were conducted after the initial interviews for the purpose of further clarifying details and asking any additional questions (Patton, 2002; Schwandt, 2015). These sessions were also digitally recorded and transcribed verbatim. All data were analyzed using a modified form of the Stevick-Colaizzi-Keen method (Moustakas, 1994). Participants were asked to create a personal artifact in the form of a letter written to their former selves (Creswell, 2013). Epoch was used to bracket personal opinions and biases (Moustakas, 1994). QSR International's qualitative analysis software, NVivo Version 11 for Mac (QSR International, 2017), was used to further analyze the information and documents.

The Researcher's Role

As the researcher, I acted as the human instrument for data collection and analysis. I received a Bachelor of Science degree in education with a specialty area in middle grades and a Master of Education degree in special education. I also hold a graduate certificate in autism education and have been an educator for over 20 years. This background in both middle grades education and autism education created a specific interest in this area of study. I currently work as the director of a private school for students with high functioning autism. Through personal observations and interactions with both students and parents, I have seen a lack of understanding

toward students on the high functioning end of the autism spectrum, in particular, girls who do not exhibit stereotypical characteristics of ASD. I have observed the need to understand the attitudes teachers have toward these girls as well as their understanding of how autism manifests in girls with the hope of improving practices for meeting their needs. Although I work with this particular group of students, no research was conducted in this school or with its teachers. All participants were recruited from the public school system. Therefore, I had no personal relationship with the participants or the sites in which I conducted the research. Before interacting with participants, I engaged in the process of epoché in order to bracket out my own biases and attitudes regarding the phenomenon (Moustakas, 1994).

Data Collection

Data triangulation ensures that the information collected during the study is strong and can withstand scrutiny (Patton, 2002). To achieve data triangulation, I collected data using a variety of methods that are consistent with phenomenological research (Patton, 2002; Vagle, 2014). This data served the purpose of creating an understanding of how middle school teachers in eastern North Carolina describe their experiences working with girls with high functioning autism. I began data collection by conducting semi-structured interviews. Then, I invited participants to engage in focus groups to further clarify the information. Finally, I asked participants to create a personal artifact by writing a letter to their former selves. Further data was gathered through my personal research journal and field notes.

Interviews

The primary method of data collection for this study was semi-structured, face-to-face interviews (Creswell, 2013; Moustakas, 1994; Patton, 2002; Vagle, 2014). The purpose of the study was to understand how teachers describe their own experiences. The best way for me to

acquire the relevant information regarding the experiences of teachers was to directly ask them to explain those experiences and the thoughts, feelings, and ideas that accompany them (Patton, 2002). The interviews lasted from 60 to 90 minutes each and consisted of 16 open-ended questions (see Appendix E). The interviews were digitally recorded on a digital voice recorder and an iPad as I took notes as needed. These recordings were the transcribed and reviewed so I could make notations about my thoughts (Creswell, 2013; Moustakas, 1994). Participants were given the opportunity to review the transcriptions and my notations in order to make corrections or amendments to allow for member checking (Schwandt, 2015).

Standardized Open-Ended Interview Questions

1. Please tell me a little about yourself and why you became a teacher.

2. Tell me about your teaching experience in general.

3. What experience have you had working with girls with high functioning autism spectrum disorder?

4. What training have you had in teaching students with autism?

5. Can you tell me about your expectations of girls with ASD prior to having one in your class?

6. How has the actual experience compared with those expectations?

7. How would you describe a girl with high functioning autism?

8. Imagine a situation in which a girl with high functioning autism has become frustrated or overwhelmed. Can you describe the situation to me, including the factors that led to the situation, the observed reactions and behaviors, and the outcomes or results?

9. What have been your greatest challenges in working with girls with ASD?

10. What are some of the challenges you see these girls facing?

11. What are some of the strategies you have tried that have worked particularly well with these girls?

12. Describe a situation in which you have seen a female student with high functioning autism being successful.

13. What do you see as being strengths for girls with ASD?

14. What services or resources would make working with these students easier for you?

15. What would you like to know more about regarding girls with ASD?

16. What information would you share with a teacher who is about to teach a girl with ASD for the first time?

Questions 1-4 allowed participants to become more acquainted with me, established rapport, and allowed me to understand each participant's level of experience with the phenomenon (Patton, 2002). The purpose of questions 5-13 was to allow the participants an opportunity to discuss their expectations and experiences specifically working with this population of students in order to determine how those experiences shape or are shaped by their attitudes and understanding of ASD (Couser, 2011; Milton, 2014; O'Dell et al., 2016). The participants were asked to describe specific aspects of working with girls with high functioning autism and to evaluate the strategies they have used with these girls (Valle & Connor, 2011). The remaining questions were designed to allow the participants to discuss what additional resources would be beneficial to them as teachers and add any additional thoughts that may not have been covered by the other questions in the protocol (Chung et al., 2015; Majoko, 2016; Valle & Connor, 2011).

Focus Groups

Face-to-face focus groups are conducted for the purpose of interacting with groups of

teachers together and promoting discussion among the participants (Creswell, 2013; Patton, 2002). I conducted focus groups after the individual interviews in order to allow for any additional clarification that may have been needed from the interviews. Research indicates that saturation of focus group data is generally achieved in two to three sessions (Guest, Namey, & McKenna, 2017) with groups consisting of five to eight participants (Patton, 2002). For this reason, and to allow for centralized locations for participants from different schools or school systems, I had hoped to conduct three focus groups consisting of five participants each. However, those arrangements changed due to the total number of participants being 10. Because two participants were unable to make either focus group, two focus groups consisting of four participants each were conducted. Five questions were used as a guide (see Appendix F).

As with the interviews, each session lasted between 90 and 120 minutes, and they were digitally recorded with a digital voice recorder and an iPad while I took notes. The digital recordings were transcribed, and those transcriptions were read and reviewed to allow me to make notations and cluster findings into themes (Creswell, 2013; Patton, 2002; Schwandt, 2015).

Preliminary Open-Ended Focus Group Questions

1. How would you describe your daily interactions with your female student or students with high functioning autism?

2. How do girls with high functioning autism integrate into your classrooms?

3. What are your general beliefs about girls with ASD?

4. What are some of the challenges you have personally experienced when working with these particular students?

5. What have been some of your greatest successes when working with these same students?

The focus group questions allowed me to further explore how each participant understands high functioning autism and how it specifically impacts girls (Bargiela et al., 2016; Cridland et al., 2014; Harrop et al., 2017; Lai et al., 2014). In addition, these questions allowed me to understand how the participants' experiences shape their attitudes toward working with these students or how their attitudes shape their experiences (Valle & Connor, 2011).

Document Analysis

Documents were used to provide personal insight into the thoughts of both the participants and myself (Creswell, 2013; Patton, 2002). A review of participants' personal artifacts revealed additional information that was not introduced during interviews or focus group sessions (Creswell, 2013; Patton, 2002). Additionally, my personal research journal, or field notes, allowed for greater understanding of how I perceived events at the times during which they occurred (Creswell, 2013; Patton, 2002; Schwandt, 2015).

Personal artifacts. I asked each participant to compose a "Letter to Your Former Self." This document consisted of an approximately one-page letter in which participants described the things they wish they had known about working with girls with high functioning autism. They were instructed to include any information that potentially challenged preconceived ideas as well as things they learned as a result of their experiences. This letter was used as a document or personal artifact with the hope of providing information relevant to others who will take on the role of a teacher to a girl with high functioning autism (Creswell, 2013; Patton, 2002).

Research journal. I kept a journal as I conducted data collection. My journal contained field notes, observations made during the individual interviews and focus group sessions, and any personal thoughts or biases that emerge during the course of the study (Patton, 2002). This journal allowed me to notate any nonverbal behaviors, reactions, or occurrences that were not

captured by digital audio recordings (Patton, 2002). Additionally, the research journal helped during analysis by serving as a reminder of each individual interaction with participants (Patton, 2002). It also helped to ensure that no relevant or vital information was omitted from the study due to forgetfulness on my part (Patton, 2002).

Data Analysis

Data analysis for the interviews and focus group sessions followed the modified Stevick-Colaizzi-Keen method (Moustakas, 1994). Specifically, I conducted an epoché to bracket my own personal biases (Moustakas, 1994) related to teaching girls with high functioning autism. This included a full description of my experiences working and interacting with this particular population of students (Moustakas, 1994). This description was analyzed and categorized into themes based on my personal experience (Moustakas, 1994). Following this process, the same steps were followed for each of the individual participant interviews (Moustakas, 1994).

The participant interviews were digitally recorded and transcribed verbatim by myself (Creswell, 2013; Moustakas, 1994; Patton, 2002; Schwandt, 2015; Vagle; 2014). While listening to the recordings, I read the transcriptions multiple times to evaluate the relevance of each statement (Moustakas, 1994) and notated, or memoed, any thoughts or impressions I had (Creswell, 2013). I recorded all relevant statements and any interesting behaviors (Moustakas, 1994). Next, I listed any non-overlapping statements into new horizons, as these are unlimited based on participant experiences (Moustakas, 1994). Information was then coded, and coded data was clustered into themes (Moustakas, 1994; Patton, 2002). Themes were interpreted and organized into visual representations (Creswell, 2013) and synthesized into textural and structural descriptions (Moustakas, 1994). Finally, these descriptions were combined to compose the essences of these experiences (Moustakas, 1994). The same procedures were used

for analyzing the personal artifacts and research journals. Personal artifacts and research journals, however, were reviewed as printed text rather than recorded and transcribed. All information and documentation were further examined through the use of the qualitative data analysis software, NVivo Version 11 for Mac (QSR International, 2017), to verify themes.

Trustworthiness

In order for any research to be considered valid and relevant it must meet certain criteria that makes it trustworthy (Schwandt, 2015). Because qualitative research, specifically transcendental phenomenology, relies on varying perspectives of individuals, trustworthiness was essential for verifying that the study has relevance and value (Patton, 2002). This study employed multiple strategies to ensure that the information and findings meet the criteria to be considered credible, dependable, confirmable, and transferable.

Credibility

Credibility is the qualitative equivalent to internal validity (Schwandt, 2015). The first step to establishing credibility is to verify that I am credible (Patton, 2002). Through bracketing and clearly stating my role in the research, I established my credibility (Patton, 2002; Schwandt, 2015). Credibility was also verified by triangulation through the use of multiple methods of data collection, such as interviews, focus groups, and personal artifacts (Patton, 2002; Vagle, 2014). I had prolonged engagement and multiple encounters with participants (Creswell, 2013), as each participant completed an individual interview and a focus group session.

Dependability and Confirmability

To ensure consistency, the same interview protocol was used with each participant. Likewise, the same focus group protocol was used for both sessions. Additionally, a process for member checking was in place to allow the participants the opportunity to review transcripts and

notes (Schwandt, 2015). I also ensured dependability by submitting documentation to the dissertation committee for peer review and debriefing (Schwandt, 2015).

Transferability

In order to ensure that the process is transferable beyond a single group of participants and outside of middle schools in this eastern North Carolina county, I provided thick descriptions of the processes I used (Creswell, 2013). These descriptions have addressed such areas as participant selection, data collection, and data analysis. By providing these details, I have ensured that future researchers can replicate the processes used for their own studies.

<div align="center">Ethical Considerations</div>

The integrity of the research was of utmost importance, and I have ensured its security at all times. I began by securing IRB approval (see Appendix B) prior to conducting any research (Creswell, 2013). No data collection was conducted within the organization where I serve as an administrator (Creswell, 2013). Additionally, I did not conduct any research using participants who I knew personally. I obtained permission (see Appendix G) from the school system in which data was collected (Creswell, 2013). Each participant was given a detailed description of the study (see Appendix D) and signed an informed consent form (Patton, 2002). Participants were given the opportunity to review all notes regarding their individual interviews as well as the findings of the study (Creswell, 2013). Each participant was given a token of appreciation for participation in the form of a gift card (Patton, 2002). All information, including recordings, transcriptions, signed forms, completed surveys, and research notes were secured through computer encryption and locked filing cabinets (Patton, 2002). I ensured confidentially at all times by using only pseudonyms for participants and locations (Creswell, 2013). No identifying

information has been shared (Patton, 2002). Epoché (Moustakas, 1994) was used to separate the

research from my own personal biases.

Summary

Using a transcendental phenomenological qualitative design, this study used interviews,

focus groups, and personal artifacts to collect data that was used to describe the experiences of

teachers who work with girls with high functioning autism. Data was analyzed using the

modified Stevick-Colaizzi-Keen method (Moustakas, 1994). I used several methods, such as

triangulation, peer review, and member checking to ensure credibility. Finally, I have addressed

ethical considerations and ensured the security of the data and protected the identity of the

participants.

CHAPTER FOUR: FINDINGS

Overview

The purpose of this research is to describe the experiences of middle school teachers who have worked with girls with high functioning autism in eastern North Carolina. The transcendental phenomenological method is being used for this study as it allows me to view the data from the various perspectives of the individual participants who share the experience of working with an extremely heterogeneous group of individuals (Glynne-Owen, 2010; Milton, 2014; Moustakas, 1994). Chapter Four presents the findings of this research. The data collection and data analysis methods, which took place over a four-month period, were previously described in Chapter Three. This chapter provides a detailed narrative about individual participants, using pseudonyms, and how the themes were developed. Additionally, Chapter Four identifies and describes the five themes uncovered by the research and answers the research questions used to guide this research. Five themes were revealed through the analysis of the data including:

1. Descriptions and Characteristics

2. Effective Strategies

3. Expectations Versus Reality

4. Teacher Needs

5. Concerns

These themes answer the research questions of this qualitative transcendental phenomenological study, which are:

CQ: How do middle school teachers in eastern North Carolina describe their experiences working with girls with high functioning autism spectrum disorder?

SQ1: How do middle school teachers in eastern North Carolina describe girls with high functioning autism?

SQ2: How do middle school teachers in eastern North Carolina describe their greatest successes and failures with working with girls with high functioning autism?

SQ3: How do middle school teachers in eastern North Carolina describe their own attitudes about working with girls with high functioning autism?

Participants

Participants for this study were recruited from one county in the eastern region of North Carolina. The criteria for participation required that the participants teach middle school students and that they have experience with at least one female student with a medical or educational diagnosis of high functioning autism or AS. Because all participants were required to be teachers, they, by default, had to be over 18 years old with a minimum of a four-year college degree. The study included 10 participants who teach middle school students in that county's public school system. All participants were female with the majority of the participants (60%) being special education teachers. Two of the participants are National Board Certified teachers. Interestingly, the overwhelming majority (80%) began their education careers as lateral entry teachers after working in other fields, such as business, technology, social work, and the military. Half of the participants stated that they have close family members with ASD.

Alice

Alice is over 60 years old and has been teaching in the EC program for 11-15 years. She began teaching later in life as a second career following several years serving as a social worker and therapeutic foster parent. Through her work as a foster parent and volunteer in the public school, she recognized that there was a need for educators who could effectively work with

children who have special needs. She left social work and began working through the North

Carolina Teach lateral entry program as a special education teacher. She started as a resource

teacher working with students with behavioral issues for short periods of time throughout the

day. She now works with students for varying amounts of time throughout the day with some

being short-term resource and some staying with her the majority of the day. They all participate

in general education to the greatest extent possible with some doing so only for elective or

enrichment classes. Throughout the course of her teaching experience, she worked with many

students on the autism spectrum. Only three of these students, however, have been females.

Since changing career fields, Alice earned both master's and doctoral degrees and is a

National Board Certified teacher. She shows a passion for the field of special education and a

desire to help all students succeed. Despite having advanced degrees in special education, she

stated that she had no formal training in autism before searching for training opportunities

herself. Much of what she has learned has been through her own research. When asked why she

decided to switch careers and become a teacher, she stated that she was frustrated that

classrooms teachers were unable to help her foster-children for various reasons. She also noted

that many classroom teachers lack general understanding of autism and why these students may

exhibit certain behaviors, and this lack of understanding often creates greater struggles for these

students.

When asked what more she would most like to know regarding girls with high

functioning autism, Alice stated that her biggest questions concern puberty, menstrual cycles,

and other issues associated with adolescence. She said, "These parents don't think their children

are going to be sexually active or have those feelings, but, I know they are" (Interview, April 14,

2018). She stated that, because many parents do not think this will impact their daughters with

autism, teachers often have to address those issues in the classroom; however there is very little information available on how to do so.

Beth

Beth was the youngest participant in the study. She is 20-29 years old and has been teaching for 6-11 years. She is dually certified in special education and mathematics education. Although she is certified in special education, she teaches mathematics at a non-traditional public school for students in sixth through 12th grades. As a non-traditional public school, this school accepts students from throughout the county through and application system and focuses on an advanced course of study. Beth has worked with four different females who had high functioning autism; three of those were in the same class. She did have one college course focused on ASD, but she stated that all of the information and practical experience associated with that class was focused on males.

Despite primarily teaching general education mathematics courses, Beth has an educational background that helps her successfully address on the needs of students with varying abilities. She agrees that many general education teachers lack understanding of these students and often misinterpret their behaviors. When asked why she became a teacher, she said she had always loved math and wanted to make other people love it, too. She is passionate about math and sharing her love of math with others.

Beth stated the area she would like to learn more about is future outcomes for girls with ASD or AS. She said she has heard many stories about men with autism who have gone on to be successful, and there is information about the career fields many of these men typically pursue; however, she has not heard much about women with autism and what they do after high school. She would like to have examples of women with ASD who became independent, have gone into

successful careers, and had families of their own in order to encourage students to pursue their dreams.

Catherine

Catherine is in her 50s and has been teaching for 11 years. She began teaching middle school mathematics as a second career through lateral entry. Prior to teaching, she worked in the manufacturing industry with a background in computer information systems and business. After giving a presentation in a college English class, she was encouraged by the instructor to go into teaching. She taught math in a large middle school for six years before transferring to a much smaller, rural middle school in the same county.

In the larger school setting, Catherine worked with many students with autism, but they were all males. After moving to the smaller school, she taught her first female with high functioning autism. She noted that this girl was very different than the boys she has taught. Despite working with several students on the autism spectrum, Catherine stated that she has had no formal training related to autism. Information she has learned came from informal meetings with EC teachers and parents.

Catherine stated that she has high expectations of all of her students and believes all students, regardless of diagnoses or labels, can grow and succeed if they apply themselves. She further noted that many students have struggled with that in her class because many teachers do not have those same expectations. When asked what advice she has for other teachers, she said the two greatest assets for a teacher when working with girls with high functioning autism are patience and rapport. She further stated that, "Building that relationship with that student and building that classroom culture of understanding is so important" (Interview, June 8, 2018).

Donna

Like several other participants, Donna decided to become a teacher after working in another career for many years. Upon relocating to North Carolina, she entered the North Carolina Teach lateral entry program and began working as an English and language arts teacher. She has been teaching for nine years and says her motivation for becoming a teacher was her love of working with students and inspiring them to try even when things are difficult. Donna has a son with high functioning autism and has worked with many male students on the autism spectrum. She said she has only worked with one girl who was diagnosed with AS; however, she has had other female students who exhibited some characteristics of ASD but were not officially diagnosed.

Having a child with ASD has given Donna a strong level of understanding that each student with autism is unique as well as how autism impacts students in the classroom. She does admit, however, as a lateral entry teacher with no training in autism, she has had to learn from experience and her own research. Prior to working with a girl with AS, she believed that girls would behave much like her son and the other boys she had taught. She found that this young lady was actually quite different in several ways, such as her need for perfection and desire to be liked by others.

As several other participants noted, Donna shared that she has seen many other teachers fail to connect with students with ASD, and particularly this student, due to a lack of understanding about autism and how it presents in girls. She stated that one of the most important things teachers can do, because formal training is not available, is to research the topic and learn as much as they can about autism in general and its specific impact on girls. Through

experience with her own son, she also knows that teachers need to be flexible and willing to change their mindset about certain things, such as eye contact.

Ellen

Ellen is in her 40s and went back to school to become a teacher after her twin sons began first grade. Both of her sons, who are now 17 years old, have been diagnosed with high functioning autism. She witnessed the impact of good teachers when they were in preschool and kindergarten and, as a result, decided to become a special education teacher. She worked as a teaching assistant for four years while she completed her education degree and has taught special education for eight years. Throughout her teaching career, she taught many students with high functioning autism, but only three of those students have been female.

Despite having a degree in special education, she received no formal training specific to autism through her college program. Additionally, she has not received any training through the public school system in which she works. She personally sought out one- or two-day seminar training opportunities through two local university programs. Because of her own experience as a parent of two children with autism, she became very involved in the local chapter of the Autism Society of North Carolina. Through this organization, she had friends with daughters who were on the autism spectrum. Because of these personal experiences, she knew that ASD often presents differently in girls. Despite that knowledge, she stated she still had a hard time when dealing with meltdowns because they were so different from the ones she experienced with her sons.

When asked about the concerns she has for girls with high functioning autism, Ellen stated that the transition into adulthood was one area in which she feared these girls would face challenges. Because others often fail to see the potential these girls have, she fears many girls

with ASD will not be successful in employment endeavors. She also commented that, because

the girls she has worked with have been very rigid, she fears they will not do well in the social

situations they may find themselves in as adults.

Frances

Frances is in her 40s and has been teaching for 11-15 years. She is a general education

teacher and teaches social studies and history. Like many other teachers, she began her teaching

career after working in another field. She served in the military and then worked in adult

education for the military before working at a community college. She then got a master's

degree in pedagogy and began working as a teacher in the public school system. In addition to

teaching in the middle school, she owns her own tutoring business where she also works with

students from kindergarten through 12th grades. In addition to working as a teacher, she and her

husband work in ministry and serve as youth pastors at their church.

Growing up, Frances had a stepsister with more severe autism, so she has an interest in

that area. When asked about her experience working with female students with ASD, she

mentioned that in her career with adult education, she worked with several women who were not

diagnosed but exhibited many characteristics that are common to individuals with autism. She

has also worked with several young ladies with high functioning autism or AS in her tutoring

business as well as having two that were diagnosed and others who were not diagnosed but

exhibited characteristics of ASD in her classroom over the years.

Her personal experiences, dedication to education, and Christian world view give Frances

a strong desire to love her students and provide an education that is catered to the individual

needs of all students, both with and without special needs. She shares many of the thoughts and

concerns of other participants, and when asked about the challenges these girls face, she stated

that she is concerned about their futures. She worries about their relationships and if others will take advantage of them. Like other participants, she mentioned that she would like to learn about success stories for women with autism in order to share those stories with her students so as to give them hope for their own futures.

Grace

Grace is 44 years old and has taught for over 21 years. When she was in high school, her mother and older sister both worked in an institutional facility for adults with developmental disabilities. She spent a lot of time volunteering in that facility and also volunteered with the Special Olympics. Through her volunteer work, she developed a passion for helping individuals with special needs. When she first went to college, she intended to major in special education and work in the same facility with her mother and sister. Her advisor, however, wanted her to get some additional experience in other settings and encouraged her to do her internship in the public school system. This internship led to her first job in a self-contained classroom that served students in kindergarten through eighth grades. Throughout her career she has worked with students in elementary, middle, and high schools in the public school systems in three different counties.

Having such a lengthy career in special education, Grace has worked with several girls with autism and sees many differences between these girls and some of the generally accepted views of autism. Despite having a degree in special education, she did not have any specific college classes in autism. She has taken advantage of professional development opportunities through the local chapter of the Autism Society of North Carolina and a local university. Although she has a highly favorable view of inclusion, she does believe that many general education teachers are not fully prepared or equipped to work with these students. As a result,

she feels one of the greatest resources for helping teachers be successful in teaching girls with autism is a greater number of highly qualified and dually certified teachers.

When asked about how her experiences working with girls with high functioning autism differed from her expectations, Grace stated that she was surprised by how conscientious some of these girls were about their appearance. She mentioned that many of these girls wanted to mimic what they saw in other girls or in magazines. They were, however, not always good at executing those things. She provided an example in which one middle school girl came to school wearing an excessive amount of makeup. Additionally, she was also surprised that many of the girls she worked with were preoccupied with perfection and would become extremely upset when they did not receive a grade of 100% on their work.

Helen

Helen is in her 50s and has worked in education for over 21 years. She became an educator after her daughter started school and she spent time volunteering in her daughter's classroom. The first 12 years of her teaching experience were spent working in an institutional facility with adults with severe and profound disabilities. She then moved into the public school system and since then has worked across grade levels from elementary through high school. Throughout her career, she worked with many students on the autism spectrum. She has, however, only worked with two girls with high functioning autism or AS. Both of these girls were with her from sixth through 12th grades.

When asked about her expectations of girls with ASD prior to working with them, Helen stated that she expected them to be like every other student. She further shared that, although she does read the students' files, she prefers to get to know each individual student before making judgments or decisions about his or her abilities. She did admit, however, that working

with girls with AS was more challenging than she expected it to be. According to Helen, these girls both became fixated on certain things or doing things in certain ways, which often prevented them from being able to progress. She also noted that both of these girls were rigid with schedules and needed to know exactly what they were going to do and when and how they were expected to do it.

Although Helen is a special education teacher with over 21 years of experience in the field, she admitted that she does not always feel properly trained or prepared to work with students with autism. She has attended several trainings and professional development workshops, but she says that these training sessions have been introductory or superficial with no real follow-up or support. Additionally, she has observed that the autism support teams that have been established in the public schools rarely include members who genuinely know autism and how to support those students or their teachers. As a result, general education and special education teachers seem to struggle with how to best meet the needs of their students with ASD.

Irene

Irene, like several other participants, became a teacher through lateral entry as a second career. She is in her 50s and has been teaching for 11-15 years. Similar to a few other participants, she also has a son with ASD, which was her motivation for becoming a special education teacher. When her son was diagnosed with ASD in kindergarten, Irene began volunteering at his school. Later, she worked as a substitute teacher and teaching assistant. When her son began middle school, she began the process of becoming a lateral entry teacher and has worked as a special education teacher in various middle and high schools in the county. She currently works as a middle school special education teacher doing both resource in her classroom and inclusion in a general education classroom.

Because of her own experience as a parent of a child with ASD, Irene spent several years serving as the co-chair for the local chapter of the Autism Society of North Carolina. Through this organization, she attended many workshops, but she stated that she has had very little formal training on the topic of autism. When asked what resource would most benefit her and other teachers, she answered that knowledge would be key. She noted that, although special education teachers have been in educated in the area of special education, they are not necessarily the experts on autism and general education teachers must arm themselves with knowledge as well.

Jennifer

Jennifer is 50 years old and has been teaching for 14 years. She has one son who is beginning college this year. She began her education career as a teaching assistant and then a lateral entry teacher after her son began kindergarten. Prior to becoming a teacher, she was a stay-at-home mom for 5 years, and before that, she worked in business. She already had undergraduate degrees in both business and psychology before going back to school to become a special education teacher. Throughout her career, Jennifer has been at the same middle school. For 10 years, she worked in a self-contained EC classroom and then moved to being a resource room teacher for three years. She did not enjoy working as a resource teacher and asked to be moved back to a self-contained classroom.

Although Jennifer worked in special education for several years, she has only worked with one girl, Tiffany (a pseudonym), who was diagnosed with autism. She describes Tiffany as being very smart but opinionated and rigid. Additionally, she stated that Tiffany had some eccentric behaviors, such as being in love with a school bus. In her college classes, she had only an overview of autism, and because she worked with this student very early in her teaching

career, she stated that she did not have any preconceived ideas as to what to expect from a student with autism.

Jennifer shared that she does have fears for the future of this student. Because Tiffany is attractive and eager to please others, Jennifer fears that males will take advantage of her as she becomes older and begins to attempt to develop romantic relationships. Additionally, Jennifer has concerns about this young lady's prospects for employment. Because Tiffany is academically smart and "appears to be more normal" (Interview, June 25, 2018), Jennifer fears that employers will have higher expectations and fail to understand that Tiffany can be extremely rigid and easily distracted.

Results

The purpose of this study is to describe the experiences of middle school teachers in eastern North Carolina who work with girls diagnosed with ASD. Participants for this study were selected through purposeful criterion and snowball sampling based on their relevant experience with the phenomenon. Approximately 75 potential participants were identified and contacted by email. Respondents who were willing to participate were given the modified TATIS to determine if they met all of the participant criteria, and interviews were scheduled. Participants also signed the informed consent documents at the time of their interviews. Data saturation was reached after 10 interviews, so no further recruitment was needed. The final participants for this study included 10 middle school teachers from various schools throughout one Eastern North Carolina county. Each participant had experience working with at least one female student who had been medically or educationally diagnosed with high functioning autism or AS. All participants were female and ranged in ages from the mid-twenties to over 60 years old. The various schools represented a mix of small community and larger consolidated schools.

Data was gathered through semi-structured interviews, face-to-face focus groups, and personal letters. This information was also supplemented with my own personal notes and research journals. All of the interviews took place in a local coffee shop or restaurant chosen by the participant, except one, which took place in the participant's home. The focus groups were held in the conference room of a centrally located community building. Each participant was given the opportunity to review the transcript of her individual interview and notations to make changes if needed. No changes were required. Following the focus group sessions, each participant was asked to complete her personal letter of advice to her former self. One participant who was unable to attend a focus group submitted her letter through email. Data analysis for this study was conducted for the purpose of interpreting the information and developing relevant themes (Schwandt, 2015). Throughout the course of this analysis, several consistent themes emerged. Interestingly, these themes were quite consistent with the information uncovered by the review of the relevant literature.

Theme Development

This research was conducted to determine how middle school teachers view their experiences working with girls with high functioning autism. Throughout the data collection process, participants were asked to complete a semi-structured interview, participate in an in-person focus group session, and develop a personal document in the form of a letter. Following the modified Stevick-Colaizzi-Keen method of analysis, and consistent with the transcendental phenomenological research methodology, I started my data collection with the process of epoché or bracketing (Creswell, 2013; Moustakas, 1994). Several weeks prior to conducting any interviews, I answered each of the interview questions using my own experiences working with girls with high functioning autism or AS (see Appendix H). This allowed me to fully investigate

and understand each question as well as any preconceived ideas or beliefs I may have had concerning the responses. This process also helped me to set aside personal biases so that I could review each participant's interview and transcript from the participants' perspectives without drawing personal conclusions (Moustakas, 1994). I followed the same process for analyzing and coding my responses as I later did with the individual participants' responses. After analyzing each of the individual interviews, I revisited my own responses to determine if they were consistent or contradictory to others' and if the same themes were present.

I transcribed each interview and focus group session and read the transcripts multiple times to discover codes and common ideas. I then listed each interview question individually and summarized each participant's answer in one document to easily compare responses. I then entered codes into the NVivo Version 11 for Mac software (QSR International, 2017) and used this to keep the information organized. After performing transcendental phenomenological reduction on each interview transcript, focus group transcript, personal letter, and the research notes, many horizons were discovered and examined for consistency across data sources. Through imaginative variation, these consistent horizons were then clustered into themes. Five key themes emerged, including descriptions and characteristics, effective strategies, expectations versus reality, teacher needs, and concerns. Each of these themes was then synthesized into and the essence of the phenomenon, which is reflected in the research questions. The central question and sub-questions that guided this research were:

CQ: How do middle school teachers in eastern North Carolina describe their experiences working with girls with high functioning autism spectrum disorder?

SQ1: How do middle school teachers in eastern North Carolina describe girls with high functioning autism?

SQ2: How do middle school teachers in eastern North Carolina describe their greatest

successes and failures with working with girls with high functioning autism?

SQ3: How do middle school teachers in eastern North Carolina describe their own

attitudes about working with girls with high functioning autism?

Each of these questions was represented in both the interview and focus group questions. Table

2 portrays the connection between the research questions and the interview and focus group

questions. As the information from the data collection was coded, it was clustered into themes.

Examples of participant quotes related to codes and themes are presented in Table 3. The

frequency of these codes is represented in Table 4.

Table 2

Alignment of Research Questions to Interview and Focus Group Questions

Research Questions	Interview Questions	Focus Group Questions
CQ: How do middle school teachers in eastern North Carolina describe their experiences working with girls with high functioning autism?	1-16	1-5
SQ1: How do middle school teachers in eastern North Carolina describe girls with high functioning autism?	3, 5, 7, 8, 10, 13, 16	1, 2
SQ2: How do middle school teachers in eastern North Carolina describe their greatest successes and failures with working with girls with high functioning autism?	3, 8, 9, 11, 12, 16	1, 2, 3, 4, 5
SQ3: How do middle school teachers in eastern North Carolina describe their own attitudes about working with girls with high functioning autism?	1, 2, 3, 4, 5, 6, 8, 9, 14, 15, 16	1, 2, 3

Table 3

Codes Related to Themes

Themes	Codes	Participant Quotes
Descriptions & Characteristics	Rigid	She was very smart but very rigid.
	Affectionate	They are more affectionate, I think, than the boys I know.
	Intelligent	She was a brilliant young lady.
	Perfectionist	Like, it had to be perfect.
	Focused	They are maybe even hyper-focused on something.
	Eager to Please	Wanted very much to please.
	Eccentric	That autism is just so strong with her eccentric behaviors.
	Stubborn	They were a little more stubborn.
	Socially Awkward	I would say probably awkward socially.
Effective Strategies	Visual Schedules	That's one thing, always having a visual schedule.
	Choices	It helps them a lot to have visual choices.
	Relationships	Building that relationship with that student and building that classroom culture of understanding.
	Sensory Needs	We've bought headsets, noise cancellation headsets.
	Structure	Any time the schedule was altered in any way, she did not respond appropriately.
Expectations vs. Reality	Robotic	I thought it was going to be almost robotic.
	Aggressive	Because my first experiences with children with autism were physically painful, I thought they all were like that.
	Like the Movies	My expectations were that they were those typical characteristics like *Rainman.*
	Just Like Boys	It would be no different than working with the boys.
	Withdrawn	I would say withdrawn to some extent.
	Better communication	Better communication skills than boys with ASD.
	Creative	One girl would normally communicate with me through art.
Teacher Needs	Training	I've had little to no training other than my own son.
	Supportive Administration	I have a principal who made sure she has met the needs of my kids.
	Support Team Within the School	The reality is we are a team to support that child and building that team for the best outcomes for the child.
	Time	Just time to sit with them and give them attention.

Concerns	Diagnosis	I think a lot of girls get missed in diagnosis because it does and can look different in girls.
	Future	I would love to know future successes, you know.
	Family	Marriage and children. I worry about that all the time.
	College	Finding and insuring supports are in place for those kids
	Jobs	who are able to get through college and employment.
	Victims	My biggest fear for them is that they are easy to be victimized.
	Understanding from Others	I feel like a lot of people misunderstand some of the things they say.
	Physical Development	Addressing menstrual cycle issues and sex education.

Table 4

Code Frequency from All Data Collection Methods

Themes	Codes	Frequency of Use
Descriptions & Characteristics	Rigid	7
	Affectionate	40
	Intelligent	25
	Perfectionist	14
	Focused	25
	Eager to Please	11
	Eccentric	9
	Stubborn	11
	Socially Awkward	65
Effective Strategies	Visuals	18
	Schedules	11
	Choices	20
	Relationships	43
	Sensory Needs	15
	Structure	29
Expectations vs. Reality	Robotic	10
	Aggressive	7
	Like the Movies	5
	Just Like Boys	12
	Withdrawn	7
	Better Communication	11
	Creative	20

Teacher Needs	Training	60
	Supportive Administration	4
	Support Team Within the School	15
	Time	11
Concerns	Diagnosis	15
	Future	11
	Family	17
	College	10
	Jobs	19
	Victims	9
	Understanding from Others	32
	Physical Development	24

Theme one: Descriptions and characteristics. While all of the participants recognized that each individual with autism is unique, there were several consistent descriptions or characteristics that the participants identified. Overwhelmingly, the participants commented on the above average intellectual ability they saw in these girls with high functioning autism. All 10 individuals interviewed spoke about their female students being "very smart" (Alice) or "brilliant" (Catherine) or some other variation of highly intelligent. Several participants even discussed how they were able to allow their female students with high functioning autism to do independent study for some topics because those students seemed to be more advanced than in certain areas than their classmates.

Perhaps because of this higher intellectual ability, the majority of participants also noted that their respective students had a strong need to be better than others. Catherine, for example, stated in her interview that for her student, average was not good enough. Likewise, in her interview Beth noted that one of her female students with AS would become upset if other students understood the material faster than she did. Ellen, Grace, and Helen all shared similar information about their female students with ASD. Each of them commented that making

mistakes on work was often a major contributor to meltdowns. This perfectionist mentality is also consistent with previous findings from the relevant literature (Lai et al., 2015).

In addition to being highly intelligent young ladies with a tendency toward perfectionism, these students were also frequently described as being rigid and inflexible. Alice described an incident where one of her female students with autism had a meltdown due this rigidity. She shared,

> She had a birthday, and her dad brought cupcakes with these little candies on top. And, everybody said, "oh it's candy," you know. And, they took the little candy off and opened it. And, she said, "no, it's a caramel." And, they said, "it's candy." And, she said, "no, it's caramel." And, so she had a meltdown over that because they couldn't understand that she could only see it as caramel. (Alice, Interview, April 14, 2018)

Alice went on to describe the resulting meltdown in more detail and to explain that until the young lady, who was in sixth grade at the time, struggled to understand that caramels were a type of candy. Additionally, her classmates and the classroom teacher struggled to understand why that created such a challenge for her.

The idea of inflexibility was confirmed throughout the interviews, focus groups, and personal artifacts. In one of the focus group sessions, Irene shared, "They don't like it when it's not the norm. They don't like assemblies or anything out of the ordinary." Irene also pointed out that,

> Because I'm a resource teacher, one of the things I had to keep up with was, if I tried to teach the same topic but in a different manner to her, it was like, "No! You're wrong! Ms. Jones said it has to be like this." If I would try to differentiate for her and do it a different way . . . oh boy! It was on!

Donna agreed adding, "Right, just a thesis statement for a research paper. I had a very basic thesis statement. She didn't want to write it that way. She wanted to write it this way. That's not the thesis statement formula."

Additionally, Catherine shared in her letter that, "[her student] would be very stressed out if anyone tried to reorganize her things." Although some used different words, such as "stubborn" (Helen), "inflexible" (Ellen), or "opinionated" (Jennifer), among all participants, there was a general consensus that rigid behaviors were a common characteristic with the girls they had taught.

Other common descriptions included social awkwardness and the need for social skills instruction, which was mentioned over 75 times throughout the interviews, focus groups, and personal letters. Additionally, these girls were described as being hyper-focused on certain topics or objects, which is a common trait found in individuals with ASD (Hiller et al., 2014; Sarris, 2015). Often, however, teachers noted that those interests were often immature for a student's chronological age. Donna described one example of this immaturity during a focus group when she said of an eighth grader, "Like the maturity . . . she would play with those Polly Pockets." Grace provided another example during the second focus group when she described a seventh-grade student who still plays with Elmo. Ellen further confirmed this in her interview when she stated, "Her interests were very different than her peers, and somewhat immature in comparison." In her personal letter Frances shared, "Her intellectual level is considerably higher than her social age."

One characteristic that many participants found surprising was the fact that the girls with whom they worked were more affectionate than they expected them to be. This was mentioned over 30 times throughout the various data sources. As Alice shared, "I have the most

affectionate children ever, and my girls have been very affectionate" (Interview, April 14, 2018).

Additionally, along with this loving, affectionate nature, eight of the 10 participants commented

that their female students with high functioning autism were extremely eager to please others,

especially their teachers. The participants also noted that, when these girls felt as though they

had disappointed the teacher, they would get frustrated with themselves, which could often lead

to behavioral challenges.

The results of this study indicate that, in general, middle school teachers describe female

students with high functioning autism in many ways (see Figure 1). While participants identified

the social awkwardness and immaturity commonly associated with ASD, many also noted that

their female students with high functioning autism have also been quite affectionate and loving.

Although these students are rigid and hyper-focused, they are also eager to please and are
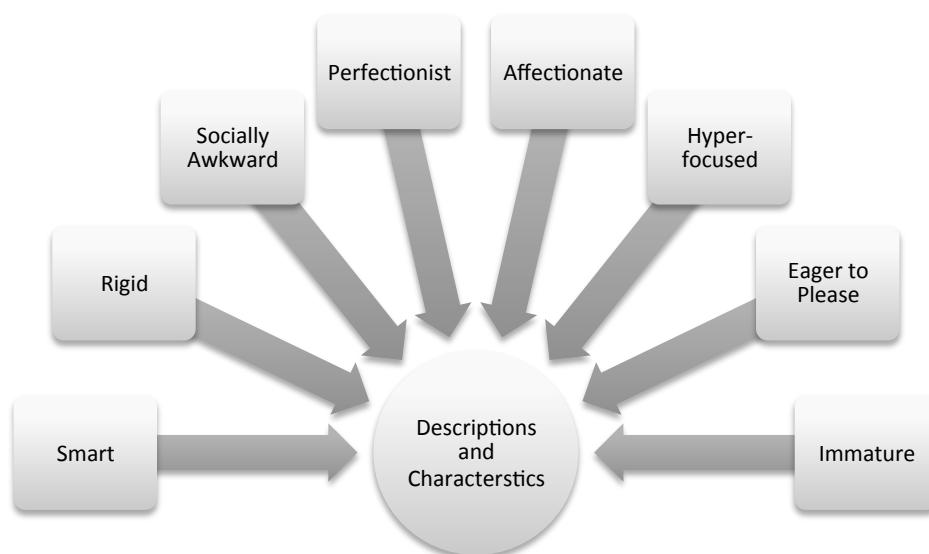
incredibly intelligent.

Figure 1. Theme one: Descriptions and characteristics.

Theme two: Effective strategies. For many of the participants, working with a girl with

high functioning autism or AS was a lot of trial-and-error and experiential learning. Structure,

routine, and consistency were among the most commonly-used strategies that were discussed by the participants. During her interview, Frances mentioned that for her female students with ASD, "confidence comes from doing the same thing." Grace confirmed this when she stated that her students "needed to know exactly what they were going to do first, second, third, and not breaking that routine." One of the key strategies participants used to help maintain that structure and routine was the use of visual schedules, which is consistently mentioned throughout literature (Lindsay et al., 2014).

In the individual interviews, more than half of the participants mentioned the use of visual schedules or other visually-based strategies. During the focus group sessions, all participants referenced using some form of visual strategy with their female students on the autism spectrum. As previously determined in the literature review, this strategy is commonly used for individuals with ASD, as it is believed these individuals have strengths in visual processing (Banire et al., 2015; Bouck et al., 2014; Kellems et al., 2016; Yeo & Teng, 2015). To demonstrate the success of this technique, during her interview, when asked what advice she had for other teachers, Jennifer said, "Provide them with a visual aid where it's printed right in front of them." In the focus group, Donna shared that she used, "more visual than verbal." Irene immediately agreed stating that her student was "very visual." In the second focus group, Jennifer and Helen further verified this. Jennifer shared that her student, "had a visual schedule that was laminated that she could check off." Helen replied by saying, "That's something I use at the end of the day. They have one so that they can remember everything to go home."

Another common strategy was incorporating ways to accommodate these students' sensory needs. Donna shared that for her student, whenever the noise of the classroom would become overwhelming, she would allow that student to go to a separate quiet area to recover.

Helen also mentioned allowing her students to have private areas where they could escape noise. Beth shared that two of the girls she worked with would use drawing as method of overcoming sensory overload. Other sensory strategies included listening to music or offering alternative seating options.

Several participants also mentioned offering choices as an effective strategy. Alice mentioned using choices for academic, social, and behavioral skills. Frances also spoke about offering choices but added that even in offering choices, refusal was not an option. Donna, an English and language arts teacher, shared that she would allow her female student with ASD the option of recording things rather than writing them.

Along with offering choices, and consistent with previous research that has verified the effectiveness of techniques such as modeling for teaching students with autism (Nichols et al., 2009), participants also discussed the importance of modeling. Catherine mentioned modeling as being a particularly effective strategy for demonstrating social skills during lunch. She shared that; "we would sit down with her, try to model appropriate social behavior with other kids and not try to dominate the discussion or be the center of attention and realize that others have problems, too" (Interview, June 8, 2018). She also used modeling when teaching math procedures to this student. During a focus group session, when discussing strategies, Jennifer shared that with her student she frequently relied on modeling.

As prior literature stated, the relationships these young ladies have with their teachers are key indicators of the success of their educational experience (Sproston et al., 2017). Participants overwhelmingly agreed that the most successful strategy in their own arsenal was to build rapport and positive relationships with these girls. Several noted this is especially important during the middle school years, as these young ladies are learning to navigate relationships in

general. The concept of building relationships was mentioned across all data collection methods with participants noting both their successes and failures in doing so. In her interview, Helen stated,

> Build a bond. If you build that bond, you will be able to get her to understand and see what you are trying to teach her so much better. I think that was my initial mistake . . . not building that bond or that feeling of trust. Once you do that, you'll be able to connect with the student. When they are beginning to start feeling bad, they'll start communicating. There's something in that bond that they want to please you. Get to know them and allow them to get to know you.

> In her interview, Beth mentioned that she relied on relationship building and daily "one-on-one time" to "let them tell me how their day had gone, how their morning had gone, just so that I could understand if they were getting upset, it may not just be about me." Catherine explained that building rapport was important for her as well as the other students in the class. She shared that,

> People talk relationships, relationships, relationships but I think, especially with the girls with autism, building that relationship with that student and building that classroom culture of understanding with others in the class. You are a part of this class. You are an important part of this class, and we can learn from you like you can learn from us.

Each of these examples demonstrates the effectiveness of positive relationships.

During one focus group, the participants also provided examples of what happened when teachers lacked understanding and did not take time to build a positive relationship with the students. Donna explained it by saying,

I've found, too, there was even ways that teachers didn't quite know how to interact with

her. Like, I could calm her down and talk to her a lot easier than some of the other

teachers. And, I know that's a relationship building . . . but it was interesting how she

would kind of cling. And, she would put up a wall and she wouldn't talk to the other

teachers at all. And, she would demand to hear from one of us.

Ellen followed up by replying,

And, I think other teachers struggle with that. I see that with my students, too. Like

some of them, without intention, can make the situation worse. But, they also don't

understand that sometimes, those kids . . . if there is somebody that can get them calmed

down, that's who we need to be working with. And, you can develop the skill of

responding to them, but in that moment is not the time to say, "no you can't talk to Ms.

Smith, you have to talk to me." That is not the time to be working on that, because then

you just escalate it. So, I've seen that with my female students.

Along with the behavioral and social benefits of building a positive relationship with

students, teachers also mentioned using this to improve academic outcomes. One way in which

teachers used their bonds with these young ladies was in learning about their special interests and

using those interests to teach material. In her letter, Ellen discussed the importance of entering

this student's world and learning about the things that interest her. Donna also mentioned this in

her interview. She described using her student's interest in fashion to motivate her to complete a

research paper. Irene also mentioned that a student who was particularly interested in the planets

was able to deliver a presentation about the solar system to over 100 people.

There were several strategies revealed in the interviews, focus groups, and letters. There

was, however, strong consistency throughout as to some of the most effective strategies (see

Figure 2). Several participants noted the use of visual cues, such as visual schedules or written directions, as well as modeling. Additionally, participants also discussed the importance of maintaining a consistent routine and as well as a somewhat rigid classroom structure. Participants also identified strategies such as offering choices and using the girls' special interests to motivate learning. Strategies, such as allowing quiet space, that met the sensory needs of these students, were also used frequently. Most importantly, participants overwhelmingly identified building rapport or developing relationships with these girls as the most effective strategy they had used.
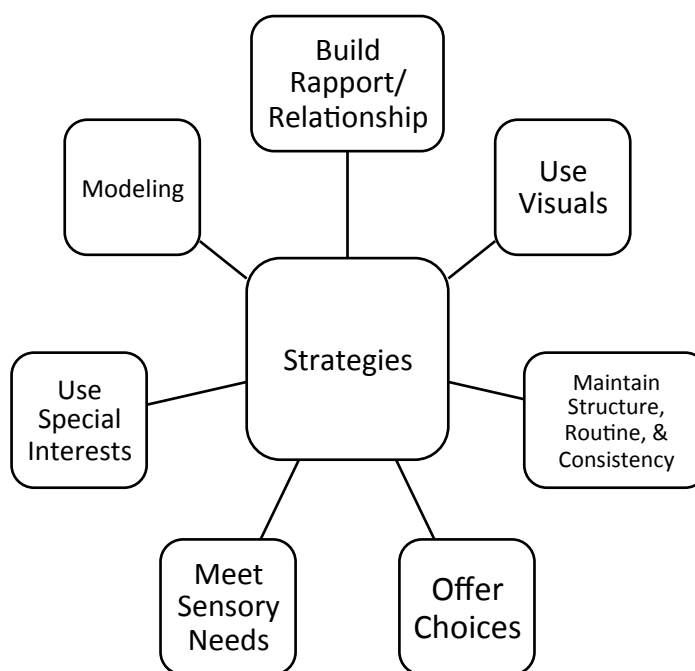

Figure 2. Theme two: Effective strategies.

Theme three: Expectations versus reality. Most participants shared that their overall experiences with these young ladies with high functioning autism were quite different than what they expected, although their general beliefs before the experience were varied. Both Alice and Grace referenced movies as being their first exposure to ASD. Grace mentioned that she expected her girls with ASD to exhibit the repetitive behaviors she saw displayed in the movies

and, although there were some repetitive behaviors, they were not as severe as those stereotypical behaviors she witnessed in the movie. In her interview, Alice shared that her first exposure to a female with autism was also from a movie. Alice also stated that she believed that movie was misleading because it led her to believe that all girls with ASD could successfully function in a general education classroom. Other participants shared similar reactions based on movies and television. It was a common belief among participants that movies and television created a stereotypical or misleading picture of individuals on the autism spectrum.

Several participants stated that prior to meeting a girl with high functioning autism, they expected her to behave very much like the boys they had encountered. In her letter, Catherine shared:

Initially you said to yourself that this journey should not differ too much from the journey you have experienced with boys and high functioning autism. Of course, this proved to be a different situation. It didn't take you very long to realize that this experience was going to be an interesting, sometimes stressful, yet rewarding opportunity. (August 8, 2018)

She went on to note that, "Subtle differences surfaced early-on between your experience with boys and this young lady" (Catherine, Letter, August 8, 2018). Half of the participants shared that they had an immediate family member with ASD. Four participants, Alice, Donna, Ellen, and Irene, had raised or were raising children who were diagnosed with autism. Alice had adopted a child diagnosed with ASD, and the other three had biological children with high functioning autism. In all four cases, the children were males. This background provided these participants with an interesting perspective; however, they all agreed that the experience of raising sons with ASD did not prepare them for teaching a girl on the spectrum. Donna and

Irene both admitted that they expected the girls to act very much like their own sons and were surprised that this was not the case.

Other participants shared that they did not know what to expect from a girl with high functioning autism. Jennifer shared that her female student with ASD was one of the first students she ever had. As a lateral entry teacher, she had no background on which to base her expectations. During her first year of teaching, Beth also had her female students with ASD, but based on her college coursework, she expected these young ladies to be "cold and robotic." She shared that she was surprised to discover they were actually quite affectionate with bold personalities. Frances expected these girls to behave badly. During her interview, Frances said,

> So, for me, my expectations were, well they're not going to do it. My little bit of
> knowledge . . . they're not going to be able to handle it. So, I would approach it like,
> well, just let them do what they want to do. (June 22, 2018)

She went on to share that the experience was, "absolutely completely different. My preconceived, and it's what most teachers think, they think that they can't work with children with autism because the kids won't do it. But, they can" (Interview, June 22, 2018). To further verify this idea, Alice shared that, based on her background in social work and therapeutic foster care; her expectations were that girls with ASD were aggressive and mean. In her letter she shared, "Your beliefs were untrue."

In general, participants admitted that their preconceived beliefs about girls with autism were negative (see Figure 3). Some participants believed these girls would be cold and robotic. Others expected them to be badly behaved and aggressive. Movies and television, along with personal experience with other children, influenced many of their beliefs. After working with a female with high functioning autism, the participants often developed new attitudes about these

girls. They described the girls as being affectionate and talkative, although they could be

withdrawn. The girls were also seen as being brilliant, creative, and capable.
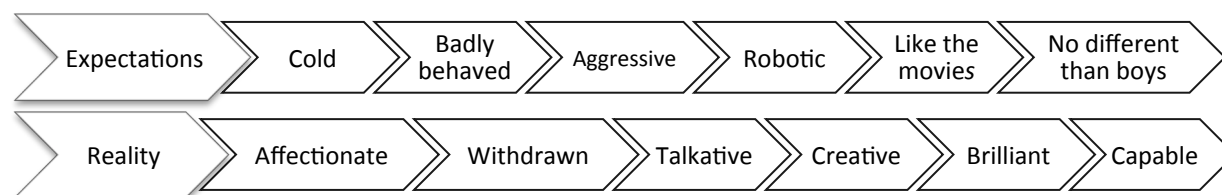
| Expectations | Cold | Badly behaved | Aggressive | Robotic | Like the movies | No different than boys |
| Reality | Affectionate | Withdrawn | Talkative | Creative | Brilliant | Capable |

Figure 3. Theme three: Expectations versus reality.

Theme four: Teacher needs. To promote positive outcomes for girls with high

functioning autism or AS, teachers should be equipped to create educational settings where these

outcomes can be realized (Lindsay et al., 2014). In order to better understand the needs of these

teachers, participants were asked to identify what resources would help them better work with

girls with high functioning autism. Alice, who teaches an autism-specific class, shared that she

felt her greatest asset was her supportive administration. When discussing her principal, Alice

said,

> I can't even complain about technology because my principal looks after my kids, so we
>
> just got new technology in there. So, you know, I don't have any needs, whereas a lot of
>
> teachers may, I have a principal who made sure she has met the needs of my kids.
>
> Anything I need, she'll get. It's a top priority. (Interview, April 14, 2018)

She stated that she feels blessed to have a supportive principal, but she also knows that might not

be the case for other teachers. She added that a supportive administration could be the key to a

successful experience for the teachers, which translates into a positive experience for the

students. Jennifer and Helen also mentioned the need for support from their principal or other

administrative positions, such as the EC chairperson.

In addition to the support of administrators, another common need, as expressed by participants, was support staff. Catherine shared that she often co-teaches with a special education teacher; however, that teacher is not always available to be in her classroom. She shared that consistently having an extra adult in the class would be a great help. She also said that this is a challenge at times: "It's hard to do because the EC teacher usually has a subject that they are more proficient in or licensed in. So, if it's not math, because I'm a math teacher, they're not a lot of help" (Interview, June 8, 2018). In a focus group session, Frances also mentioned the need for extra people. She shared her belief that using a team-teaching model in which a general education teacher and a special education teacher worked together would greatly benefit her students. Jennifer agreed that more personnel in the classroom would help her, and Grace shared that more teachers who are dually certified in both general education and special education would also be helpful.

Time was yet another resource that teachers stated that they wished they had available. Beth said, "I guess everybody needs time. That's a resource, you know, that nobody has enough of. Just time to sit with them and give them attention" (Interview, June 8, 2018). Irene also added time to her list of resources, although her thoughts were somewhat different than Beth's. While Beth would like to have more time to get to know the student, Irene wanted more time for social skills instruction. Irene shared, "We focus so much on the academics and so little on the actual social skills part of it" (Interview, June 24, 2018). Despite only being mentioned in two interviews, several participants referenced time during the focus group sessions and in their letters. Specifically, participants mentioned wishing there was more time to get to know about their students' interests and more time to develop relationships and maintain communication with the families of these girls.

Overwhelmingly, the participants agreed that the primary resource they all needed was training. Every participant referenced the need for training in some manner. In total, training and professional development were mentioned over 100 times throughout the interviews, focus groups, and personal letters. When specifically asked about her own training, Alice answered, "Honestly, I had the autism classroom before I ever had any training in teaching students with autism. The only training I had was informal" (Interview, April 14, 2018). This was similar to Catherine's response; she shared that the only training she had regarding autism came from other teachers in her school. Donna and Ellen both stated that they had no formal training in teaching students with autism. Frances and Beth both had taken one class dealing with ASD, but neither of the classes specifically addressed how ASD impacts girls. Grace, Helen, Irene, and Jennifer all shared that they had attended some professional development seminars dealing with autism but felt these training sessions were insufficient for their needs. Helen shared, "I've had training but none that built my confidence. There were programs, but it was an introduction to the programs but no training in actually how to follow through" (Interview, June 24, 2018).

In their interviews Donna, Ellen, Helen, and Irene all identified training as specific needs of their own as well as other teachers around them. Donna demonstrated this by saying,

I guess just more of the training on the psychological side of it, because so many times, I've seen other teachers, when they do start to have that meltdown, the teachers get this, like, teacher wall. And, the teacher is like, "no, you are going to do what I am telling you to do." And, it's not, that's not going to work. (Interview, June 20, 2018)

As a parent of two children with high functioning autism, in her interview, Ellen shared,

I think specific training in high functioning autism would benefit any teacher, not just me, but any. I try as a parent to guide teachers, but I know you still fight that line with autism

. . . that's not what it is. Teachers not understanding. And, I imagine I would be the

same way if I didn't know that it looks very different in every individual. So, I would

think some specific trainings. (June 21, 2018)

To further validate this point, Catherine shared in her personal letter, "You wished that additional school based professional development existed on working with students on the autism spectrum, differentiated by gender" (August 8, 2018).

During the focus groups, participants also shared their desire for more in-depth training focused on autism. In particular, participants shared that they wanted more training and some specific things they would like to see covered in trainings. There were interesting conversations between the general education teachers and special education teachers in both sessions. Donna mentioned needing more training in autism because she was a general education teacher who was never taught about autism. Alice countered that by saying, "You know, even that's a misnomer, because until I got the autism classroom, I didn't know anything about autism. Then they sent me to training, and I was like, WOW" (Focus Group, August 8, 2018). In the focus group she attended, Frances said that many general education teachers assume they do not need training in autism because it does not apply to them. The other participants in that group agreed that there needed to be a shift in that attitude as there are more students with ASD in their classes. Frances further shared a particular concern related to girls with high functioning autism. She mentioned,

And, I think the higher functioning they are, the less people understand. Like, a good

example is one girl that I had that was high functioning. All the teachers saw her as

coming across as smart-mouthed because she would correct them. (Focus Group, August

9, 2018)

The other participants mentioned similar experiences and agreed that training related to this aspect of ASD would help teachers better relate to their female students on the autism spectrum.

Participants identified several resources that would help them to better meet the needs of their female students with high functioning autism (see Figure 4). These resources centered around four basic needs. The first basic need was the support of the administration and others in leadership roles within the school. Several participants also mentioned the need for additional support within the classroom in the form of special education certified co-teachers as well as more time. Consistent with prior research (Jarman & Rayner, 2015) participants unanimously stated that they felt that there is a great need for more training and better professional development opportunities.
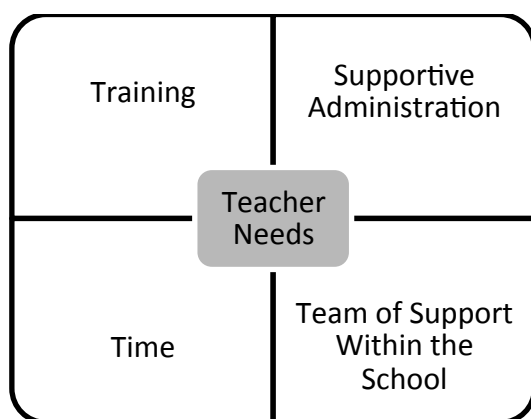

Figure 4. Theme four: Teacher needs.

Theme five: Concerns. Throughout the data collection process, the 10 participants in this study shared many concerns for their female students with high functioning autism. Throughout the interviews, focus groups, and personal letters, participants shared their own compassion for these girls and their concerns. When asked about the challenges these girls face, responses included many facets of concerns including diagnosis issues, the lack of understanding by other people, physical development, victimization, and future outcomes.

An interesting concern that emerged from the interviews and focus groups was a lack of diagnosis among girls. Despite participants' lack of familiarity with previous research, many comments were consistent with findings that show girls are often undiagnosed, misdiagnosed, or only diagnosed later in life (Bargiela et al., 2016; Harrop et al., 2017; Kauschke et al., 2016; Lai et al., 2014). Alice shared that one of the female students she worked with was not diagnosed until fifth grade. Alice described the events leading to that student's diagnosis by saying,

> She was not even diagnosed until the 5th grade, and, what happened was, she was sticking pencil led up in her arms and things like. She would smear mashed potatoes over her arms. She'd draw on her arms. She was always sitting in class making these wonderful, wonderful, sculptures with paper and making a big mess. I don't know how they didn't see all this before, but they didn't. (Interview, April 14, 2018)

Donna also mentioned diagnosis as an issue in her interview. She shared that she had worked with one female student who had been formally diagnosed with autism, although she could think of several other female students who showed signs of autism but were not diagnosed. Frances also shared that, throughout her career, she worked with quite a few females who exhibited characteristics of AS, including several adults.

Lack of diagnosis was also mentioned in focus group sessions. When participants were asked about their general beliefs regarding girls with high functioning autism, Ellen immediately stated, "I think a lot of girls get missed in diagnosis because it does and can look different in girls. I think a lot of girls who could potentially be diagnosed are not or are misdiagnosed with something else" (Focus Group, August 8, 2018). Irene immediately agreed and shared that, from her experience, many people do not think girls can have autism. Alice followed up by saying,

I think you're right, though, because it's interesting, after you first interviewed me, I

started thinking about it. I did not realize how many girls through the years I have taught

that had autism until I went back and started thinking about it and I was like, "wow, I've

taught a lot." I would say it wasn't as noticeable, and like you were saying, I don't think a

lot of them are diagnosed because of that. (Focus Group, August 8, 2018)

These failures to recognize autism in females, or the delaying in doing so, as well as the

impending results of these mistakes were concerns consistently documented in research

(Bargiela et al., 2016; Harrop et al., 2017; Jarman & Rayner, 2015; Kauschke et al., 2016; Lai et

al., 2014).

Although the majority of the participants in this study had positive experiences working

with girls with ASD, they often mentioned other teachers' interactions with these girls as being a

concern. A lack of understanding from other teachers was previously mentioned when

discussing training needs, and it was a dominant topic in discussions about the challenges these

students face. Beth demonstrated this concern when she said,

I feel like a lot of people misunderstand some of the things they say. For example, one of

the girls that I had, whenever you were talking to her, if you were upset with her, or you

were trying to, not punish her but be stern with her, she would laugh, and that was just a

coping mechanism. A lot of teachers didn't understand that. "She's so disrespectful. She

laughed at me when I was trying to . . ." No, that was just how she was trying to say,

"okay, I understand, please don't do it anymore." (Interview, June 8, 2018)

Alice mentioned something similar during a focus group session when she said,

She responds in such a socially flat way or sarcastic way that a lot of teachers have

assumed that this child is talking back. And, I explained to them that she's not talking

back that's her voice tone. And, snapping at her when she talks to you like that and telling her to stop talking back, and she'll go more, because she'll say, "I'm not talking back." You know, it creates a situation. And, I think that's one of the hardest things I've had to deal with, particularly with my females is that they always get accused of talking back when the really aren't. (Focus Group, August 8, 2018)

Frances discussed a situation in which a student got into trouble for leaving the classroom after the general education teacher told her to "if you don't like my class, just leave" (Focus Group, August 9, 2018). That teacher failed to understand that the young lady simply did what she was told to do. Participants shared several examples of how teachers' reactions to student behaviors created negative situations for the girls. Ellen and Alice both pointed out that even teachers who have personal experience with children with autism and usually do well with males on the spectrum sometimes do not understand the girls and how they may present differently than boys.

In addition to teachers' lack of understanding, participants also included concerns about peer relationships and interactions.   At some point during the various forms of data collection, 100% of participants referenced peer relationships or lack of peer understanding as a concern. Helen summarized this point when she said,

You know, at that age, and with higher functioning, they understand more. They understand "I want to be a part of this and everyone else my age is being a part. Why are they not accepting me to be a part? Why is it when I try out for things, I don't make it? Why can't I sit with the other girls? Why are they laughing?" (Interview, June 24, 2018)

Other participants also shared that they feel their female students with autism are generally more susceptible to being victims of bullies because of their immature nature. Catherine also pointed out in both her interview and letter that her female student would sometimes alienate herself

because she could not accept the behaviors of others. As a result, that student's peers would often avoid her. Alice shared that peer avoidance sometimes creates further difficulties. Alice said that her female students often want to have friends and take part in others' activities; however, when one of her students overhears her peers making plans she often exhibits behavioral problems. Those behaviors, in turn, lead her peers to further exclude her from their activities.

Another concern mentioned by a few participants was how to handle the topics of physical development, health, and maturity. Alice pointed out that, as middle schoolers, her students are beginning to reach puberty and she has had to deal with the onset of menstruation with her girls. She pointed out that many parents tend to be in denial about this topic and believe their daughters, because of their autism, will not have to deal with menstruation or sexual desires. As a result, Alice often has to address those topics in the classroom. Interestingly, this is consistent with previous research regarding puberty-aged girls with autism (Ballan & Freyer, 2017). Beth, Catherine, and Helen also shared concerns regarding the hormones associated with middle school girls. Frances and Grace mentioned physical development as it relates to health and wellness. Grace shared that her female students with high functioning autism were prone to overeating and a lack of exercise. Frances, on the other hand, mentioned a general lack of focus on appearance. In focus groups, hygiene and appearance were also shared as concerns related to physical development. In particular, many participants shared that their female students often forget to perform basic hygiene tasks such as brushing their teeth or washing their hair.

Surprisingly, when asked about challenges girls with high functioning autism face, the majority of the participants focused more on the future and challenges of adulthood. In their interviews, Frances and Jennifer specifically mentioned their fears that these girls would become

victims of sexual predators. They both shared that the girls they have worked with were somewhat innocent or naïve and, as a result, may not realize someone is trying to take advantage of them. Alice also mentioned this concern in her focus group. She said,

> My concern is that, many of them are so innocent and will stay innocent in so many ways that they will be easy to be preyed upon by people. Because they think in that straightforward way, it would be hard for them to understand predatory behavior versus other behavior. (August 8, 2018)

Consistent with previous research, other participants also shared concerns for the futures of their female students with ASD (Chiang et al., 2017; Gobbo & Shmulsky, 2014; Smith & Anderson, 2014; Taylor et al., 2015). Some participants shared that they are concerned for the girls' prospects of marriage and families. Many participants feared that these girls would not be able to attend college, live independently, or have jobs due to the social demands of employment. Participants also mentioned that many employers do not have a full understanding of autism. In a focus group session, Irene shared that she believes these girls are capable of doing a job, but added,

> I think the schools are a lot more accepting and accommodating than the real world. So, in some aspects, I think the schools are almost creating a disservice, because it's not mimicking what the real world is going to be like. (August 8, 2018)

Jennifer mentioned that, although her female student with ASD was very bright and capable, she was prone to anxiety and would refuse to perform tasks when she would become overwhelmed, both of which could greatly impact her ability to perform a job. Grace shared that, "There just needs to be businesses and things that are made more aware so they can have a place to work and be productive and have normal lives" (Interview, June 22, 2018).

Beth and Frances both mentioned that they would like to specifically hear more about successful women with autism. Both agreed that success could look different for each person; however, having real-world examples of women with high functioning autism who have families or careers that they could share with their students would help to motivate their students. Catherine further validated these points by saying she would like to see a list of career fields in which women with autism excel. Donna agreed with this point by saying, "I think the key is finding careers that build on their strengths" (Interview, June 20, 2018).

The participants in this study share many concerns for their female students with high functioning autism (see Figure 5). The majority of those concerns are consistent with previous research. In order to improve educational outcomes for girls with high functioning autism, participants believed there is a need to improve understanding among other teachers, peers, potential employers, and the community as a whole. Additionally, the participants worry about the needs associated with physical development, including sexual health, general wellness, and hygiene. Participants also worry about their students falling victim to sexual predators or abusive partners as well as their future outcomes related to independent living, college, employment, and families.
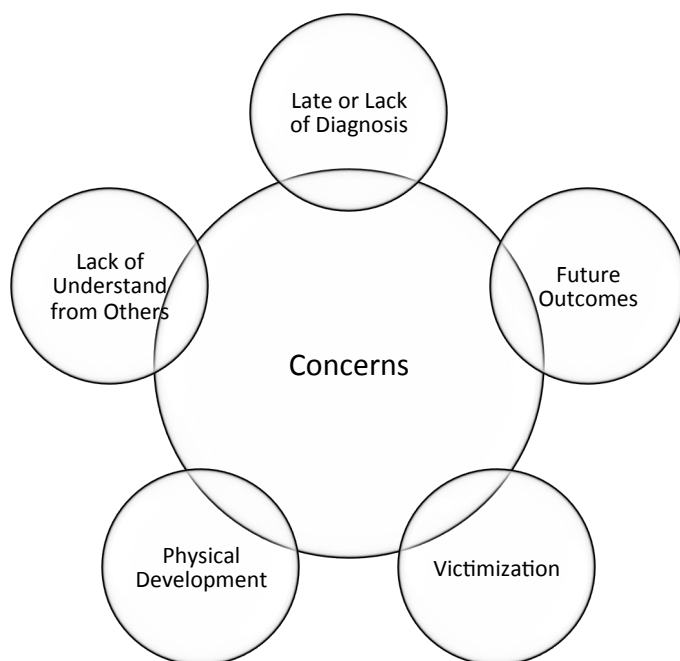
Figure 5. Theme five: Concerns.

Summary of themes. Based on coded information from the various data collection methods, five distinct themes emerged from this research. These themes included; descriptions and characteristics, effective strategies, expectations versus reality, teacher needs, and concerns. Throughout the data collection process, the participants provided several examples that supported each of these themes. These themes, which I uncovered through the data analysis process were validated through triangulation by multiple sources of data collection.

Research Question Responses

The purpose of the study is to understand how a specific group of people describes their own experiences with a common phenomenon. As a result, the transcendental phenomenological method was best suited for this study (Creswell, 2013; Moustakas, 1994).

Central Question. The central question that guided this research asked, "How do middle school teachers in eastern North Carolina describe their experiences working with girls with high functioning autism spectrum disorder?" The participants described their experiences in various

ways; however, these descriptions were predominantly positive. Many participants described their experiences as being quite different than they originally expected. In addition, the participants shared that the experience of teaching girls with high functioning autism was an enlightening learning experience. In order to fully develop a description of the phenomenon, three sub-questions were developed. The answers to those sub-questions provided the overall description of the experiences of the participants.

Sub-question one. The first sub-question addressed by this study asked, "How do middle school teachers in eastern North Carolina describe girls with high functioning autism?" This question was primarily answered by the first theme, descriptions and characteristics. While all of the participants in this study seemed to describe their experience with these female students with ASD as being positive, they did provide a wide range of descriptions, including both positive and negative characteristics. In general, these descriptions were provided as they related to strengths and challenges.

All of the participants recognized that, although they may struggle in some areas, these girls with high functioning autism are incredibly smart. Throughout the three methods of data collection, there were 25 references to these girls being intelligent. Donna shared that although her female student with autism was very smart, she did struggle in class. As she put it, "She was extremely intelligent; extremely intelligent. But, she couldn't get it from here to there sometimes, from her head to her paper. And, being an English class that was frustrating" (Interview, June 20, 2018).

In addition to being highly intelligent, the participants provided several other descriptions of their female students. Frequently, participants referred to their female students with ASD as being affectionate. Many participants actually shared that they were surprised by the amount of

affection they received from these girls. Additionally, participants described girls with high functioning autism as being determined and goal-driven. As Beth put it, "They were very goal driven. They understand goals, and they understand internally what they need to do to meet those goals" (Interview, June 8, 2018). While many participants regarded this determination as being a strength, a few participants related it to stubbornness or the tendency to become obsessively focused on topics or ideas. Helen described a student who could not transition to a new task until she was able to fully meet the goal she had set for herself and complete the task she was currently performing. Frances shared a similar example and said, "They are maybe even hyper-focused, and if a girl with autism wants to do something, she's going to keep doing it and you can't get her to stop" (Interview, June 22, 2018).

Some participants described these girls as being logical thinkers. Although their logic may not necessarily coincide with how most people see things, participants noted that girls with ASD do follow a logical process that makes sense for them. For example, Beth shared that her female students with ASD were very good at compartmentalizing their emotions in order to logically solve problems; these young ladies have different perspectives that allow them to see the world differently. As Alice mentioned, "what seems illogical to us is logical to them, and they can look outside the box." Participants did share that, although these girls could logically follow a process that made sense, it would often lead to arguments with others when their logic was challenged. In one focus group, Grace demonstrated this by adding,

> And, she's right in her way of being right. The teacher may be teaching it the way she's supposed to be teaching it to the students, but this child has it in her mind, and she is going to argue about it. (August 9, 2018)

Several participants described these girls as being perfectionists who are eager to please others. Some used the word meticulous when describing their female students with high functioning autism. Throughout the interviews, focus groups, and personal letters, there were 14 references to these girls having a strong desire to be perfect. Donna described a situation in which her student would repeatedly restart her work if she made a mistake. According to Frances, one of her students was meticulous with her handwriting and would often redo work if she didn't think her handwriting looked right. Grace went on to say, "They always wanted a 100 or a smiley face, and they would get very upset if they didn't get that" (Interview, June 22, 2018). Irene further shared that this need to be perfect often alienated these girls from their peers by saying, "They don't know that being right all the time isn't okay" (Focus Group, August 8, 2018).

As previously noted, these young ladies with ASD were often described as being quite rigid with their routines or structures. Participants also noted that they tend to strictly adhere to rules and expect others to do so as well, which often led to avoidance by their peers. Catherine best demonstrated this when she discussed how her student would become very upset, often to the point of a meltdown, when her classmates would be disruptive or not follow the teacher's directions. Other participants also noted that their students were prone to overreact to situations. For example, Ellen shared, "Or like the one time she got in trouble, she said, 'I'm going to have to wear black and white and go to jail.' I guess some people would term it overreaction to the circumstances" (Interview, June 20, 2018).

Many participants compared these girls to the males with autism they had encountered. Several shared that, although the girls were socially awkward, they did seem to have better social skills than the boys and were more likely to make genuine attempts to socialize with others.

These middle school girls with high functioning autism also seemed to be better with communication than their male counterparts. These girls also seem to be more organized. Three participants, Catherine, Donna, and Helen, also noted that the female students they taught were more confident and accepting of their disability and were more willing to share information about autism with others. Jennifer also noted that the girl she taught did not rely on visual prompts to the same extent as the boys. Several participants also noted that the girls did not have the same behavioral challenges as the boys and were more likely to express their concerns than to act aggressively.

How do middle school teachers in eastern North Carolina describe girls with high functioning autism? In summary, participants generally described the girls with high functioning autism favorably, seeing them as highly intelligent and affectionate young ladies who strive for perfection and are eager to please. Girls with high functioning autism also strictly adhere to rules and rigid routines and thrive with structure and consistency. These girls are goal-driven and focused, sometimes to the point of causing issues within the classroom. Girls with ASD see the world from a different perspective and tackle challenges in logical ways. Additionally, participants described girls with ASD as being socially awkward but better communicators and view their autism more favorably than boys with ASD. These girls do, however, tend to have exaggerated reactions to seemingly insignificant events and often seem robotic or emotionally distant and somewhat stubborn at times. Importantly, all participants were quick to point out that, although the participants had limited experience with females on the autism spectrum, they were aware that each one is a unique individual that could not be expected to fit into an all-encompassing description. As Irene noted in her personal letter, "She is more than her disability."

Sub-question two. The second sub-question that guided this study was, "How do middle school teachers in eastern North Carolina describe their greatest success and failures with working with girls with high functioning autism?" This question was primarily answered by the theme two, strategies, and theme four, teacher needs. While 50% of the participants shared that they had immediate family members with ASD, none of this personal experience was with a female with high functioning autism. Additionally, several participants had previously taught male students with autism but had very limited experience working with females with ASD. As a result, many participants felt as though they were learning through trial and error. Ellen shared that what had worked for many of the male students she had taught previously did not work with the female students.

For many participants their greatest successes came from their failures. As they tried things that did not succeed with these students, they learned what would work and what to avoid. Part of this was learning the specific triggers that would lead to frustrations for these young ladies. As previously noted, several participants referenced changes in routine as being particularly stressful for these girls. Through those experiences, they learned to prepare the girls well in advance if things would be different. During one focus group, Donna provided this example regarding substitute teachers:

> When I first started teaching, they always told me not to tell when you're going to have a substitute, because the kids will act out. But, with my autistic girl, I definitely let her know that it's not going to be me. You know, when you come in this is what's going to happen. It's still going to be the same routine. (August 8, 2018)

As math teachers, Beth and Catherine both shared that presenting material in different ways or using different materials caused problems for their students. For example, trying to have the

students work together in cooperative groups rather than individually would create problems for their female students with autism. From this experience the participants learned that they had to prepare these girls ahead of time if the lesson would be done differently than it had been done in the past and explain why it was being done differently.

Several participants shared that their greatest sense of failure came from attempting to meet the needs of their girls with autism while also juggling the other students in the class. According to the participants, these girls often required a lot of attention or asked a lot of questions. These students also tended to lack the patience to wait for the teacher to address their questions. Because of this, the teachers often felt like they could not always meet the needs of their other students who might not have been as demanding. For some, this was their reasoning for saying that co-teaching with a content-trained special education teacher would be a beneficial resource. Others believed that more training and professional development would help them learn how to better balance those needs. The greatest successes also come from effective strategies, and several strategies were suggested throughout the course of the interviews, focus groups, and personal letters. As previously noted, several participants agreed that building relationships with these students led to the greatest success. By taking the time to talk to these girls and get to know them and their interests, the participants were able to adapt assignments in meaningful ways in order to motivate these students. Positive relationships also created trust, which helped the students feel safe in their environment. As a result, the students seemed more confident and motivated to please the teacher.

Unanimously, the participants mentioned a desire for more training. In particular, they expressed the need for training that specifically addressed effective strategies. While they understand each child with autism is unique, several participants shared their own lack of

knowledge as one of their greatest weaknesses. When asked about the specific topics that trainings should cover, Ellen answered,

> Practical strategies. We sit in trainings, but we don't always walk away with things that are practical to implement. What can we train, especially general education teachers, what can we give them that is easy to implement, can seamlessly get used in your classroom. Practical things. (Focus Group, August 8, 2018)

Overall, participants agreed that training in implementing effective strategies would give them a better background in how to be more successful with these students.

In summary, the second sub-question for this study was, "How do middle school teachers in eastern North Carolina describe their greatest success and failures with working with girls with high functioning autism?" To answer this question, several participants admitted they often felt as though they failed at balancing the needs of the female students with autism and those of the rest of the class. A majority of participants also noted that their general lack of experience teaching girls with autism caused many of their failures. These failures, however, provided them with the key information they needed to learn from mistakes and improve outcomes. In describing her learning experience with a student, Irene noted, "A student with a disability can bring out the best in us as teachers" (Letter, August 8, 2018). Alice further demonstrated this point in her personal letter by writing, "If a behavior situation occurs, back up and look at what you did that probably led to the behavior. Chances are you did something." While using these experiences and learning from their mistakes often led to positive discoveries, participants greatly shared a desire to have this knowledge in advance of making their mistakes. They frequently stated the need for better training related to effective strategies that could be implemented in the classroom. Donna suggested professional development led by students

impacted by autism. As she put it, she would like to see "a panel of kids who could help teachers and administrators understand from the perspective of a kid experiencing it" (Focus Group, August 8, 2018).

As for their greatest successes, the majority of the participants felt as though taking the time to build positive relationships with these girls led to successful experiences. By learning more about these students as individuals, they built a trusting bond that allowed these young ladies to flourish. They were also to use this relationship as a means to identify the girls' interests and use that information to motivate these girls to do their best. Some participants also used this technique to gain an understanding of how events outside of the classroom might have impacted behaviors within the classroom. Consistent with previous research, positive relationships with their teachers improve the educational experience of girls with ASD (Sproston et al., 2017). The participants in this research suggest that both students and teachers experience greater success when teachers take the time to build relationships with these young ladies.

Sub-question three. The third sub-question addressed by this research asked, "How do middle school teachers in eastern North Carolina describe their own attitudes about working with girls with high functioning autism?" The five themes that emerged from this research provided an answer to this question, but it was most addressed by themes of expectations versus reality and concerns. When describing their female students with high functioning autism, participants often did so favorably, which suggested a positive attitude toward working with these girls. The majority of participants also noted that greater preparation and more in-depth training prior to the experience might have altered their initial attitudes. For many, a true lack of experience in teaching this specific population of students created considerable uncertainty that could have been alleviated through proper training and preparation. Other participants went into the

experience believing they knew exactly what to do and quickly learned differently. Through their own experiences, they developed strategies that worked well and learned which strategies did not work. Through favorable descriptions, effective strategies, and realizing the need for training, the participants described their attitudes and how these attitudes changed over time.

A key indicator of participants' attitudes toward teaching girls with high functioning autism was their explanations of what they expected these students to be like compared to the reality of those experiences. Alice summarized this point well in her letter by saying, "Your experiences before teaching had been with people who had severe autism and aggressive behaviors. You had allowed these things to affect your beliefs about teaching girls with autism. Your beliefs were untrue." She went on to explain that, through this experience, she learned that, in actuality, these girls were loving and kind. In time, her fears were alleviated and her overall attitude toward teaching girls with ASD improved. In her letter, Donna shared a very similar view of her experience. She wrote,

> Working with a girl with high functioning autism was a very eye-opening experience for me. As a lateral entry teacher, my exposure to students with a disability was nonexistent. I approached the student with caution. I was very nervous and anxious until I got to know the student. I realized she was just another student that I had to get to know. She taught me so much that year with respect to how she worked best.

Both of these examples show how uncertainty and expectations created initial negative attitudes due to fear that were changed by their experiences teaching girls with high functioning autism.

On the other hand, other participants went into the experience with the belief that these girls would be just like the males with autism they had encountered in the past. Catherine

shared, "Basically, I honestly expected they would perform much like the boys do" (Interview, June 8, 2018). She further noted that she was pleasantly surprised because,

> She exceeded my expectations in that she wanted to engage. She wanted to please, do
> well, and go above and beyond. Average was not good enough for her. That was
> something I was not used to because with some autistic boys, it was, "oh, yay, I passed"
> and they got a D, so that was the difference (Interview, June 8, 2018).

While her attitude prior to the experience was not necessarily negative, she admitted that the experience of teaching a girl with high functioning autism was better than she expected it to be.

Helen shared that, although she knew these students would have some different needs, she believed the girls she taught would be just like any other student, and she was unconcerned. She further admitted that her attitude prior to the experience was somewhat lackadaisical, which created considerable challenges for her when working with these girls. During her interview she shared,

> And, seemingly to me, they were a little more stubborn to catching on, because it was
> like "this is it and I don't care what you say, what you do, what you present, this is it."
> They were much more challenging than the boys in how I presented things, how I said it.
> Making a connection with them was much more difficult. (June 24, 2018)

Despite the seemingly negative experiences, Helen recognized that she made mistakes that hindered her own success with these girls. She noted that she failed to foster a relationship with these students, which prevented the connection other teachers identified as being important. Although she found working with these girls to be challenging, she learned from her own mistakes and provided considerable insight into what she should have done differently. As a result, her attitude about teaching girls with high functioning autism was still generally positive.

When asked about the challenges faced by girls with high functioning autism, several participants shared sincere concerns for the future. As previously noted, participants shared real concerns that these young ladies would struggle with adult relationships. Irene shared her concern by saying, "The social aspects of the expectations of a female in relationships, I think will be very difficult for her" (Interview, June 24, 2018). Frances, Jennifer, and Alice all shared fears that, due to their immaturity, innocence, and social deficits, these girls would easily become victims or others would take advantage of them. Many of these teachers also share concern for these girls as if attempt to go to college, find employment, or start families. A few participants even shared that they wanted more information about future prospects so they can share this with their students. They want to know success stories and career options as a way to encourage and motivate their female students to achieve greatness. This interest in future outcomes demonstrates positive attitudes regarding these girls and the struggles they might encounter as they enter adulthood.

Sub-question three asked, "How do middle school teachers in eastern North Carolina describe their own attitudes about working with girls with high functioning autism?" The majority of the participants in this study had positive attitudes toward teaching girls with autism. Many explained that their attitudes changed during the experience. Some participants shared that they were fearful or uncertain in the beginning but, over time, they began to learn from and develop relationships with their students, which significantly improved the participants' attitudes. Others noted that they initially expected the experience to be similar to those they had in the past with male students, but they quickly learned otherwise. For some participants this difference improved their attitudes, but for one it created a challenging experience. Overall, the participants in this study remembered their experiences fondly and shared valuable lessons they

learned as a result. Although the participants' attitudes changed considerably from their experiences, they predominantly described their attitudes as positive. All of the participants agreed that specific training would have alleviated their fears and improved their initial attitudes. The majority of the participants also shared genuine concern for these girls as they will attempt to begin to navigate the world as adults in the future.

Summary

Middle school teachers in eastern North Carolina describe their experiences teaching girls with high functioning autism in many ways. This transcendental phenomenological study examined these experiences from the perspectives of 10 middle school teachers from various public schools throughout one eastern North Carolina county. The participants were all female and ranged in ages from the mid-twenties to over 60 years old. Six participants were special education teachers and four were general education teachers. Eight of the 10 participants began as lateral entry teachers after having previous careers in other fields.

The study relied on triangulation of data through various data collection methods, including semi-structured interviewed, face-to-face focus groups, and personal letters. Each interview and focus group session was digitally recorded and transcribed. The data were analyzed using the modified Stevick-Colaizzi-Keen method of analysis. This process began with the bracketing to reduce researcher bias (Moustakas, 1994). The transcriptions along with the personal letters were then read multiple times and coded. Each code was examined and clustered into themes.

Chapter 4 presented the results of this study by answering the research questions with the five themes that emerged from this data analysis. Those themes were: descriptions and characteristics, effective strategies, expectations versus reality, teacher needs, and concerns. In

general, participants described their experiences teaching girls with high functioning autism

favorably; however, several admitted these experiences and their attitudes evolved over time

through their own mistakes and failures.

CHAPTER FIVE: CONCLUSION

Overview

The purpose of this transcendental phenomenological study is to describe the experiences of middle school teachers who work with girls with high functioning autism in eastern North Carolina. This chapter summarizes the findings of the research and provides a discussion of how this study relates to prior research and the theoretical framework. Following this discussion is an explanation of the implications related to the empirical, theoretical, and practical significance of this research. Finally, this chapter presents the delimitations and limitations of this study as well as recommendations for future research.

Summary of Findings

This study was conducted in order to provide information as to how a diverse group of people describes their individual experiences with a common phenomenon. Because individuals with autism and the teachers who work with them are extremely diverse groups with widely varying perspectives, a qualitative design, specifically the transcendental phenomenological methodology, was best suited to achieve this purpose (Brydges & Mkandawire, 2017; Couser, 2011; Creswell, 2013; Moustakas, 1994; O'Dell et al., 2016). This design was most appropriate because, "The aim is to determine what an experience means for the persons who have had the experience and are able to provide a comprehensive description of it" (Moustakas, 1994, p. 13). Participants were recruited from one public school system within eastern North Carolina. A total of 10 volunteers participated in the study. All participants were female with 60% teaching in special education and 40% teaching in general education settings. To establish triangulation of data and prolonged engagement, participants offered their views during three different data

collection platforms (Cresswell, 2013; Patton, 2002; Vagle, 2014). Data collection methods included semi-structured interviews, face-to-face focus groups, and personal letters.

Because this study used multiple perspectives and subjective perceptions, the ontological and epistemological assumptions guided the data analysis process. As is common with qualitative studies, some level of researcher bias was expected; therefore, the axiological assumption was also present (Creswell, 2013). Each interview and focus group session was digitally recorded and transcribed. To begin the data analysis process, I repeatedly reviewed those transcriptions and the personal artifacts and made notations. Codes were created based on notes from the interviews, focus groups, and letters. In order to answer the research questions that guided the study, those codes were analyzed and then clustered into themes. Five themes emerged from the data analysis. These five themes were: descriptions and characteristics, effective strategies, expectations versus reality, teacher needs, and concerns. An explanation and summary of the findings for each of the research questions follows.

The first sub-question addressed by this research asked participants to describe middle school girls with high functioning autism. While multiple themes answered this question, it was primarily answered by the theme of descriptions and characteristics. Although it was based on limited exposure to this particular population of students, participants shared several attributes, characteristics, and behaviors that combined to provide a general description of these girls. Predominantly, participants used positive descriptors such as intelligent, affectionate, and determined. Participants also provided some characteristics that could be challenging in the classroom. These included rigid, stubborn, and socially awkward.

The second sub-question used in this study asked participants to describe their successes and failures in working with this student population. This question was best answered with the

themes of effective strategies and teacher needs. All participants shared that they had extremely limited knowledge of how autism impacts females prior to having one in their classrooms. The majority of participants admitted that, if they had any training specific to autism, the training was very broad and offered little preparation for the experience of teaching a girl with high functioning autism. As a result, they learned through self-directed research and trial and error. The participants agreed that their successes often resulted from the knowledge they gained from their failures. Many of the strategies that were ultimately successful for these students, such as using visual schedules, maintaining consistent structure, and utilizing special interests, came about as a result of failed attempts at trying unsuccessful strategies. They all agreed that they and other teachers would benefit greatly from more in-depth training specific to the needs of students, especially females, with high functioning autism. An overwhelming majority of the participants shared that their greatest successes came about only after they took the time to build rapport and foster relationships with these young ladies.

The third sub-question that guided this study asked how participants describe their attitudes toward working with these girls. The themes most closely related to this question were expectations versus reality and concerns. Although the participant's experiences were varied, they all had positive attitudes toward teaching girls with high functioning autism. They did share that, for many, their attitudes changed over the course of their experience. Some admitted an initial feeling of uncertainty and trepidation, which developed into a positive attitude after learning more about these girls. Others disclosed that they initially believed these girls would be like boys they had taught in the past. They believed those previous encounters had prepared them for the experience and, as a result, approached the experience somewhat half-heartedly. As time progressed they quickly learned this was not the case and had to adjust their attitudes based

on new information. Participants also showed genuine concern for these students in how others

perceive them and their prospects for the future. Overall, even when experiences were

challenging, the participants shared generally positive attitudes toward working with these girls

and a willingness to do so again in the future. They did share, however, that more in-depth

training and better preparation would have improved their initial attitudes by building their

confidence from the beginning.

The findings from the three sub-questions were synthesized to address the central

question, which asks how middle school teachers describe the overall experience of working

with girls with high functioning autism. This shared experience was described using the themes

of descriptions and characteristics, effective strategies, expectations versus reality, teacher needs,

and concerns. Overall, participants described their experiences as being positive learning

opportunities. Through this experience, these teachers learned that girls with high functioning

autism are intelligent, affectionate, rigid, and socially awkward. Through trial and error, they

learned which strategies are effective and developed genuine concern for their welfare of these

girls. Furthermore, the participants in this study shared that certain resources, most notably

training or professional development, would change their expectations, improve their initial

attitudes, and enhance their overall experiences.

Discussion

The purpose of this transcendental phenomenological study was to describe the

experiences of middle school teachers who work with girls with high functioning autism in

eastern North Carolina. CDT provided the theoretical framework upon which this study was

grounded. By specifically addressing the experiences of middle school teachers who have taught

females with high functioning autism, this study filled a distinct gap in the current literature. The

findings of this research were quite consistent with previous research in many ways as described below.

Theoretical

The basic foundation of CDT centers on the social model of disabilities (Oliver, 1990, 2009). This model counters the previous notions that disabilities are deficits to be eradicated or cured (Garland-Thomson, 2012; Oliver, 2009; Siebers, 2011). Rather than being defective traits, the social model of disabilities and CDT define disabilities as limitations imparted upon these individuals by societal constraints (Anastasiou & Kauffman, 2013; Couser, 2011; Goodley, 2001; Oliver, 1990, 2009; Siebers, 2011). Through the additional lens of critical autism studies, this research was conducted to provide an understanding of the experiences of teachers and how those experiences can be enriched in order to shift current beliefs about autism and improve educational outcomes for girls with high functioning autism (Biklen, 2000; Biklen et al., 2005; Couser, 2011; Glynne-Owen, 2010; O'Dell et al., 2016).

Throughout the course of this study, participants shared many of their beliefs about autism and the girls affected by it. Additionally, they shared how those beliefs and their attitudes changed over a time as a result of their experiences. Though none of the participants spoke about autism in terms of neurodiversity, many referenced the ideas behind neurodiversity by sharing that these girls simply have different needs and abilities (Biklen, 2000; Biklen et al., 2005; Couser, 2011; Glynne-Owen, 2010; O'Dell, 2016). Throughout the study, several participants fondly stated that these girls were just like any other student. The general belief among the majority of participants was that girls with high functioning autism had many positive qualities and strengths that were advantageous to them in the classroom as well as life.

In keeping with the foundations of CDT and disabilities as societal limitations, participants also shared some concerns regarding hindrances to the success of these students. A major concern these participants shared was the lack of understanding from other students, teachers, and future employers. There was a general consensus among participants that narrow-minded attitudes from others contributed to many of the difficulties these girls faced on a regular basis. While the participants in this study shared predominantly positive experiences with these students, the participants witnessed other teachers placing limitations on these girls because of a lack of understanding of autism. These limitations often resulted in negative experiences for both the teacher and the student. Likewise, according to the participants, the limitations placed on these girls by their peers frequently resulted in social isolation or even victimization. Although the majority of the participants described girls with high functioning autism, or AS, as being intelligent and capable, they also noted that future employment is an area of concern. They recognize that these girls have the capabilities to perform some type of job; however, the lack of understanding on behalf of employers might interfere with their ability to do so.

Research guided by CDT focuses specifically on understanding the perspectives of individuals with disabilities (Biklen, 2000; Biklen et al., 2005; Garland-Thomson, 2012; Goodley et al., 2012; Mladenov, 2015; Oliver, 1990, 2009). While this study was not designed to directly investigate the perspectives of individuals with autism, it did allow me to examine the experiences of teachers who work with those students on a daily basis and who directly impact their educational outcomes. The findings of this study contribute to CDT and the lens of critical autism studies by adding a new dimension with a particular group, middle school teachers who have taught girls with high functioning autism, that had not previously been included in this type of research.

Empirical

Previous research into high functioning autism primarily focused on boys or included only a small proportion of female subjects (Cridland et al., 2014; Jarman & Rayner, 2015). Very little research has been done that specifically addresses females with high functioning autism, and no previous studies did so from the perspective of middle school teachers. This study allowed me to examine a set of individuals that was absent from previously available literature. Several topics from the related literature found in Chapter Two were confirmed with this research. While the participants in the present study did not address a few topics, that were addressed in previous research, such as comorbidity, none of the findings were contradictory or inconsistent with prior research study findings.

A dominant component of research involving girls with high functioning autism was the examination of gender differences (Begeer et al., 2013; Hiller et al., 2014, 2016; Jamison & Schuttler, 2017; Kreiser & White, 2014; Sharpley et al., 2016; Solomon et al., 2012). This concept of gender differences was widely mentioned by the participants in this study. While many of the participants had considerable experience and background knowledge with boys on the autism spectrum, they admitted having very little exposure to girls with ASD with the majority having taught only one or two girls with ASD. As a result, when asked to describe girls with high functioning autism or their expectations of these girls, most participants answered by comparing these girls to the boys they had previously taught. Consistent with prior research, one such comparison related the nature and intensity of restrictive interests. Previous studies found, and the participants in this study agreed, that the girls' interests were more socially acceptable and less distracting than those of the boys (Harrop et al. 2015; Hiller et al., 2016; Kok et al., 2016; Lehnhardt et al., 2016; Van Wijngaarden-Cremers et al., 2014). For example, according to

the participants, girls were more interested in science, art, or music, whereas the boys would be more likely to reenact video games. One interesting finding, however, was that, although their interests were more socially acceptable, the girls had tended to be interested in things that were immature for their chronological ages, such as Polly Pockets or Elmo. Participants also confirmed the results of prior studies by saying that these girls exhibited far fewer aggressive behaviors (Hiller et al., 2016; Lehnhardt et al., 2016; Mandy et al., 2012; Mandy & Tchanturia, 2015; May et al., 2014; Sarris, 2015) and were much better at communicating their needs (Rynkiewicz et al., 2016). Additionally, the participants shared that the girls they taught were more conscientious about their work and much more affectionate than the boys.

Another key idea found throughout both previous research and the present study was the general idea of a lack of understanding from others. This concept was found during all data collection methods of the present study; it was a major component of the theme dealing with concerns as well as teacher needs. Results of prior studies that interviewed women or adolescent females with high functioning autism or their parents similarly indicated that one of the greatest hindrances to their success in school or the workforce was a lack of understanding from peers, teachers, or employers (Baldwin & Costley, 2016; Bargiela et al., 2016; Jarman & Rayner, 2015; Scheil et al., 2017; Sciutto et al., 2012; Tonnsen & Hahn, 2016).

Participants in this study shared another concern that agreed with the findings of several previous studies. Throughout the interviews and the focus groups, participants shared their concerns about young ladies they taught who exhibited traits associated with high functioning autism but were not diagnosed. As a result, these girls were not receiving interventions or accommodations that would help them be successful. This concern was consistent with research that stated girls were more likely to be undiagnosed, misdiagnosed, or diagnosed much later than

males (Baldwin & Costley, 2016; Bargiela et al., 2016). Additionally, the participants identified other concerns that coincided with findings of previous research. In particular, they shared concerns about these girls being susceptible to bullying (Baldwin & Costley, 2016; Pesonen et al., 2015) as well as abusive relationships or sexual harassment (Bargiela et al., 2016). Other common challenges were navigating the physical changes associated with puberty (Ballan & Freyer, 2017; Jamison & Schuttler, 2015; Navot et al., 2017; Nichols et al., 2009) and addressing personal hygiene (Cridland et al., 2014; Jamison & Schuttler, 2015; Moyse & Porter, 2015; Navot et al., 2017; Nichols et al., 2009).

Two key findings from both the present research and previous studies were the needs for better teacher training and positive relationships with these students. Previous studies found that individuals with ASD, parents, and teachers all believed that teachers were not well trained for working with this population of students (Chung et al., 2015; Cridland et al., 2014; Majoko, 2016). The participants of this study, who all stated that they had little to no training in autism, in general, and none in how it impacts girls, confirmed this finding. Those who had some training also shared that they felt that training was insufficient to prepare them for teaching girls with ASD in the classroom. Additionally, all participants stated a desire for more professional development on the topic. The participants in this study overwhelmingly agreed that the most effective strategy for working with these girls was taking the time to build positive relationships and foster trust. This finding is consistent with several previous studies that indicated that the relationships these girls have with their teachers is one of the most significant influencers to their success in the classroom (Baldwin & Costley, 2016; Bargiela et al., 2016; Sproston et al., 2017).

Empirically, this study was consistent with much of the previous research regarding girls with high functioning autism. The participants addressed and confirmed many of the findings of

prior research. This study added to the available literature by addressing areas that were under-represented. Few studies addressed the needs of middle school girls with high functioning autism, and none did so from the perspective of the teachers who work with these girls in the classroom. This study starts to fill that gap.

Implications

Through this study I examined the perceptions of middle school teachers have about their experiences working with girls who have high functioning autism. Ten participants shared their experiences through a variety of interactions including interviews, focus groups, and letters. I then analyzed the information from these interactions in order to uncover the themes that provided the descriptions of these experiences. I discovered that the findings of this research were consistent with previous studies and add to the available literature by including a group of participants that were previously unrepresented in research. These findings included theoretical, empirical, and practical implications.

Theoretical Implications

CDT focuses on changing perceptions and attitudes about disabilities in order to promote positive outcomes for individuals impacted by these disabilities. Proponents of CDT argue that disabilities are the result of constraints placed on people with impairments, and these limitations are the result of society's attitudes rather than innate characteristics of the impairment (Glynne-Owen, 2010; Mladenov, 2015; Pothier & Devlin, 2006; Siebers, 2011). Although CDT has been an emerging field since 1976 (Oliver, 2009), it was not widely used for autism research until much later (O'Dell et al., 2016). Critical autism studies provided the lens through which autism was studied using the CDT framework and the onset of the idea of neurodiversity (Couser, 2011; O'Dell et al., 2016). A key construct of neurodiversity argues that individuals with autism are

not defective but different (Biklen, 2000; Biklen et al., 2005; Couser, 2011; Glynne-Owen, 2010; O'Dell et al., 2016). By using CDT as the guiding framework, this study was designed to help me understand how teachers view girls with ASD and how their experiences could assist other teachers and affect positive change for girls with high functioning autism.

Previous research that used CDT to study autism relied on participants who were directly impacted by ASD. For a study about females with high functioning autism, this meant only including females who had been diagnosed with ASD (Biklen, 2000; Biklen et al., 2005; Garland-Thomson, 2012; Goodley et al., 2012; Mladenov, 2015; Oliver, 1990, 2009). While understanding the perspectives of these individuals is necessary, this study was designed to allow me to describe how understanding the perspectives of those who work with these girls could provide insight into how to shift the beliefs of teachers toward neurodiversity. It also added an additional element to the CDT framework as most studies involving teacher perspectives do so using the teacher efficacy framework (Chung et al., 2015; Donohue & Bornman, 2015; Majoko, 2016; Roberts & Simpson, 2016).

The findings of this study indicated that middle school teachers in eastern North Carolina felt largely unprepared for the experience of teaching girls with high functioning autism. For many participants, this lack of preparation created feelings of uncertainty that led to somewhat negative attitudes. Based on movies, prior experiences, or a general lack of knowledge, many participants admitted to believing these girls would exhibit disruptive behaviors or be incapable of achieving success in the classroom. As participants learned from their own mistakes, their attitudes toward these girls changed. Rather than simply seeing the deficits associated with autism, they began to see the strengths and abilities these girls brought to the classroom. This positive shift in attitudes added to CDT by providing the perspectives of teachers, a group of

people that were largely omitted from studies that used the CDT framework. The findings of this study indicated that teachers recognized how their own beliefs affected these girls and their success. Additionally, over time, teachers were able to understand that, despite their struggles, these students had interests, strengths, and abilities that should be encouraged and utilized for their own benefit.

This study added to the CDT framework in three ways. First, it focused on autism, which is a topic covered by few studies that use this theoretical framework (Glynne-Owen, 2010; O'Dell et al., 2016). Second, this study specifically addressed the topic of girls with high functioning autism, a group that is rarely addressed through the CDT framework. Finally, because most studies that utilized the CDT framework examined the perspectives of individuals with disabilities; this study added a new dimension by including teachers who share the experience of teaching girls with ASD (Biklen, 2000; Biklen et al., 2005; Garland-Thomson, 2012; Goodley et al., 2012; Mladenov, 2015; Oliver, 1990, 2009).

Empirical Implications

Previous studies indicated that girls with autism are significantly underrepresented in research, making up only 15% of research subjects across studies (Cridland et al., 2014; Dean et al., 2014; Jamison & Schuttler, 2017). This lack of available research indicated a distinct gap and need for more studies focused on girls impacted by ASD. Additionally, as the majority of studies focused on either very young girls or adults (Baldwin & Costley, 2016; Harrop et al., 2017), this study provided an additional dimension by adding the element of middle school girls.

Although the perspectives of teachers were often included in studies about autism, I could find no research that specifically addressed the perspectives of middle school teachers working with girls with high functioning autism. This absence within the literature was surprising as it

has been noted that teachers, particularly during the middle school years, played a vital role in the success of their students (Sproston et al., 2017), and their understanding of ASD was crucial for the wellbeing of girls with high functioning autism (Baldwin & Costley, 2016; Bargiela et al., 2016; Jarman & Rayner, 2015; Sciutto et al., 2012; Sproston et al., 2017).

Empirically, this study filled a gap in the presently-available literature by providing a look into the experiences of a group of people who had been absent from research. It also examined how those experiences changed participant perceptions over time. Interestingly, the findings of this study corroborated much of the previous research in several ways, indicating that the participants in this study share many of the same experiences, perceptions, and concerns as those in prior studies. This empirical information has several practical implications.

Practical Implications

In this study, I examined the experiences of teachers in order to better understand how those experiences impact girls with high functioning autism. By analyzing the information and developing themes, I uncovered several practical implications that could be used for the purpose of improving the experiences of both teachers and girls with ASD. These implications impact several stakeholders in the educational process, including teachers, administrators, and parents.

Teachers. The participants in this study consistently verified many of the findings in previous studies. As previously mentioned, research indicated that students' relationships with their teachers had the greatest impact on their success in the classroom. Additionally, those teachers with a better understanding of autism and, in particular, how autism impacts females tended to create atmospheres in which these girls felt successful (Baldwin & Costley, 2016; Bargiela et al., 2016; Jarman & Rayner, 2015; Sciutto et al., 2012; Sproston et al., 2017). Overwhelmingly, the participants in this research agreed that their greatest successes with these

students resulted from building positive relationships. Building relationships with these students was one of the major pieces of advice teachers offered in interviews, focus groups, and personal letters. By getting to know the students, their strengths, and their interests, these teachers were better able to meet their needs in the classroom environment. Practically, this knowledge could help teachers understand the importance of personally connecting with these girls in order to build positive relationships. As prior research indicated, this sort of relationship would benefit the student by providing motivation and support to guide success (Webster & Garvis, 2017). The teachers would also benefit from building these relationships, because, as the participants in this study indicated, those relationships created trust, which often enabled them to reach these students more effectively than some other teachers.

Both previous research and this study found that many teachers do not understand autism and, in particular, girls with high functioning autism (Baldwin & Costley, 2016; Bargiela et al., 2016; Jarman & Rayner, 2015; Sciutto et al., 2012; Sproston et al., 2017). The participants in this study shared several examples of how this lack of understanding often caused problems for themselves and their colleagues. Also consistent with prior findings, participants in this study shared that they did not initially feel prepared to work with this particular group of students (Chung et al., 2015; Majoko, 2016). They all shared the need for better training, which would have improved their understanding of what these girls need to be successful and how they as teachers could enhance that experience.

The findings of this study identified distinct practical implications for teachers.   This study, along with previous research, indicated that in order to successfully teach girls with high functioning autism, teachers should invest in building personal relationships with these students. Additionally, the findings of this study showed the need for better understanding girls with high

functioning autism, the behaviors they may exhibit, and the things they need to navigate both the classroom and the world. As suggested by the participants in this study, teachers would be at a great advantage if they sought out training and professional development opportunities that allow them to better understand the needs of girls with high functioning autism or AS.

     Administrators. According to previous data, many middle school students with high functioning autism spend a large part of the school day in the general education classroom (NCES, 2016; Scheil etal., 2017). With increasing prevalence rates of ASD, the numbers of students with ASD educated in public schools will also increase (Wehman et al., 2012). As a result, administrators will need to carefully consider several factors when making placement decisions for these students. The participants in this study, although not administrators, provided a glimpse into the need for careful consideration when making these decisions. Several participants mentioned that some teachers were often unwilling to change to meet the needs of these girls and that lack of flexibility frequently resulted in challenges. When making placement decisions, administrators might consider the nature of individual teachers and their willingness to adapt for their students. Additionally, as one participant pointed out, although inclusive settings might be ideal, even students who are high functioning can struggle to learn in the general education setting (Laiet al., 2015; Majoko, 2016; (McGillicuddy & O'Donnell, 2014; Moyse & Porter, 2015; Smith & Anderson, 2014). This indicates that administrators should carefully examine all possibilities and look at teachers who can best meet the needs of girls with high functioning autism.

     According to the participants of this study, many of them are interested in learning about autism in general, particularly how it might present differently in females. Even participants who were trained in special education noted that their training insufficiently prepared them for

working with students with autism. As school or district administrators determine the professional development needs of their staff members, they could choose include in-depth training on the topic of autism. Additionally, because the support of the administration was noted as valuable resource, administrators could use this information to create their own professional development plans.

Parents or caregivers. As administrators make placement decisions for their students, parents or caregivers are often asked to provide input into those decisions. During the middle school years, parents typically act as advocates for their daughters in this area. The information provided in this study could offer parents practical knowledge when advocating for proper placement for their daughters. The participants in this study frequently shared the importance of recognizing the abilities of these students and understanding their behaviors or reactions. Parents could provide this information to administrators as they consider placement options. A few participants also shared the importance of communication with family members, often sharing that the little training they did have sometimes came from information provided by the parents, indicating a need for parents to both advocate for their child and establish and maintain communication with the teacher.

Delimitations and Limitations

In order to be considered for this study, potential participants had to be middle school teachers in one eastern North Carolina county and have experience teaching at least one female who had been diagnosed with high functioning autism or AS. Because participants were required to be teachers, they had to be over 18 years old with at least a four-year college degree. I received permission to conduct research from one county within the region; therefore, participants were required to work in the county from which permission had been obtained. This

study explicitly asked about participants' experiences working with girls with high functioning autism. In order to provide relevant information, anyone who did not have experience with these specific students was not considered.

Throughout participant selection, only two potential participants were excluded. One person volunteered to participate; however, upon further questioning, he disclosed that, although there was speculation that she had autism, the student he had taught was not formally diagnosed with ASD. As a result, I determined that he was ineligible to participate. The second potential participant, although she lived in the permissible county, was employed in a neighboring county; therefore she did not meet the criteria to be included in the research. A third potential participant, although she met all of the criteria, volunteered to participate but removed herself from consideration because her experience was negative, and she did not want to discuss it.

As a qualitative study, this research has limitations (Creswell, 2013; Moustakas, 1994; Patton, 2002). I chose to use a qualitative methodology, specifically a transcendental phenomenological design, for this study. By design, qualitative studies often use smaller sample sizes than quantitative studies (Patton, 2002); therefore, a smaller sample was appropriate and data saturation was achieved after 10 interviews. Additionally, the participants in this study did lack some aspects of diversity. Because this study focused on one county, all participants were employees of the same school system suggesting the possibility of similar experiences. Though their ages and years of experience were varied, all of the participants in this study were female. Despite attempting to secure participants with varying attitudes toward teaching students with autism, everyone who volunteered was positive about their experiences.

Because this was a qualitative study, I served as the human instrument for data collection as well as data analysis. This direct involvement in all aspects of the study could lead to

researcher bias. Although I do not work in the public school system or with any of the participants, I do work directly in the field of autism education and have a strong interest in the education of girls with high functioning autism. To reduce researcher bias, I did make every attempt to remain impartial by simply asking the question from the interview and focus group protocols without becoming involved in discussions.

Recommendations for Future Research

Considering the delimitations and limitations of this study, there are several recommendations for future research. One of the major limitations of this study was the focus on teachers within one school system in eastern North Carolina. Additional research that expands the participant pool to include teachers from other counties could add to the findings. This also could be further adapted to include teachers from other states.

Other than the one who withdrew from consideration, teachers with negative experiences and attitudes did not volunteer for this study. Future research should be done to understand the perspectives of those teachers who had unpleasant experiences or negative attitudes. Research involving this particular group could add specific findings that would facilitate understanding of how to improve those attitudes.

Finally, this study used a qualitative design. As girls with high functioning autism and the teachers who work with them are largely underrepresented in research, a quantitative study would add greatly to this body of literature. In particular, a quantitative survey study that allows participants to identify the factors that contribute to successful experiences would contribute to field. Additionally, a causal-comparative study that compares teachers with positive experiences to those with negative experiences could help determine the variable or variables that contribute to positive experiences.

Summary

The purpose of this transcendental phenomenological study was to describe the experiences of middle school teachers who work with girls with high functioning autism in eastern North Carolina. Participants for this study were recruited from one county public school system within the eastern region of the state. This particular group was chosen for this study because they have been largely omitted from much of the previously available literature. It is important to understand the perspectives of these teachers because their attitudes toward autism can directly impact student success (Attwood & Grandin, 2016; Valle & Connor, 2011).

Through the analysis of the data, five key themes were identified that answered the research questions. These themes were: descriptions and characteristics, effective strategies, expectations versus reality, teacher needs, and concerns. Though the participants discussed a variety of experiences, their overall attitudes toward their experiences and girls with autism were generally positive. Several did admit, however, that their attitudes changed considerably after they went through the experience. This was best demonstrated by the participants themselves who frequently shared what they learned, such as Donna who said in her letter, "She taught me so much. She taught me that every child is special and how patience and understanding go a long way."

One of the key findings of this study was that the participants wanted better training in how to teach girls with high functioning autism. Most felt unprepared and admitted they had little training focused on autism. They had a genuine desire to learn more in order to help these girls succeed. A second major finding was the importance of positive relationships between these teachers and students. Participants overwhelmingly shared that they felt most successful when they formed relationships with these girls.

The findings of this study offered several implications. It added to the available literature regarding the CDT framework by providing the perspectives of a group that had not been included in previous CDT studies. Empirically, few studies focused on middle school girls with high functioning autism and none looked at the experiences of their teachers. There were also several practical applications. In particular, the findings offered information that could help teachers improve their own practices, administrators make placement decisions, and parents or caregivers advocate for their daughters.

There were a few delimitations that excluded some potential participants. Additionally, the sample size, subjectivity, and lack of diversity were limitations in the design and execution of this study. These delimitations and limitations, however, provide opportunities for future research.

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APPENDIX A: Screening Tool

Teacher Attitudes Toward Inclusion Scale (TATIS)
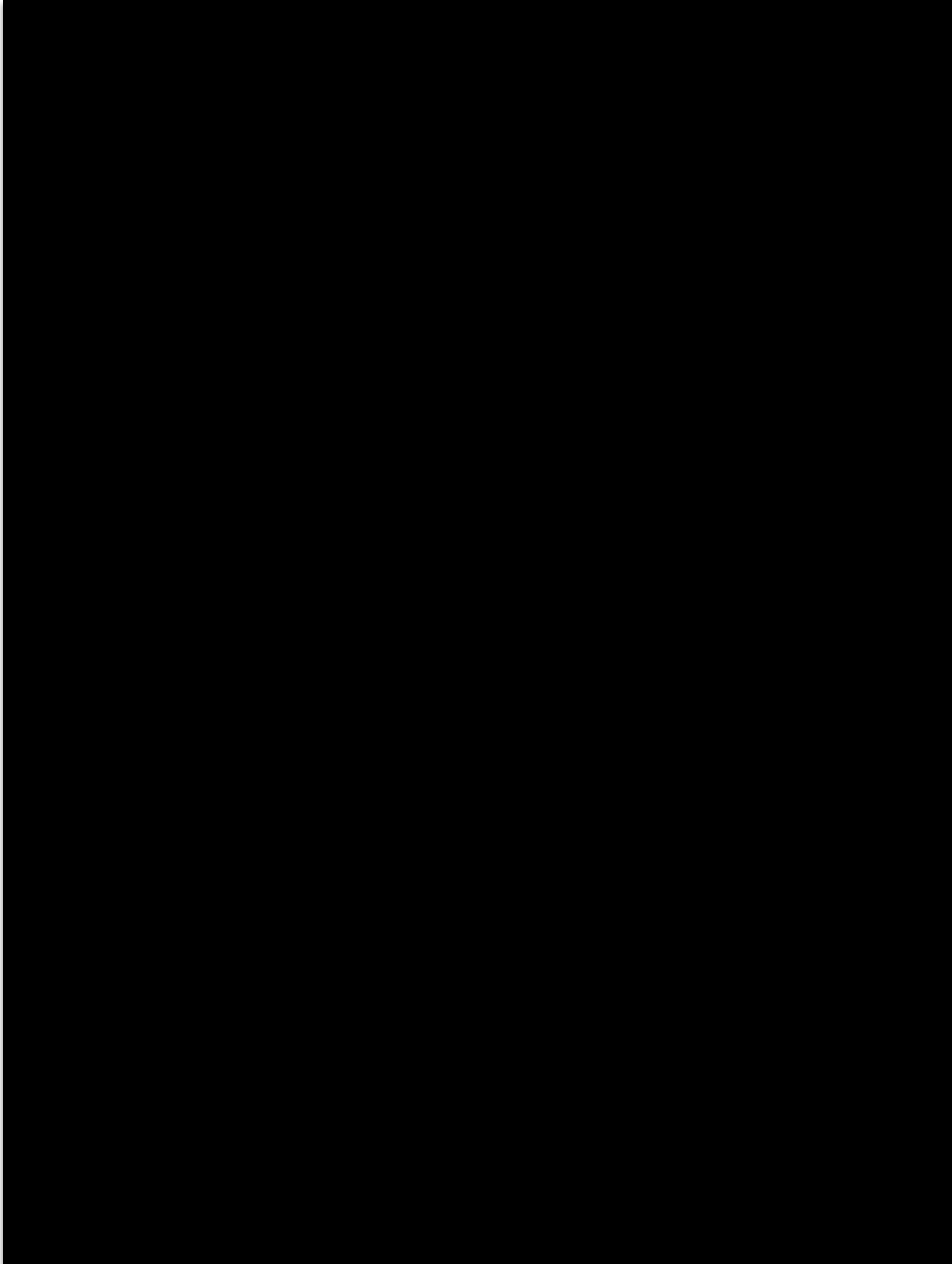
Teacher Attitude Toward Inclusion Scale (TATIS)

140
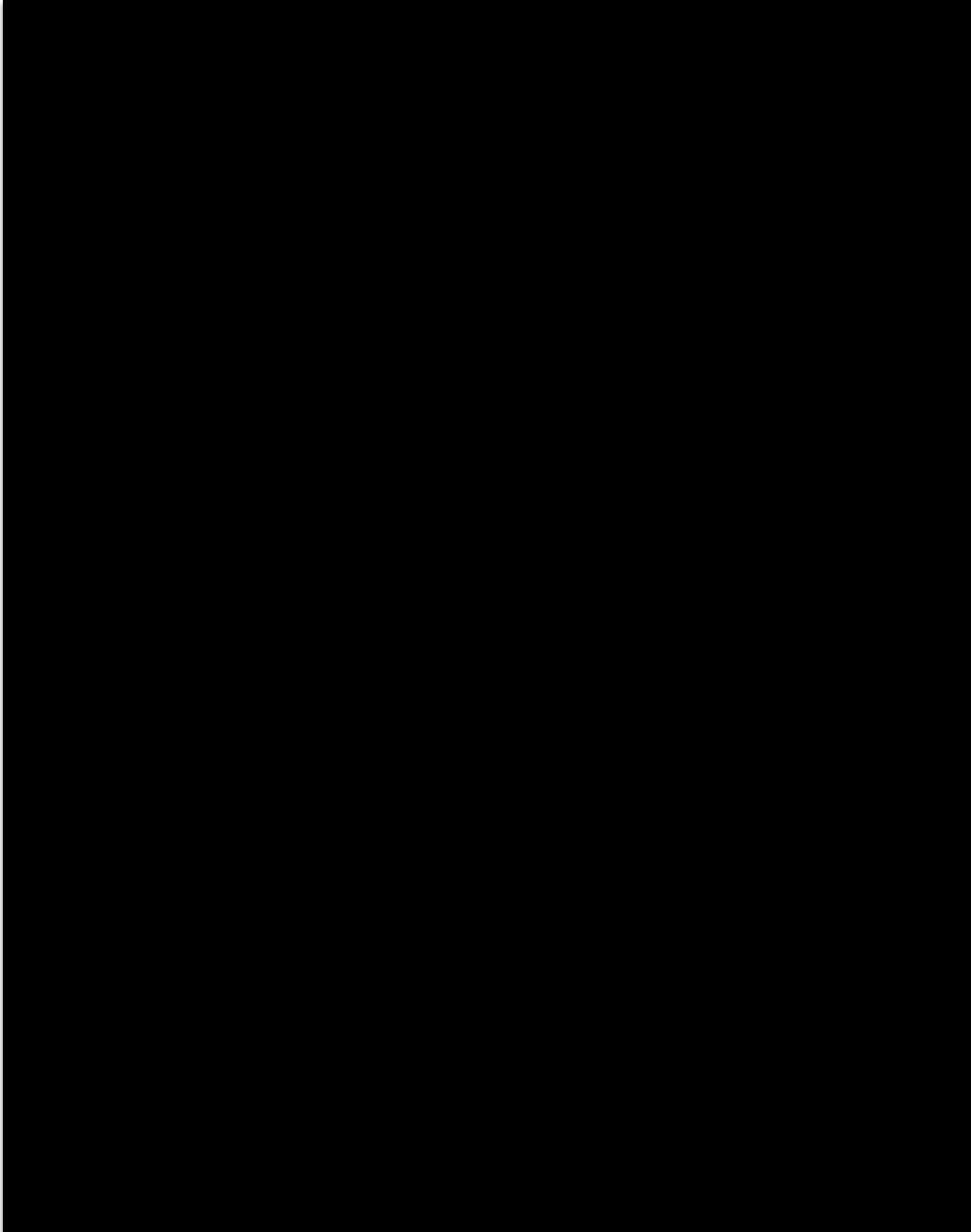
APPENDIX B: IRB Approval

LIBERTY UNIVERSITY.
INSTITUTIONAL REVIEW BOARD

March 16, 2018

Kelly Alves
IRB Approval 3152.031618: A Phenomenological Study of the Experiences of Middle School
Teachers Working with Girls with High Functioning Autism

Dear Kelly Alves,

We are pleased to inform you that your study has been approved by the Liberty University IRB.
This approval is extended to you for one year from the date provided above with your protocol
number. If data collection proceeds past one year, or if you make changes in the methodology as
it pertains to human subjects, you must submit an appropriate update form to the IRB. The forms
for these cases were attached to your approval email.

Thank you for your cooperation with the IRB, and we wish you well with your research project.

Sincerely,
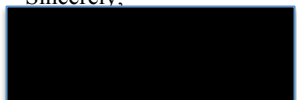
Administrative Chair of Institutional Research
The Graduate School

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APPENDIX C: Recruitment Letter

[Insert Date]

[Recipient]
[Title]
[Company]
[Address 1]
[Address 2]
[Address 3]

Dear [Recipient]:

As a graduate student in the School of Education at Liberty University, I am conducting research as part of the requirements for a doctoral degree. The purpose of my research is to understand how middle school teachers describe their experiences teaching girls with high functioning autism, and I am writing to invite you to participate in my study.

If you are 18 years of age or older, a teacher in a public middle school in eastern North Carolina, have experience teaching at least one girl with high functioning autism, and are willing to participate, you will be asked to complete a brief survey, participate in one face-to-face interview, review the transcript of your interview, take part in one focus group session, and write one letter. It should take approximately two and a half to four hours for you to complete the procedures listed. Your name and/or other identifying information will be requested as part of your participation, but the information will remain confidential and pseudonyms will be used in all reporting.

To participate, please complete the attached survey and return it to the researcher at ███████████████. After receiving your survey, I will contact you to schedule the interview.

The screening survey and a consent document are attached. The consent document contains more information about my research. Please complete the survey and sign the consent form. You may return the survey by email. The consent form can be emailed or returned at the time of your interview.

If you choose to participate, you will receive a $25 gift card.

Sincerely,

Kelly Alves
Doctoral Candidate

APPENDIX D: Consent Form

CONSENT FORM

A Phenomenological Study of the Experiences of Middle School Teachers Working with Girls
with High Functioning Autism
Kelly P. Alves
Liberty University
School of Education

You are invited to be in a research study about the experiences of middle school teachers
working with girls with high functioning autism. You were selected as a possible participant
because you are 18 years of age or older, you are a middle school teacher in an eastern North
Carolina public school, and you have experience working with at least one female student with
high functioning autism. A maximum of 15 teachers will participate in this research. Please
read this form and ask any questions you may have before agreeing to be in the study.

Kelly P. Alves, a doctoral candidate in the School of Education at Liberty University, is
conducting this study.

Background Information: The purpose of this study is to describe the experiences of middle
school teachers who work with girls with high functioning autism in eastern North Carolina.

Procedures: If you agree to be in this study, I would ask you to do the following things:
1. Complete the modified Teacher Attitudes Toward Inclusion Scale screening survey. The
   survey will take approximately 15 minutes to complete.
2. Participate in one face-to-face interview. Interviews will last between 60 and 90 minutes
   and will be digitally audio-recorded.
3. Review the recording transcription of your interview. Reviewing the transcription will
   take approximately 15 minutes.
4. Take part in one focus group meeting with a small group of other participants. Focus
   groups will last between 60 and 90 minutes and will be digitally audio-recorded.
5. Write one letter to yourself describing what you wish you had known about this
   population of students before working with them. These letters will take approximately
   15 minutes to complete.

Risks: The risks involved in this study are minimal, which means they are equal to the risks you
would encounter in everyday life.

Benefits: Participants should not expect to receive a direct benefit from taking part in this study.
Benefits to society include gaining a better understanding of the experiences teachers have
working with females with high functioning autism in order to promote student and teacher
success.

Compensation: As a token of appreciation for participating, each participant will receive a $25
gift card at the end of the study.

Confidentiality: The records of this study will be kept private. In any sort of report I might publish, I will not include any information that will make it possible to identify a subject. Research records will be stored securely, and only the researcher will have access to the records. I may share the data I collect from you for use in future research studies or with other researchers; if I share the data that I collect about you, I will remove any information that could identify you, if applicable, before I share the data.

- Each participant will be assigned a pseudonym and all interviews will take place in a location of the participants' choosing.
- All electronic data will be stored on an encrypted on a password protected computer and back-up drive. All other information will be stored in a locking file cabinet. After three years, all electronic records will be deleted and paper-based documents will be shredded.
- Interviews will be recorded and transcribed. Recordings will be stored on a password locked computer for three years and then erased. Only the researcher and a professional transcriber will have access to these recordings, and the professional transcriber will not be able to link recordings to any identities.
- I cannot assure participants that other members of the focus group will not share what was discussed with persons outside of the group.

Voluntary Nature of the Study: Participation in this study is voluntary. Your decision whether or not to participate will not affect your current or future relations with Liberty University or any school system. If you decide to participate, you are free to not answer any question or withdraw at any time without affecting those relationships.

How to Withdraw from the Study: If you choose to withdraw from the study, please contact the researcher at the email address/phone number included in the next paragraph. Should you choose to withdraw, data collected from you, apart from focus group data, will be destroyed immediately and will not be included in this study. Focus group data will not be destroyed, but your contributions to the focus group will not be included in the study if you choose to withdraw.

Contacts and Questions: The researcher conducting this study is Kelly P. Alves. You may ask any questions you have now. If you have questions later, **you are encouraged** to contact her at ████████████████████████████. You may also contact the researcher's faculty advisor, Dr. Bunnie Claxton, at ████████████████.

If you have any questions or concerns regarding this study and would like to talk to someone other than the researcher, **you are encouraged** to contact the Institutional Review Board, 1971 University Blvd., Green Hall Ste. 1887, Lynchburg, VA 24515 or email at irb@liberty.edu.

Please notify the researcher if you would like a copy of this information for your records.

Statement of Consent: I have read and understood the above information. I have asked questions and have received answers. I consent to participate in the study.

(NOTE: DO NOT AGREE TO PARTICIPATE UNLESS IRB APPROVAL INFORMATION WITH CURRENT DATES HAS BEEN ADDED TO THIS DOCUMENT.)

☐ The researcher has my permission to audio-record me as part of my participation in this study.

_____

Signature of Participant   Date

_____

Signature of Investigator   Date

APPENDIX E: Interview Protocol

Standardized Open-Ended Interview Questions

1. Please tell me a little about yourself and why you became a teacher.

2. Tell me about your teaching experience in general.

3. What experience have you had working with girls with high functioning autism spectrum disorder?

4. What training have you had in teaching students with autism?

5. Can you tell me about your expectations of girls with ASD prior to having one in your class?

6. How has the actual experience compared with those expectations?

7. How would you describe a girl with high functioning ASD?

8. Imagine a situation in which a girl with high functioning ASD has become frustrated or overwhelmed. Can you describe the situation to me, including the factors that led to the situation, the observed reactions and behaviors, and the outcomes or results?

9. What have been your greatest challenges in working with girls with ASD?

10. What are some of the challenges you see these girls facing?

11. What are some of the strategies you have tried that have worked particularly well with these girls?

12. Describe a situation in which you have seen a female student with high functioning autism being successful.

13. What do you see as being strengths for girls with ASD?

14. What services or resources would make working with these students easier for you?

15. What would you like to know more about regarding girls with ASD?

16. What information would you share with a teacher who is about to teach a girl with ASD

for the first time?

APPENDIX F: Focus Group Protocol

Preliminary Open-Ended Focus Group Questions

1. How would you describe your daily interactions with your female student or students with high functioning ASD?

2. How do girls with high functioning ASD integrate into your classrooms?

3. What are your general beliefs about girls with ASD?

4. What are some of the challenges you have personally experienced when working with these particular students?

5. What have been some of your greatest successes when working with these same students?

APPENDIX G: Permission Letter

December 4, 2017

To: Kelly P. Alves

Re: Tentative Approval to Conduct Research in ████████
       Schools

Your request to conduct research in the ████████████████ has
been TENTATIVELY approved. The study adheres to ██████ guidelines
and requirements related to conducting research in our district schools.
Final approval will be confirmed upon the receipt of IRB certification.

Sincerely,

Assistant Superintendent for Accountability / IT / Student Services

Cc: ██████████████

Re: Permission for Research

Fri 3/16/2018 3:23 PM

Inbox

To:Alves, Kelly · ████████████

Thanks for following up. With the IRB approval on file, I can now formally approve you to move forward with conducting research in ████████████. Please let me know if I can be of further assistance.

APPENDIX H: Epoche

Bracketing – My responses to interview questions

1. I have been an educator for 20 years. I became a teacher because, in my heart, I was always meant to be a teacher. Even as a child, I would set up a play classroom and teach my little sister. As a college student, I initially majored in chemistry, but soon realized my calling was to teach. I had originally planned to be a middle school science teacher.

2. I began my teaching career in a preschool. This was not my ideal setting. They were great, but I wasn't fond of that age group. Next, I worked as a substitute teacher. When subbing, I worked quite a bit in a special education class, which I loved. Even though my training and licensure were in elementary and middle grades, I realized that special education seemed to be the area where my heart was drawn. As a result, I took a position as a special education teacher working with adolescent offenders in alternative settings. I did that for several years before going into private sector supplemental education where I worked with students with various learning difficulties. Now I work as the director of a private school for children with high functioning autism or Asperger's syndrome. Throughout my career, I have worked with students with many various forms of special needs including Down's syndrome, Autism, behavior disorders, learning disabilities, sensory processing issues, attention deficit disorders, and emotional disorders among many others.

3. Like most people, the majority of my experience regarding autism has been with male students. I have worked with students of all ages and on all phases of the autism spectrum. Until I began working in my current setting, I had no experience with females with high functioning autism. Since beginning this job in 2014, I have worked with a total of six young ladies who are diagnosed with HFA or Asperger's syndrome ranging from 8 to 17 years old.

4. During my undergraduate education, I had minimal training specifically addressing the needs of students with ASD. In fact, at that time, my understanding of autism came exclusively from the movie *Rainman*. Later, I took some graduate courses in special education. Even then, however, there was very little training in the area of autism. As I became more and more interested in this particular field, I researched a lot on my own. I read books and articles and dove into websites. I did a lot of webinars and things on my own to get as much information as possible, especially as I began working in this field. When I decided to come back to graduate school to complete my master's program, I had two classes devoted to autism spectrum disorders.

5. Before actually working with girls on the spectrum, I knew that it primarily impacted boys. I did know that girls could be diagnosed with it, but it happened rarely. I guess my expectation was that a girl with ASD would be no different that a boy with ASD. They would have the same behaviors, characteristics, and abilities.

6. I have seen that these girls can be very different from boys. Rarely have I seen a girl exhibit typical "meltdown" behaviors. Instead, they are more likely to "sulk" or go off by themselves. They are also much more talkative than most of the boys.

7. Well, of the six I have worked with, all six are different. But some of the typical characteristics I've seen are, like I mentioned before, they are much more talkative. In fact, they are very verbal, although their conversations can be one-sided. They are also more likely to behave in a manner that looks like pouting or sulking rather than lashing out and getting angry. Most of them do not seem to be as concerned with their outward appearance or clothing as other girls the same age, although that isn't true for a couple of the ones I have worked with. They do seem to be quite artistic and creative. Additionally, they seem to be very good in one academic area. For example two of them are very good writers while two others are very scientifically inclined. The other two are great with math.

8. In my setting this happens quite often. With 6 girls, one is bound to get frustrated at some point. One instance that particularly sticks out in my mind happened when the young lady got upset because she felt that she was being ignored. She had been trying to tell a story and was interrupted several times by other things happening in the class. Other students were trying to ask questions or talking out of turn, and she didn't feel as though she was able to get her story out. This was particularly stressful for her, because she is one who must finish one task before she can move on to another. In this case, she had to finish telling her story before she start doing any work. She got very upset and had to leave the classroom. That is when she came to me. After she had a chance to calm down, I asked her why she was upset, and she explained the situation to me. Although it took about 45 minutes, I allowed her to get everything off her mind with as few interruptions as possible. Once she was able to do that, she felt much better and was able to go back to class.

9. The greatest challenge for me has to be maintaining patience and understanding when they begin to get upset. This is mostly because the things they get upset about are seemingly so insignificant, such as someone else blowing their nose or tapping their desk. Others might become disproportionately upset when they type a word wrong on the computer or their pencils break. It is very hard for me to be empathetic in that situation and work to problem solve something that, to me, should be a simple fix. My response would be to just calm down and get a new pencil or just ignore the kid tapping the desk. But, it isn't so simple for them.

10. I see these girls as being brilliant and talented. But, I worry that their other challenges will prevent them from being successful. In our setting, where everyone has ASD, they don't have the social challenges they would typically experience. Everyone has their quirks, and they all accept each other. However, I know that this may not be the case outside of the school setting. I also worry about their exaggerated responses to situations. For example, how would they react if they were driving and someone pulled out in front of them? I imagine they would have to pull over on the side of the road for half an hour

to calm down. They also can become particularly overwhelmed with class work when it is too difficult or seems like too much.

11. A lot of "expert advice" talks about visual schedules and things like that. I have to admit that I have never used these with the middle school students. I'm not saying they wouldn't benefit from those, but I just have not found them necessary. I think with these girls, because of their higher level of functioning, those types of things tend to be to simplistic. I don't really do a lot of academics with those students. So, when they are with me, it's more for behavioral or emotional needs. For those, I've found that allowing them time to calm down and let me know when they are ready to talk or whatever has been the most effective. Trying to force them to talk before they are ready does not work. I have also found that more listening and less talking work well. When they are in an overwhelmed state of mind, it does not do any good for me to talk to them. As for other simpler strategies, I have found that allowing them to listen to music or wear noise-canceling earmuffs to block out extraneous noise works well. Also, they seem to do well if they are given choices, such as which assignment to do first, or which 10 problems to do, or even if they'd rather sit in a chair or on a bean bag or stability ball.

12. I get to see them be successful every day! It's awesome! But, I think the greatest successes seem to relate to when they get to do something that is directly related to their special interest or talents. For example, one girl is an amazing artist. Over summer, she attended our summer camp and we did a week of stop motion animation. They all got to make their own movies, which we put on YouTube. When school started back, she wanted to show me a movie she made over the break. She was so proud! That week of summer camp allowed her to use her passion for art and the skills we learned to create something that she was excited about. I think this was a great example of success.

13. Of course, they are all different. Each one has her own strengths. But, in general, I think they are talented. They may be talented in different areas, but they definitely have talents that can be drawn upon to develop career choices later in life. Behaviorally, they are less aggressive than the boys, which makes them a little easier to handle in a larger setting.

14. It would be great if we had an area set aside to meet all of their sensory needs. For example a place where they couldn't here the desk tapping or whatever. It would also be nice if we had an OT and psychologist on staff that could work with them whenever they needed it. Naturally, more training would be great! I also thing both the teachers and students would benefit if there was a way to easily incorporate their interests into all of the lessons.

15. I would like to know more about how to make things easier for them. How to let them use their strengths in a way that will let everyone win.

16. I would like for teachers to understand that these girls are more than they seem. When she is sitting quietly and looks like she is pouting, there may be something more going on that she needs help with. She has strengths and sometimes it is up to the teacher to find

them and bring them out. Many times, she feels alone and finding a person who believes in her can make the difference between her being successful and giving up.