LATE TO THE GAME: A PHENOMENOLOGICAL STUDY OF THE EDUCATIONAL EXPERIENCES OF FEMALES WITH AUTISM SPECTRUM DISORDER

by

Tammara Clevenger

Liberty University

A Dissertation Presented in Partial Fulfillment
Of the Requirements for the Degree
Doctor of Philosophy

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APPROVED BY:

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Abstract

The purpose of this phenomenological study was to understand the K-12 educational experiences of females with autism spectrum disorder (ASD). The theory guiding this study is Bandura's social cognitive theory, as it states that people are the operators of their lives, and not passive entities within their environment. However, individuals with ASD often have difficulties with social communication, communication interaction, and restricted, repetitive behaviors, which impact their ability to regulate themselves in various environments. The study used transcendental phenomenology to understand the K-12 educational experiences of females with ASD. A total of 10 participants were used. The participants and their experiences were the most significant aspect of this study, which was why the setting focused more on them than a location. Participants were recruited from anywhere in the United States, with a hope of being near southwestern Pennsylvania to allow for face-to-face individual interviews. The primary method of data collection was individual interviews. Questionnaires and responses to journal prompts were additional methods of data collection. Data was analyzed following the steps outlined by Moustakas (1994). The study revealed participants had feelings of relief upon receiving their diagnosis, they struggled with social interactions, and relationships were both a positive and negative impact on their experiences.

Keywords: females, autism spectrum disorder, K-12, autism education

Copyright Page

Dedication

To my biggest fan, best friend and husband, Jarrod. You took my world from black and white and made it into a technicolorful life. You will always be my home. You are my calm, and you stop the chaos from pulling me under. Though you may not believe me, I could not have done this without you. I love you always.

To my perfect little phoenix, Aria. It took a long time for you to become a reality, but you are living proof that dreams do come true.

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List of Abbreviations

Applied Behavior Analysis (ABA)

Autism Spectrum Disorder (ASD)

Attention Hyper-Activity Disorder (ADHD)

Centers for Disease Control and Prevention (CDC)

Free Appropriate Public Education (FAPE)

Institutional Review Board (IRB)

Individuals with Disabilities Act (IDEA)

Individualized Education Program (IEP)

Least Restrictive Environment (LRE)

CHAPTER ONE: INTRODUCTION

Overview

Autism spectrum disorder (ASD) is the term used to describe a lifelong neurological disorder that impacts individuals in social interaction and communication (Tharian et al., 2019; Thompson & Knight, 2019). Diagnosis is critical to ensuring individuals have access to the interventions and strategies that will support growth and transition to adulthood. It is common for individuals with ASD to display restricted and repetitive behaviors; however, this is not a requirement for a diagnosis. In a study done on the 2018 population of 8- year-old children in the United States, the Centers for Disease Control and Prevention found that 1 in 44 children have ASD (Centers for Disease Control and Prevention, 2022). When examining the prevalence of ASD between genders, it is clear disproportionality exists, with males dominating the category with a ratio of 4:1 (Glass & Guld, 2016; Murray, 2012; Zener, 2018). Males often have an easier time receiving an ASD diagnosis than females, meaning they will have greater access to the early interventions vital for success (Lord et al., 2020). This chapter focuses on the background needed to examine the educational experiences of females. The background includes a brief overview of the historical, social, and theoretical contexts of ASD. Additionally, the study's problem, purpose, and significance are discussed. The chapter ends with discussing the research questions that will be explored and presenting definitions needed to understand the study.

Background

Before examining the educational experiences of females with ASD, it is crucial to explore the background that helped set the stage. This discussion is divided into two parts; the first focuses on the causes, while the second examines the historical development of ASD as a recognized disorder. The background discussion continues by examining the social context for this study, which focuses on how the historical context has impacted females. The final section briefly overviews phenomenology under the guidance of Moustakas (1994) and how the issue has already been researched.

Historical Context

The first step to gaining the perspective of young adult females with ASD regarding their educational experiences is to explore the history and development of the disorder. Some consider ASD a new and modern disorder (Silverman, 2012). Regarding research, ASD is relatively young, although it likely existed long before its first publication in the 1940s. While much debate surrounds the true founder of ASD and who wrote about the condition first, most accept Leo Kanner and Hans Asperger as the fathers of ASD (Feinstein, 2010; Murray, 2012; Muratori et al., 2021). Around the same time and completely independent of the other, Kanner did initial research in the United States and Asperger in Europe (Feinstein, 2010; Murray, 2012). Both men's research held many similarities and used the same word to describe the disorder; however, each thought of them as two separate conditions (Feinstein, 2010; Murray, 2012). Kanner's ASD had a strict set of rules and regulations to be met for children to receive a diagnosis; children with genetic disorders, brain injuries, and intellectual disabilities were excluded from receiving an ASD diagnosis (Harris, 2016). These exclusions made cases with true Kanner ASD very low, with a rate of 2-4 in every 10,000 (Harris, 2016). As the world learned more about ASD, the public and professionals became fascinated with the disorder. Although Kanner wanted to keep the diagnostic criteria extremely strict, his wishes were ignored, and the category and range quickly grew (Silverman, 2012). Following the work of Kanner and Asperger, researchers and medical professionals began to research ASD. Even with subsequent research, a definitive cause of ASD has not been determined. One trend that has continued since the 1940s is the rise in prevalence.

The Centers for Disease Control and Prevention (CDC) often conducts prevalence surveys on various disabilities every few years. During their most recent survey, conducted on the 2018 populations, the CDC (2022) estimated the prevalence at 1 in 44 8-year-old children had ASD. A systematic review was conducted in 2022 to examine the prevalence patterns of ASD (Zeidan et al., 2022). The researchers found a median prevalence of 65/10,000, which is an increase from when this same type of study was done in 2012. The rare disorder identified by Kanner has become a condition that can be seen worldwide. Even with all of the research into ASD, scientists and doctors still have no definitive cause for the disorder (Spilsbury, 2019).

One thought is that there are genetic causes of ASD. In a review of the existing literature concerning the genetic causes of ASD, Rylaarsdam and Guemez-Gamboa (2019) noted that studies from the 1970s and 1990s were concerned with siblings. The review noted that twins from a single egg were more likely to share an ASD diagnosis than twins from two eggs (Rylaarsdam & Guemez-Gamboa, 2019). Another study was done to determine if there was evidence of recessive gene mutation causing the disorder (Yu et al., 2013). The results indicated strong evidence suggesting gene mutations are a possible cause of ASD (Yu et al., 2013). However, the study included a tiny sample; only three families were used. While the study results are significant when understanding the available research into the causes of ASD, it is important not to rely too heavily on the findings. Many researchers believe there is a genetic link, but a definitive cause has not been determined.

Genes and gene mutations are not the only possible causes. Environmental factors have also been explored, which refer to various chemicals, pollutants, and other harmful ecological aspects. Environmental factors may include premature birth, exposure to high toxins during pregnancy, or drugs such as sodium valproate (Spilsbury, 2019). While the causes are unclear, there has been more success in determining what does not cause ASD. Through extensive research, scientists have found that dairy, gluten, and poor parenting are not the causes (Spilsbury, 2019). While there is no apparent cause of ASD, that does not mean researchers will stop examining how it impacts the lives of those diagnosed.

Social Context

ASD can impact individuals at different stages of life. (Tharien et al., 2019; Thompson & Knight, 2019). Many individuals struggle with symptoms early in life, resulting in a diagnosis during childhood; however, a childhood diagnosis is not a requirement (Tharien et al., 2019). Gender considerations should be included when examining ASD. Since the initial research, ASD has been primarily classified as a male disorder (Tharian et al., 2019). This is most likely due to the initial and subsequent studies by Kanner and Asperger using males as the only participants (Carpenter et al., 2019). Prevalence studies often used exclusively male populations, which continued the pattern of examining ASD as strictly a male disorder (Tharien et al., 2019).

Because ASD has been seen as a male disorder for so long, females often have more difficulty receiving a diagnosis. Additionally, many diagnostic tools used to identify individuals with ASD have been normed for males, creating challenges for females (Carpenter et al., 2019). The screening and diagnostic tools focused heavily on the observations done by Kanner and Asperger, resulting in devices that are not sufficient to diagnose females (Carpenter et al., 2019). One school of thought concerning females with ASD was that females needed to have additional concerns, such as intellectual disability and significant behavioral problems (Carpenter et al., 2019). While it is common for individuals with ASD to be diagnosed with an additional disability, females who do not display other concerns are less likely to be analyzed (Egerton et al., 2016). The disproportionality rate began to make many people question whether females with ASD were receiving delayed diagnoses or being missed altogether, meaning they were missing out on the interventions that would help to support daily living skills (Rubin, 2022). Students should have a positive schooling experience; unfortunately, many females with ASD often have negative experiences, creating significant impacts for the rest of their lives (Honeybourne, 2016). Understanding how ASD impacts lives and educational experiences is a step to helping ensure that females are given access to the practices and interventions needed for success both in and out of school.

Theoretical Context

To fully understand the problem addressed by this study, an examination of the theories framing it is needed. Autism spectrum disorder is a developmental disorder that presents with individuals demonstrating difficulties in communication and social interaction. Additional characteristics of ASD include repetitive and restricted behaviors; however, these behaviors are not requirements for a diagnosis. Current research has demonstrated no reliable biomarkers for ASD, which means behavior observations and descriptions of core characteristics are the only way to diagnose ASD (Hull et al., 2020). Based on observations and current diagnostic tools, males are more likely to receive an ASD diagnosis than females. The prevailing theory regarding the underdiagnosis of ASD for females is the female autism phenotype. While there may be more evidence of the female autism phenotype, there is still confusion surrounding how to use this information to improve the tools for females. This confusion stems from methodological bias, developed primarily through male samples and tools designed for males (Lockwood Estrin et al., 2021).

Building upon previous researchers, Mandy et al. (2011) found a phenomenon where males are more likely to be diagnosed with ASD than females, especially when the females are high-functioning and have less severe restricted and repetitive behaviors. Hull et al. (2020) continued the research of the female autism phenotype by conducting a review, which found evidence to support the idea that ASD presents differently in females than typically observed by males.

The female autism phenotype theory indicates differences in how ASD presents in males and females (Mandy et al., 2011). Most of what the world understands about ASD comes from the initial work of Kanner and Asperger during the 1940s. Their observations and studies set the stage for developing the diagnostic tools used in current society to diagnose ASD. However, because their work focused almost exclusively on males, many diagnostic tools may be ill-equipped to detect ASD in females. Since the research indicates sex differences in ASD, understanding how ASD impacts females' educational experiences is needed to ensure they are offered the same support and educational opportunities as males.

This study is not the first to examine females with ASD. Studies have examined the mother-daughter experiences of females with ASD, which helped highlight problems the females faced, such as difficulties in receiving a diagnosis and social camouflage (Anderson et al., 2020; Navot et al., 2017). Another study that used the family experience of females with ASD found there was a gender bias that existed among health professionals, which led to misdiagnosis or a reluctance to provide a formal diagnosis (Harrop et al., 2015). Other researchers have called attention to the gender bias surrounding ASD, such as the meta-analysis on the prevalence of ASD in females conducted by Loomes et al. (2017). Still, others have focused on how ASD varies between the sexes, which has led to the idea that females have greater social motivation and often mask their social and communication problems (Burton et al., 2020; Cola et al., 2022; Song et al., 2021). While these areas are significant to understanding how ASD impacts females, the females' voices can provide the most significant impact and understanding. This study gave a voice to females with ASD.

Problem Statement

The problem is that females with ASD are often underrepresented in the category. Females have a unique educational experience that is often not explored because of the disproportionate rate within the category. Some research has attempted to determine if there is a genetic way of diagnosing ASD. Since no genetic testing can be used as a reliable way to diagnose, developmental histories, observations of behaviors, and interactions are required (Lord et al., 2020; Lord et al., 2018). Since there are no biomarkers to help make a determination, professionals rely on the various tools already developed. Females often run into problems receiving an ASD diagnosis because the screening tools and diagnostics tools are based on studies that only used males as participants (Carpenter et al., 2019). The reliance on previously developed tools places females at a disadvantage when receiving an appropriate diagnosis. Males typically end up being diagnosed at higher rates than females.

The research has acknowledged this disproportionality rate between males and females with ASD. Currently, the accepted ratio is 4:1; however, Whitlock et al. (2020) explained that it could vary depending on the analysis and noted that the range is a ratio of 3:1 to 7:1. One reason for this disproportionality is that the diagnostic tools were normed for males and lack validity when it comes to diagnosing females (Carpenter et al., 2019). Loomes et al. (2017) provided a similar explanation and stated that the diagnosis is influenced by clinicians and teachers who often allow gender to influence decision-making when determining ASD symptoms. While there are many similarities between ASD in males and ASD in females, it is necessary to understand and recognize the differences so that females with ASD are offered the same educational opportunities for success. Since females are usually less diagnosed than males, there is less research about how ASD impacts females' educational experiences.

Purpose Statement

The purpose of this phenomenological study was to understand the K-12 educational experiences of females with autism spectrum disorder (ASD). The educational experiences of females with ASD have generally been defined as the experiences of receiving a diagnosis, navigating educational opportunities, and accessing support. The research focused on understanding the unique educational experiences that females with ASD faced. The theoretical foundation for this research is Bandura's (1999) social cognitive theory. Bandura's theory often describes various topics, such as cognitive learning, social skills, and self-regulation skills (Schunk, 2020). According to Bandura (1999), with this theory, people are the actual operators of their life, not just passive entities within their environment. For individuals with ASD, the difficulties with social communication, communication interaction, and restricted, repetitive behaviors significantly impact their ability to regulate themselves in various environments (Charitaki et al., 2021). This study described and interpreted the lived experiences of females with ASD. These females' unique needs and challenges were explored, resulting in a deeper understanding of their educational experiences.

Significance of the Study

The significance of this study for future research is for the females, families, and teachers to understand the experiences of females with ASD. Females with ASD will identify with others and hopefully recognize that they are not alone in their experiences. Families and teachers will have a greater awareness of the struggles the females face and will be able to help them access appropriate support. This study contributes to the knowledge base through a theoretical, empirical, and practical perspective.

This study applied the social cognitive theory to females' experiences with ASD. Social cognitive theory describes cognitive learning, social skills, and self-regulation (Schunk, 2020). Each of these topics has a foundation in the understanding of ASD. Social interaction and communication are critical characteristics of ASD, while self-regulation often deals with the restricted and repetitive behaviors associated with the disorder (Tharian et al., 2019; Thompson & Knight, 2019). Additionally, social cognitive theory uses triadic reciprocity to explain how behavior, person, and environment influence and react (Bandura, 1999). Individuals are active participants in the world and often respond to forces that might not be seen by the outside world (Bandura, 1999). Understanding how these factors influence the experiences of females with ASD can allow females, families, and teachers to determine what supports are needed for success.

Transcendental phenomenology seeks to provide a rich and detailed description of the experience, as opposed to hermeneutical phenomenology, which attempts to provide details of the researcher's interpretations of the experience (Creswell & Poth, 2016). This study examined the educational experiences of females with ASD. Most studies investigating ASD use males as participants or a mix of males and females representing the accepted boy-to-girl ratio (Cridland et al., 2014). Since most studies focus on males, experiences relevant to females are often overlooked, making the female voice silenced. Transcendental phenomenology allows females to share their stories and experience (Moustakas, 1994). The participants of this study can break the silence and seek change to improve the educational opportunities for other females with ASD.

The practical significance of this study relates to the people that will have a voice. A limited amount of research focuses on the experiences of females with ASD. The research that does examine females tends to focus on the family experience (Anderson et al., 2020; Harrop et al., 2015; Navot et al., 2017) or the ways ASD characteristics differ between the sexes (Burton et al., 2020; Cola et al., 2022; Song et al., 2021). While these areas are significant for creating an overall understanding of the impact ASD has on females, they are not the only areas that should be explored. The experiences told directly by the females involved are an untapped resource for ensuring that females have access to appropriate support and interventions during school. This study gave females a chance to share their experiences with the hope of creating positive experiences for future females with ASD.

Research Questions

The following research questions were developed for this study to fill the gap in the literature on the educational experiences of females with ASD.

Central Research Question

What are the lived K-12 educational experiences of females diagnosed with autism spectrum disorder?

Sub-Question One

How does the environment affect females accessing educational support systems?

Sub-Question Two

How do females with ASD experience change after receiving an autism spectrum diagnosis?

Sub-Question Three

How do the behaviors associated with autism spectrum disorder affect access to educational support?

Definitions

The following terms are defined to ensure a clear understanding of the terms associated with ASD in females.

1. ***Autism spectrum disorder*** - A lifelong neurological disorder that impacts individuals in social interaction and communication (Tharian et al., 2019; Thompson & Knight, 2019).
2. ***Camouflage*** **-** The strategies individuals use to manage how others perceive them include developing methods to appear socially competent or hide social difficulties (Hull et al., 2017).
3. ***Female autism phenotype*** - The theory is that ASD presents differently in females than typically observed in males (Hull et al., 2020).
4. ***Phenomenology*** - A qualitative research design that describes the participants' lived experiences within the phenomenon (Creswell & Poth, 2016).

Summary

While many characteristics of ASD are similar across the population, each person is unique, and ASD impacts each differently. It is unwise to assume that each person will behave similarly because of the shared characteristics. This same line of thinking needs to be applied when looking at gender within ASD. It is incorrect to assume that females will display the same characteristics and symptoms as males. Until this thinking changes, females will continue to have difficulty receiving an ASD diagnosis and earn access to interventions later in life than their male counterparts. Understanding how ASD impacts females' educational experiences is necessary to ensure they can receive access to practices and support that will improve their overall educational experience and ensure they are prepared for life after school and the lifelong management of their ASD.

CHAPTER TWO: LITERATURE REVIEW

Overview

Autism spectrum disorder (ASD) is a neurological developmental disorder that can affect anyone; however, males are more often associated with ASD than females. The current literature regarding females with ASD is presented in this chapter. A systematic review of the literature is conducted to explore the educational experiences of females with ASD. First, social cognitive theory and the female autism phenotype theory are discussed. A synthesis of recent literature is examined, including the similarities and differences between males and females with ASD. Then, the literature illustrates how current diagnostic tools are biased and males are more likely to be diagnosed with ASD. Finally, the need for the present study is addressed by identifying a gap in the literature regarding how the late diagnosis of ASD in females impacts their educational experiences.

Theoretical Framework

The framework is a way to explain the study and provide an understanding of the research topic (Claxton-Dolan, 2022). The theoretical framework for this study includes Bandura's (1999) social cognitive theory. This theory presents the lens through which the rest of the literature review can be viewed.

Social Cognitive Theory

Theories develop and change over time as humans learn and understand more about people and the world. One example is the development of social cognitive theory (Bandura, 1986). Bandura's (1986) development of social cognitive theory aimed to explore the evolution of prosocial and deviant behaviors. The approach often describes cognitive learning and social and self-regulation skills. Bandura’s (1999) theory noted that people are agentic and more than passive participants in their own lives.

Bandura’s (1999) theory is different from other theories attempting to explain behavior because his theory focuses on reciprocity among the factors. The reciprocity from social cognitive theory is the interaction among what Bandura (1999) called three environmental structures: the imposed environment, selected environment, and constructed environment. Schunk (2020) calls these interactions between the person, behavior, and environment. Regardless of the language, the model is still the same. Each factor influences the others based on feedback from the interaction. Schunk (2020) provided the following example: Students are provided instruction on a topic by a teacher and think about what is being said (environment influences person), a student is confused about a concept and raises a hand to ask a question (person influences behavior), the teacher reviews the previous content (behavior influences environment). It is important to note that each factor’s influence is not always equal. Most of the time, one aspect tends to dominate the interactions.

Along with Bandura’s (1999) triadic reciprocity is the idea that people are not just stagnant participants in their interactions. Bandura (1999) explained that people are often reactors, but can motivate and regulate actions. This means that people actively participate in the world and desire to control their lives. The idea that people are active participants in their functioning brings up ideas of self-regulation. Self-regulation is the process individuals use to activate and sustain internal and external behaviors to obtain a goal (Schunk, 2020). The ability to self-regulate is a critical aspect of participation in learning and the greater world environments. It also allows for greater movement through the triadic reciprocity model. For individuals with ASD, the difficulties with social communication, communication interaction, and restricted, repetitive behaviors significantly impact their ability to regulate themselves in various environments (Charitaki et al., 2021). Development and maintenance of self-regulation skills are often part of the interventions used with students with ASD to allow them increased access to an equal representation of the triadic reciprocity model.

Related Literature

Social and communication skill deficits characterize autism spectrum disorder (ASD). Restricted and repetitive behaviors are often associated with ASD. The cause of ASD is unknown. There are still gaps in the understanding of neurology, which makes it difficult to grasp how ASD affects the brain (Murray, 2012). Genetics is thought to play a role in ASD; however, there is no clear link between them. While there is still much about ASD that is unknown, that does not mean the world has learned nothing about the disorder. This literature review was conducted to include the historical context and prevalence of ASD and an understanding of the similarities and differences between males and females with ASD.

Historical Context

The current understanding of ASD dates back to the 1930s; however, ASD likely existed before that time. The initial research into ASD was done by Leo Kanner and Hans Asperger, who developed strikingly similar studies and ideas despite working independently from each other and on different continents (Feinstein, 2010; Murray, 2012). The word *autism* was already used before their research and was used to describe introverted children, and according to Hens (2021), Sister Gaudia from the Paedological Institute in Nijmegen used the word *autistic* to describe one of the males at the institute in the 1930s. Although Sister Gaudia used the term, credit for the origin goes to Swiss psychiatrist Eugen Blueler (1857-1939), who used the word when describing schizophrenic adults who had withdrawn from reality (Hens, 2021). According to Klauber (2018), autism is a disturbance in an extreme form of patients who have schizophrenia. Regardless of who first used the word, Kanner and Asperger are still considered to be the fathers of ASD.

Origins of ASD

Kanner has many accomplishments to his name. He is the father of child psychiatry, the founding director of the child psychiatry program at the John Hopkins University School of Medicine, authored several books, including the first textbook on child psychiatry, published over 250 scientific publications, and founded a prominent ASD journal (Harris, 2018). For all his other accomplishments, Kanner is most known for his work on ASD. With his first study, Kanner observed males who demonstrated the following: communication needs, rigidity (specifically regarding routines), fixation on particular objects, and obsessive tendencies (Murray, 2012). Additionally, the children he observed had typical physical characteristics for their age, no medical conditions were associated, and each child had the potential for average cognitive functioning (Klauber, 2018). These are many of the same characteristics used to describe ASD today. The type of ASD described by Kanner is often called *classical* ASD. After his initial study, Kanner continued to examine children with similar characteristics. *Autistic* became the name for the condition he observed when he used the word to describe the findings in 1943 (Feinstein, 2010; Murray, 2012).

During the same time as Kanner's study and thousands of miles away, Asperger conducted similar research. Although the participants in Asperger's study had better communication skills than the children in Kanner's, results of both studies were largely the same (Murray, 2012). Asperger also used the word *autistic* to describe the children in his observation, although there is some debate about who used the term first (Feinstein, 2010). Since the 1940s, it has been assumed that Kanner coined the term first because his initial paper was published in 1943, and Asperger did not publish his article until 1944; however, Feinstein (2010) noted that Asperger used the term during a lecture in 1938 at Vienna University Hospital. Kanner seemed unaware of Asperger's work, as he never mentioned it. However, Feinstein (2010) and Murray (2012) both find it odd that Kanner was unaware of significant research done by a man who spoke and published in Kanner's first language. One thought is that Kanner might not have mentioned Asperger's work because Kanner saw the two as very different conditions (Feinstein, 2010). While Asperger does note Kanner's work, he saw their work as two separate conditions (Feinstein, 2010; Murray, 2011). For many years following their studies and publications, Kanner's and Asperger's observations were seen as two distinct conditions until autism began to be viewed as a spectrum disorder in recent years. The work of these men laid the foundation for the current understanding of ASD.

Current Understanding

The field of ASD has grown since it was first identified in the late 1930s and early 1940s. ASD was originally viewed as a rare childhood disorder, but the current understanding shows it is a relatively common condition that impacts individuals at various stages in life (Lord et al., 2018). Individuals with similar characteristics to the children Asperger observed were diagnosed with a syndrome named after him: Asperger's Syndrome. Kanner's autism, Asperger's Syndrome, and other developmental disorders categorized by deficits in social communication were listed as separate entries in diagnostic materials (Lord et al., 2018; Lord et al., 2020). Within diagnostic materials, ASD was categorized into different disorders based on the range of severity in symptoms and impairment (Feinstein, 2010; Ellison et al., 2019; Murray, 2011). As research and understanding of ASD increased, materials began to change the descriptions. For example, the *Diagnostic and Statistical Manual of Mental Disorders- fifth edition* (*DSM-5*) now uses an umbrella term instead of separate entries (Lord et al., 2020). This new classification places the various ASD categories along a spectrum that covers the range of symptoms and impairments (Ellison et al, 2019; Lord et al., 2020). The spectrum allowed clinicians the ability to identify the severity of the disorder based on the amount of support that would be required for the individual to be successful (Ellison et al., 2019). Specifically, the symptom severity and levels are based on social communication and restricted and repetitive behaviors (Gardner et al., 2018). Severity determinations are based on rating scales completed by clinicians doing observations and collecting data from psychological and behavioral judgments (Ellison et al., 2019; Gardner et al., 2018). There are three levels of severity: Level 1 (requiring support), Level 2 (requiring substantial support), and Level 3 (requiring very substantial support) (Ellison et al., 2019; Gardner et al., 2018). One reason for adding the levels of severity to the diagnosis is that the clinicians are then able to identify relative areas of strength and weakness in relation to ASD and assist in developing plans to support the needs (Gardner et al., 2018).

According to Lord et al. (2018), ASD occurs during the development of the brain when it becomes altered, and there is a neural reorganization. No biomarkers can be used to diagnose, meaning developmental histories and observations of behaviors and interactions are required (Lord et al., 2020; Lord et al., 2018). ASD has been linked to genetic conditions, which include fragile X, tuberous sclerosis, Down syndrome, and Rett syndrome (Masri et al., 2022). ASD can be linked to various genetic conditions, but it is important to note that these syndromes represent only a small amount of the overall number of ASD cases (Masri et al., 2022). Individuals with ASD need access to interventions and strategies to support their growth and transition into adulthood. Early intervention is often vital, but early identification is necessary to receive these services (Lord et al., 2020). Research is needed to continue to develop the current understanding of ASD and to provide individuals with the support necessary for success.

Autism in the Classroom

Students with ASD are often taught in general education classes with additional interventions and services. Specific skills are needed for success in school, and these skills have nothing to do with academics (Sulek et al., 2021). Often referred to as school readiness, these skills include working independently, following directions, attention to tasks and instructions, and emotional regulation (Sulek et al., 2021; Van Der Steen et al., 2020). These skills are essential for all students; however, students with ASD often struggle with these areas, placing them at a significant disadvantage than their typical classmates. Additionally, individuals with ASD also demonstrate deficits in processing higher-level language, which is often required for success in schooling (Van Der Steen et al., 2020). Most students without disabilities can develop these language skills before entering schooling; however, students with ASD often struggle with development. One way schools can assist students with ASD is by ensuring the teachers understand ASD and the challenges the students face (Garrad et al., 2022; Sulek et al., 2021). Teachers not only need to provide support and instruction related to academics, but they also need to provide support and instruction related to the school readiness skills and characteristics of ASD. The best way to give the required support is through evidence-based practices, which is when individuals consider the available research when engaging in the decision-making process (Garrad et al., 2022; Sulek et al., 2021). Most teachers do not use practices that are backed by research (Garrad et al., 2022). Techniques that do have support in research include prompting, reinforcement, and antecedent-based interventions (Sulek et al., 2021). Getting more teachers to use evidence-based practices within their classrooms can help to improve the outcomes for students with ASD (Garrad et al., 2022; Sulek et al., 2021). More teachers need to be aware of evidence-based practices that are effective with ASD students because the prevalence of the disorder continues to rise.

Although there are many differences between ASD in females and ASD in males, many learning theories and teaching styles will work for either gender. Applied behavior analysis (ABA) is a behavior practice often used with individuals with ASD. ABA follows behavior principles to create behavior change in individuals (Pennington, 2022). The main principles used in ABA are positive reinforcement and stimulus control, which are often paired with experimentation to identify the intervention or instructional elements that are most effective for improving the behavior of the individual (Pennington, 2022). Other strategies used in ABA are modeling, prompting, reinforcement, chaining, task analysis, and shaping (Aravamudhan & Aswasthi, 2021; Thompson & Knight, 2019). ABA strategies are proving effective in improving and teaching new skills to females with ASD (Aravamudhan & Aswasthi, 2021; Klett & Turan, 2012). In one study, researchers used ABA prompting to increase speech sounds in a 17-year-old girl with ASD (Aravamudhan & Aswasthi, 2021), while another used the ABA strategy of task analysis paired with Social Stories to teach females about menstrual care (Klett & Turan, 2012). Both studies demonstrate that ABA strategies effectively improve skills and teach new ones. Although Aravamudham and Aswashi's (2021) study did not have to use females to show that prompting is an effective strategy for teaching students with ASD, it is still essential to include females with ASD in research to ensure the strategies work. Klett & Turan's (2012) study is critical not only because it also demonstrates effective practices, but also because it calls out an area of ASD research often overlooked while also providing information on effective teaching practices.

Autism Prevalence

Autism diagnosis rates increased from one in 150 children ages eight and under to one in 68 children ages eight and younger between 2000 and 2010 (Glass & Guld, 2016; Van Naarden Braun et al., 2015). An examination of ASD prevalence from 2018 shows another increase, estimating one in 44 8-year-old children (Centers for Disease Control and Prevention, 2022). Worldwide estimates differ from the United States, with one in 160 children diagnosed with ASD (World Health Organization, 2021). ASD statistics are not the same throughout the world. Garrad et al. (2022) noted that in Australia, prevalence rates as of 2015 are 1 in 150 children aged 5-15, but this is a 42.1% increase from 2012 to 2015. However, it is not only children that are receiving an ASD diagnosis. McDonald (2021) highlighted that the prevalence in adults went from 1 in 2000 in 1960 to 1 in 58 in 2020.

Historical Prevalence of Autism

The prevalence of ASD has varied since it was first recognized. Kanner eventually became unhappy with the development of the ASD field because he felt that too many children were receiving a diagnosis without demonstrating the necessary characteristics (Feinstein, 2010). A possible reason for the increase in prevalence was that there were no clear criteria for receiving a diagnosis (Glass and Guld, 2016). Van Naarden Braun et al. (2015) explained that improved identification had been cited as a possible reason for the increase; however, McDonald (2021) demonstrated that a greater understanding of the characteristics, making it a spectrum, and increased awareness, do not account for the significant increase in prevalence. Although the exact reason for the rise in prevalence is unknown, the diagnosis of ASD has been on the rise for many years.

Van Naarden Braun et al. (2015) designed a study to examine the prevalence trends from 1991-2010 of five developmental disabilities in the Atlanta area. The findings from this study showed that rates for intellectual disabilities, cerebral palsy, hearing loss, and vision impairment remained relatively stable, while rates for ASD increased significantly. They found an annual change of 9.3% from 1991 to 2010. The researchers found that 53.2% of the children diagnosed with ASD were white, which is consistent with rates throughout the United States; as Glass and Guld (2016) noted, minority children are less likely to receive an ASD diagnosis.

Autism in Females

Although the prevalence of ASD has been increasing since the initial studies, one aspect has remained relatively constant: the idea that ASD is more likely to occur in males than females. Van Naarden Braun et al.'s (2015) study found that 79.5% of the children were male. The accepted ratio of males to females is 4:1 (Glass & Guld, 2016; Murray, 2012; Yin & Schaff, 2017). A possible explanation for the high disproportionality is that the diagnosis is influenced by clinicians and teachers who often use gender when determining ASD symptoms (Loomes et al., 2017). While studies have examined the prevalence of ASD in females and males, Loomes et al. (2017) felt these studies failed to capture the whole picture and conducted a meta-analysis of the published prevalence studies. The analysis showed that while males are still more likely to be diagnosed with ASD than females, the ratio is lower and more likely 3.5:1; however, many claim that the ratio is too high and place it at 2:1 (Carpenter et al., 2019). Regardless of the proportion, it is clear that males are more likely to be diagnosed with ASD. Because the representation of females in the ASD category is so low, they are less likely to be included in research and studies, creating a cyclical trend that is hard to break: females are less likely to be diagnosed with ASD, which earns them less participation in research, which leads to females being less likely to be diagnosed, etc. (Rynkiewicz & Łucka, 2018). Carpenter et al. (2019) provided an example of why females are often excluded from studies: if inclusion in studies is based on the current understanding of the male-to-female ratio, females are often excluded because their population within the study would be so low, but inclusion might result in unintended effects. This trend means that females often fall through the cracks and do not receive the interventions and support needed for success.

ASD in Females

Individuals with ASD are, in fact, individuals; while each may share characteristics with another, each is just as different. The identification and diagnosis of ASD often utilize core characteristics, which are difficulties in social interactions and communication and restricted and repetitive behaviors (Carpenter et al., 2019; Thompson & Knight, 2019). Additionally, characteristics of unusual sensory-motor behaviors are often associated with ASD (Lord et al., 2018). Another key characteristic is the early development of the behaviors (Carpenter et al., 2019; Thompson & Knight, 2019). While not a requirement of ASD, many individuals also experience other disorders, such as attention-deficit hyperactivity disorder (ADHD), anxiety, depression, and epilepsy (Lord et al., 2020). Females often run into a problem because much of what the world understands about ASD and the tools used to diagnose individuals come from the initial research. Those studies focused on males, which makes it inadequate for diagnosing females (Carpenter et al., 2019). While males and females share many of the same core characteristics, the symptoms often present differently (Harrop et al., 2015). Examining these differences is required to ensure that females receive a proper diagnosis.

Autism Diagnosis for Females

Pediatricians, psychiatrists, or psychologists are typically the professionals who diagnose ASD. Professionals have access to various tools and screeners that can be used. The Screening Tool for Autism in Toddlers and Young Children (STAT) and Autism Diagnostic Observation Schedule are the most common tools used (Lord et al., 2018). However, Carpenter et al. (2019) noted that even with the available tools, females are more likely to be diagnosed later in life and need to demonstrate more significant behaviors than males with ASD or have additional intellectual or behavioral problems. It is not just the diagnostic tools that present problems when diagnosing females. There tends to be a bias in perception, assessment, and diagnosis (Lockwood Estrin et al., 2021). When females get a diagnosis, it is often much later in life than males, even though the ages of concern are similar between the genders (Harrop et al., 2015; Whitlock et al., 2020). There has been a recent push into understanding the differences between females with ASD and males with ASD. Understanding these differences can lead researchers to develop diagnostic tools to pick up on the differences instead of forcing females into the male box.

Barriers for Females with ASD

Females are disadvantaged in receiving a diagnosis since the category is biased toward males (Whitlock et al., 2020). There is bias coming from more than just the clinicians and teachers. Media influences the way the general public perceives ideas and disabilities. Males with ASD are more likely to be represented in various media forms than females. When females and their family members question their characteristics, the media may influence them away from ASD because they most likely will not fit with what has been portrayed (Carpenter et al., 2019). Aside from the bias associated with the clinicians and diagnostic tools (Lockwood Estrin et al., 2021), females often make the diagnostic process more difficult by hiding their symptoms or using other behaviors to navigate challenges (Moyse & Porter, 2015; Hull et al., 2017; Leedham et al., 2020; Lockwood Estrin, 2021), which continues to create problems with females attempting to get a diagnosis. People often develop strategies that help them manage how others perceive them. Social camouflage is when people employ techniques to make them appear socially competent or to hide their social difficulties (Hull et al., 2017). Females with ASD may have higher social motivation than males, prompting them to develop more ways of social camouflage (Song et al., 2021). Song et al. (2021) found that females with ASD used more social words than males, which indicates a greater interest in social topics.

Additional challenges for females lie in the idea that ASD is a disorder that only impacts males (Carpenter et al., 2019). Males are referred for assessment more often than females: 10 times more often (Lockwood Estrin, 2021). The accepted ratio is 4:1 (Glass & Guld, 2016; Loomes et al., 2017; Murray, 2012); however, Whitlock et al. (2020) noted that the ratio does come down slightly (3.3:1) when studies include a population that does not need prior assessment or concern to be included. The inclusion of this ratio suggests that a significant number of females meet the criteria, but are still excluded from assessments and diagnoses that would provide them with the support needed for success.

Often, females must display more significant behavior problems, more severe autistic symptoms, or have additional areas of challenges to receive a diagnosis (Carpenter et al., 2019; Whitlock et al., 2020). The idea that additional disabilities occur at the same time is called co-morbidity. Co-morbidity is when an individual presents with more than one distinct condition (Valderas et al., 2009). One study completed a mixed-methods systematic review to identify barriers to receiving an ASD diagnosis in females (Lockwood Estrin, 2021). One finding showed a higher number of females with ASD and low IQ than males with ASD and low IQ (Lockwood

Estrin, 2021). This may indicate that a portion of the population is set up for failure because their symptoms are not significant enough to be taken seriously, but the disorder still impacts them.

Due to the struggles many females face with receiving an ASD diagnosis, they may face additional barriers that males do not. Since the diagnosis comes later in schooling or even much later in life, these individuals are faced with feelings of isolation, bullying, and not fitting in, all the while having less access to the services and interventions that can help them lead a fulfilling and successful life (Whitlock et al., 2020). Life is more difficult for females with ASD, especially if they do not have a diagnosis or receive one late. Often, females feel abandonment and loss when transitioning to a more independent life (Carpenter et al., 2019). Limited access to support and interventions to help prepare females for life after high school can make moving on more difficult. For many females, ASD is not considered, and they tend to receive a diagnosis of depression, anxiety, obsessive-compulsive disorder, bipolar disorder, or ADHD; however, these diagnoses failed to support all areas of difficulty and left many females feeling the lack of support (Cola et al., 2022). Many females were aware the initial diagnoses did not fit their experiences and were left to struggle not only with the areas already causing issues with daily functioning, but knowing they were not receiving the proper support needed for a successful life (Cola et al., 2022). For these females who receive late diagnoses, they may wonder how they or their life would be different if they received support earlier.

Characteristics of Autism in Females

Due to the problems females face with getting an ASD diagnosis, many researchers have begun investigating how ASD characteristics in females differ from males. The diagnosis process is often cited as a challenging area (Harrop et al., 2015). Reasons for the challenges include how the females present symptoms, social camouflage, the disproportionality rate, misdiagnosis, and gender bias in the professional community (Harrop et al., 2015). The idea that ASD has a higher incidence in males than females suggest a gender bias of the disorder as discussed by Loomes et al. (2017) when they conducted their meta-analysis on the prevalence of ASD in females and by Carpenter et al. (2019) in their book about ASD and females.

Another find is the imitation of social behavior, which has led to various research studies in the area. The way females participate in social interactions and how communication differs from males, can lead to females being able to mask their impairments (Burton et al., 2020). Regarding verbal communication, females with ASD behave differently than males with ASD, even when their social symptoms are on the same level (Boorse et al., 2019). During their study, Boorse et al. (2020) found that females with ASD produced more cognitive process words than males with ASD. One theme that emerged from these studies has been the idea of hiding the problems (Moyse & Porter, 2015; Hull et al., 2017; Leedham et al., 2020). It is common for children to want to fit in with their peers. Children do this by using strategies that manage how others perceive them. These strategies are often referred to as social camouflage, and they include developing methods to appear socially competent or to hide their social difficulties (Hull et al., 2017). Neurotypical individuals often do this efficiently, allowing them to fit in more naturally with peers; however, individuals with ASD typically have a reduced ability to do this, making them stand out (Hull et al., 2017). Females with ASD may have higher social motivation than males, prompting them to develop more ways of social camouflage (Song et al., 2021). In one study, females with ASD produced more social words than males with ASD, which indicates higher attention to social topics (Song et al., 2021). Social camouflage is a possible explanation for females' challenges because they may be better at hiding social difficulties to gain social acceptance, which results in undiagnosed ASD.

Other researchers found that females with ASD display greater social motivation than males with ASD, and it is unwise to follow the typical male patterns of ASD, which have a reduced social focus (Song et al., 2021; Cola et al., 2022). While there are many similarities between ASD in males and ASD in females, it is crucial to understand and recognize the differences to provide females with ASD the same opportunities for success.

Co-Morbidity

Co-morbidity is often associated with the medical field and is defined as when there is more than one distinct condition within an individual (Valderas et al., 2009). This definition can also be applied to individuals within special education, meaning co-morbidity is the presence of more than one disability category in an individual. It is not uncommon for individuals with disabilities to be identified in more than one area, and the disabilities can create additional problems for the students both in and out of schooling.

Co-Morbidity Prevalence

One area that receives much attention is how behavioral problems impact and interact with other areas. For example, when individuals experience difficulty developing new learning skills, there is often an association with behavioral problems (Zakopoulou et al., 2013). This means that many students with learning disabilities are at a greater advantage for having a disability category of emotional disturbance. One study examined the relationship between poor reading skills and emotional problems. Results indicated that individuals with poor reading skills self-reported elevated areas of depression, anxiety, and somatic behaviors when compared to typical readers, and parents reported higher levels of inattention, somatic complaints, and delinquent behaviors when compared to parent ratings for typical readers (Arnold et al., 2005).

Zakopoulou et al. (2013) noted that this relationship between learning difficulties and emotional or behavioral problems tends to be the rule, not the exception.

Co-morbidity does not have to present with behavior problems. Williams syndrome is a rare genetic disorder impacting multiple organs (Kozel et al., 2021). The impacted systems are broad, although there are certain characteristics that are common, such as distinctive facial appearance, cardiovascular problems, and developmental delays (Kozel et al., 2021). Many individuals with Williams syndrome often have high rates of mental disorders; 48-65% have some anxiety disorder, and 20-64.7% have attention-deficit/hyperactivity disorder (ADHD) (Valdes et al., 2018). Prevalence studies in the United Kingdom indicate 8.7-21.9% of anxiety disorders are from children with intellectual disabilities, which is higher than the 5.7% for children without intellectual disabilities or the 3.6% for children without disabilities (Gorbiral & Raghavan, 2012). When examining the prevalence of anxiety disorders in children and young adults with co-morbid intellectual disabilities and autism, Gorbiral and Raghavan (2012) found that 32.6% had an anxiety disorder and 61.3% had some mental health problem.

Co-Morbidity and ASD

One area of research receiving significant attention is co-morbidity within ASD. One United Kingdom study found that individuals with ASD and intellectual disabilities had higher instances of anxiety disorders (Gorbiral & Raghavan, 2012). There is a known link between ASD and epilepsy; both are neurological disorders typically diagnosed during childhood (Kang & Barnes, 2012). It is typical for epilepsy and ASD to appear together; estimates show that 30% of individuals diagnosed with ASD also have epilepsy, and 15-30% of individuals with epilepsy are also diagnosed with ASD (Kang & Barnes, 2012). In addition to epilepsy, ASD has also been linked to other medical disorders, such as gastrointestinal problems and sleep disorders

(Mcpheeters et al., 2010). A recent study examined the types of conditions found most often with ASD (Shoaib et al., 2021). Using two different databases, IBM MarketScan Multi-State Medicaid Database (MDCD) and Optum De-Identification Clinformatics Data Mart Database (Optum), Shoaib et al. (2021) had a total of 36,000 individuals with ASD. Five co-morbid conditions were identified: ADHD (attention deficit hyperactivity disorder), anxiety, developmental delay, malaise and fatigue, mood disorder, and seizure and seizure disorder, with ADHD being the highest co-morbid condition (50.09% from MDCD, 44.16% from Optum). Results from this study provide valuable information and allow a greater understanding of the conditions often found with ASD; however, the results need to be interpreted cautiously (Shoaib et al., 2021). The study used diagnosis codes to identify individuals with ASD, which means the study may include participants with an incorrect diagnosis. While measures were taken to limit this possibility (using an algorithm that requires two outpatient diagnoses within a year), caution should still be used when examining the number of participants and results.

ASD and Anxiety

Although ASD often overlaps with other disabilities or conditions, it is common for ASD and anxiety to appear together (Johan et al., 2017; Vicki et al., 2020). It is estimated that 42-79% of individuals with ASD also have an anxiety disorder (phobia was most common with about 50%, followed by obsessive-compulsive and social anxiety disorders at about 20%) (Soh et al., 2021). One possible explanation for this overlap is that anxiety works as a stress consequence for social rejection or anxiety helps to control ASD symptoms of social skills and repetitive behaviors (Vicki et al., 2020). Regardless of why the two often appear together, it is clear they do.

Most researchers examine anxiety in general terms using studies that rely on self and parent ratings (Soh et al., 2021; Vicki et al., 2020); however, Johan et al. (2017) took anxiety research a step further and explicitly examined social anxiety disorder. In terms of ASD, this type of anxiety has a clear link since ASD presents with difficulties in communication and social interactions. Social anxiety is an anxiety disorder that presents an intense fear of being judged by others and an avoidance of social interactions (Johan et al., 2017). ASD and social anxiety overlap because both deal with social interaction and social skills. While it is not unheard of for these two disorders to occur together, it is more common for individuals diagnosed with ASD to display social anxiety traits or for individuals diagnosed with social anxiety to display ASD traits (Johan et al., 2017).

ASD and ADHD

While ASD is mainly associated with communication and social skills deficits, individuals can see the impact in many different areas of life. Adaptive functioning refers to communication, socialization, self-help, life skills, and independence (Ashwood et al., 2015). On assessments such as the Vineland Adaptive Behavior Scales (VABS), many individuals with ASD often score lower in areas that focus on communication and socialization; additionally, they often score lower in the areas of daily living (Ashwood et al., 2015). There is an overlap between ASD and attention-deficit/hyperactivity disorder (ADHD). Many individuals with ADHD also often score lower in areas of communication and socialization on assessments such as VABS (Ashwood et al., 2015), and van Steijn et al. (2012) noted that many individuals with ASD are also impacted by similar characteristics found in those diagnosed with ADHD; however, the guidelines provided by the *Diagnostic and Statistical Manual of Mental Disorders- Fourth Edition (DSM-IV)* made it impossible for a co-morbid diagnosis to be made because the ADHD symptoms were typically associated with ASD (van Steijn et al., 2012). The two are be connected since both are neurodevelopmental disorders that typically begin in early childhood and impact individuals for the rest of their lives (LaBianca et al., 2018; Hag-Ting et al., 2018). In a review of the literature, van Steijn et al. (2012) found that many researchers disagreed with the *DSM-IV* classification because 22-83% of the samples showed that children with ASD also demonstrated enough of the ADHD symptoms to receive a diagnosis and 30-65% of children with ADHD also showed enough symptoms to receive a diagnosis of ASD. As research into both ASD and ADHD continued, classifications have changed. The current research and the introduction of the *DSM-V* showed a change in classification, and individuals can be diagnosed with co-morbid ASD and ADHD (LaBianca et al., 2018).

Co-Morbidity in Females with ASD

When examining ASD, researchers tend to focus efforts on male populations (Carpenter et al., 2019). One reason for this focus is that males dominate the ASD category with a ratio of 4 males to 1 female (Glass & Guld, 2016; Murray, 2012; Yin & Schaff, 2017). Additionally, it is common for females to have higher social motivation and mask their behaviors to fit in with their peers, which often results in females going undiagnosed or receiving an incorrect diagnosis (Hull et al., 2017; Westwood et al., 2018). However, when examining ASD in conjunction with other conditions, some conditions require a more extensive look into females. One example is anorexia nervosa, an eating disorder characterized by an intense fear of gaining weight and a distorted body image, which typically develops during adolescence and affects more females than males (Tchanturia et al., 2019; Westwood et al., 2018).

Additionally, anorexia nervosa is associated with functional and social impairments (Tchanturua et al., 2019). These impairments create an interesting link to ASD because individuals with ASD often have impairments in these areas. However, Tchanturia et al. (2019) and Westwood et al. (2018) noted that ASD symptoms in individuals with anorexia nervosa differ across age groups and stages of the illness, which suggests that anorexia nervosa may cause symptoms similar to ASD even though ASD is not present in the individual.

Westwood et al. (2018) investigated the presence of ASD in a sample of adolescent females with anorexia nervosa. Out of the 40 female participants, four were determined to have ASD (Westwood et al., 2018), representing 10% of the population within the study. All four of the participants were diagnosed with ASD as well as anorexia nervosa; all parents believed their daughter had ASD or another developmental disorder, and each clinical team suspected ASD prior to participation in the study (Westwood et al., 2018). The results of this study demonstrated not only the importance of examining all aspects of ASD, but why it is vital to include females in these studies. Continuing research to develop an understanding of how ASD impacts females can create greater equity, diagnostic outcomes, and treatment (Oswald et al., 2016).

The most common disorder to be found with ASD is anxiety, with estimates of 40% of children with ASD also having generalized anxiety disorder (Oswald et al., 2016; Vicki & Sharpley, 2020). When examining the non-neurodivergent population, it has been found that females have higher rates of depression and anxiety when compared to men (Oswald et al., 2016). Additionally, it is thought that females with ASD are at a greater risk of developing internalizing disorders such as depression and anxiety; however, there is a lack of evidence within the research to back up this theory (Oswald et al., 2016). Parents tend to rate their daughters’ anxiety more severely than the daughters rated themselves (Vicki & Sharpley, 2020). Possible explanations for this are that due to the ASD, the females remain unaware of their feelings and emotions, or they consider anxiety to be part of their ASD; however, there is a lack of research in this area and these explanations are only hypothetical (Vicki & Shapley, 2020). There is little research on how anxiety impacts females with ASD. More research looks at co-morbidity across the sexes and there is a lack of research regarding females. This is important to note since research shows that ASD in females does not always present the same way in males (Lockwood et al., 2021). Understanding how ASD impacts females is vital to ensure they are provided the services and support needed for success in and out of schooling.

Special Education Versus ADA

Individuals with disabilities within the K-12 schooling system have an easier time when it comes to receiving services. One reason for this is all the laws and regulations to support students with disabilities. Historically, students with disabilities were not always offered the opportunity to participate in education and were often excluded from school participation. In fact, many schools cited legal precedents for exclusion or unequal treatment (Flannery & Wisner-Carlson, 2020). *Watson v City of Cambridge* in 1893 is often cited as one of the earliest instances of exclusion from school because of a disability, with the Massachusetts Supreme Court ruling that a child with a disability could be excluded from public school (Flannery & Wisner-Carlson, 2020). Another instance occurred in 1919 from a ruling by the Wisconsin Supreme court that allowed for the exclusion of a student who demonstrated the ability to benefit from public education but had unusual facial features, frequently drooled, and displayed speech problems (Flannery & Wisner-Carlson, 2020). These court cases and others like them set the stage for public schools to refuse education to students with disabilities.

This precedent stayed in place for many years, and students with disabilities were often denied access to education; however, reform began to take shape during the civil rights movement. *Brown v Board of Education* from 1954 is considered a landmark case when examining the civil rights movement, yet it also had significant implications for students with disabilities. The court ruled that the segregation stance of separate but equal is inherently unequal, which began the process of desegregating public schools (Flannery & Wisner-Carlson, 2020; O'Brien et al., 2015). Advocates for students with disabilities used this case to argue against excluding individuals from education or requiring them to be educated in substandard educational environments (Lengyel & Vanbergeijk, 2021; O'Brien et al., 2015). Change did not happen all at once for students with disabilities, but individuals with disabilities and advocates continued to fight. Changes started to take place in the 1970s with the ruling of *PARC (Pennsylvania Association for Retarded Citizens) v the Commonwealth of Pennsylvania* in 1972, which found in favor of PARC, stating that the state was required to provide free public education to students with intellectual disabilities and even included procedure protections (Lengyel & Vanbergeijk, 2021; O'Brien et al., 2015). This case laid the foundation for the current educational principle of Free Appropriate Public Education (FAPE), which is a guiding principle for special education (O'Brien et al., 2015). Another case from 1972, *Mills v Board of Education*, found in favor of students with disabilities stating all students are given the right to a free and appropriate public education in the District of Columbia and provided an outline for the procedural safeguards (Lengyel & Vanbergeijk, 2021; O'Brien et al., 2015). These court cases helped to lay the foundation for the passage of federal regulations that would provide access to education for all students regardless of their abilities.

Following the rulings of the court cases in 1972 and other court cases across the country, legislation began to be passed to ensure access to education for students with disabilities. The first piece of federal legislation to provide rights for students with disabilities was the Vocational Rehabilitation Act of 1973, specifically Section 504 of the Act (Lengyel & Vanbergeijk, 2021;

O'Brien et al., 2015). The Vocational Rehabilitation Act prohibited any federally funded public institution, agency, or program from discriminating against individuals with disabilities (Lengyel & Vanbergeijk, 2021; O'Brien et al., 2015). Since public schools receive assistance through federal funds, this piece of legislation prevented schools from excluding students with disabilities. The Act also included a section that spoke about the rights of students to receive accommodations in schools, now commonly referred to as 504 Plans (O'Brien et al., 2015). While the Vocational Rehabilitation Act was a step in the right direction, schools were still falling short of providing the necessary support and services for the needs of students with disabilities. In 1975, another legislation was passed that provided additional principles to support students with disabilities. Public Law 94-142: the Education for All Handicapped Children Act (EAHCA) required public schools to meet the needs of all students with disabilities (O'Brien et al., 2015). In 1990, EACHA was renamed the Individuals with Disabilities Education Act (IDEA). This is the Act that is most referred to when discussing special education, as it is the law that outlines special education implementation (O'Brien et al., 2015). Lengyel and Vanbergeijk (2021) noted that when it comes to the current status of special education, EACHA and IDEA provided the foundation for the seven principles that guide special education:

1. FAPE is a fundamental right provided to all students.
2. All students, regardless of ability, have a right to receive education in the least restrictive environment (LRE).
3. Students have a right to receive education through an Individualized Education Program (IEP).
4. Assessments and evaluations must be non-discriminatory.
5. Parents have rights and must be included in the process.

6. Parents are to be partners within the educational process and have their rights protected through the procedural safeguards, which also outline due process.
7. All students with disabilities are guaranteed education up to age 21, also called zero reject.

These principles guide special education decision-making in schools. With the rights outlined by the various regulations, all students, regardless of their ability, have access to a free public education provided in the least restrictive environment (Lengyel & Vanbergeijk, 2021; O'Brien et al., 2015). With the implementation of the Individual Education Program, students with disabilities can access the support and services needed for success within the school (Lengyel & Vanbergeijk, 2021; O'Brien et al., 2015). It is important to note that these principles and the rest of the special education legislation apply to public K-12 schooling. Access to needed support is often more challenging after leaving high school.

Once an individual leaves high school, access to needed support for a successful life can become more challenging. There are fewer laws and regulations in place to provide access to support than there are in K-12 schooling. The primary regulation that is used to support individuals with disabilities is the Americans with Disabilities Act (ADA). Congress passed the Act in 1990 to provide a clear mandate to end discrimination against individuals with disabilities (O'Brien et al., 2015). The main idea of the Act was to ensure that individuals with disabilities could be fully active participants in society, which was a significant change from how they were often treated previously. Active participation in society includes access to public buildings and employment (O'Brien et al., 2015; Ottomanelli et al., 2020). ADA requires the use of reasonable accommodations.

An example of this requires public buildings to have ramps instead of just stairs, motion-detected doors instead of only push or pull options or widened doorways. Also known as universal design, these accommodations benefit non-disabled people, but provide individuals with disabilities a way to participate independently in society (O'Brien et al., 2015). It is important to note that while ADA provides many supports and protections for individuals with disabilities, it is a system that relies on self-advocacy and a demonstration of need to access them (Elias & White, 2018). In post-secondary education, accommodations are limited, and they must not change the core curriculum (Elias & White, 2018). While ADA does provide some protections for employment, such as prohibiting discrimination in hiring, compensation, advancement, and firing, it has not improved outcomes for individuals with disabilities (Ottomanelli et al., 2020). In fact, the employment rate for individuals with disabilities has worsened over time (Ottomanelli et al., 2020). When it comes to attending post-secondary education, no laws or regulations are in place ensuring accommodations are provided to individuals with disabilities like what is provided to them in K-12 schooling. Often, individuals go from a place with strict rules and routines to follow into adulthood, which is much more complicated, and they are suddenly in charge of navigating their own life (Carpenter et al., 2019).

ASD and Transition

Every student is faced with a variety of transitions throughout their schooling career. These transitions include moving from one activity to another, going from one classroom to another, changing grade levels each year, and sometimes even moving schools such as elementary to middle to high school. Each type of transition comes with its challenges for every student; however, individuals with ASD often have additional challenges. ASD can impact social, emotional, and organizational competencies, making adjusting to these new situations more difficult (Bruck et al., 2022). Additionally, ASD often presents with restrictive and repetitive behaviors making routine changes extremely difficult (Bruck et al., 2022; Ghanouni & Raphael, 2022). Although individuals with ASD share many of the same characteristics, it impacts each person differently, requiring varying levels of support to live a successful life (Ghanouni & Raphael, 2022). One area of transition that requires much planning and preparation is adulthood and life after high school.

Like all other areas of transition, moving to adulthood and life after high school is an essential step for all students. While traditional K-12 schooling comes with its own set of challenges for students with ASD, there is often still a sense of routine and safety that comes with it. However, moving away from secondary education creates change in psychosocial, scholastic, and physical needs (Ghanouni & Raphael, 2022), and often increases anxiety levels while lowering motivation (Bruck et al., 2022). It is common for many students to struggle to adjust to life after high school, and outcomes for individuals with disabilities are worse than non-disabled peers; however, Wong et al. (2020) note that outcomes for transition for individuals with ASD are poor when compared to those with other types of disabilities. While many services are in place to assist individuals with access to education, health and mental services, and home and community supports, the increasing number of individuals diagnosed with ASD and reaching transition age means the supports are stretched (Roux et al., 2023). Access to these types of supports helps to improve transition outcomes for individuals with ASD.

Additionally, many individuals need support when accessing employment. Many people with ASD who attend college report challenges obtaining employment following graduation, and employment rates are only 4.1-11.8% for individuals with ASD (Gentry et al., 2015). Even with all the services, over 25% of individuals with ASD do not receive support the first years after high school (Roux et al., 2023). While this study examined ASD as a whole, it speaks volumes about the importance of understanding ASD and how it impacts all individuals. With a deeper understanding of ASD, outcomes for all individuals with ASD can likely be improved.

ASD and Self-Determination

Transitioning into adulthood is more than just obtaining employment or attending college. It is a time for all individuals to engage in exploration and self-discovery. Young adults work to establish their own knowledge base outside of what they learned in public school while also establishing their own behaviors, experiences, and attitudes (Cheak-Zamora et al., 2020). During exploration and self-discovery, individuals develop skills such as making choices, decision-making, goal setting, problem-solving, self-monitoring, self-regulation, self-advocacy, and self-awareness (Cheak-Zamora et al., 2020). These skills are encompassed in the broad term of self-determination, meaning that individuals are the causal agent of their lives (Morán et al., 2021). Self-determination development focuses on ensuring the individual is in control of life, providing opportunities for full participation from the individual, and providing support as needed (Cheak-Zamora et al., 2020). Self-determination has been linked to positive in-school and post-school outcomes, including greater access and success in higher education, employment, and community participation (Morán et al., 2021). Self-determination is also linked to social cognitive theory (Bandura, 1999) because both explain that the individual is the one in control of the environment (Bandura, 1999; Cheak-Zamora et al., 2020). Most typically developing individuals can develop these skills quickly; however, individuals with disabilities often need education, opportunities, and support to develop these skills (Cheak-Zamora et al., 2020).

Individuals with ASD have their own set of challenges when developing self-determination skills.

Outcomes for individuals with ASD are not as positive as they are for typically developing individuals. As people with ASD transition into adulthood, they often experience a lower quality of life, struggle to achieve independent living, or struggle to meet adult milestones (White et al., 2022). The development of self-determination skills is often more difficult for individuals with ASD because the critical characteristics of the disorder often work against the development of the skills (Cheak-Zamora et al., 2020). For example, deficits in executive functioning are not a requirement to receive an ASD diagnosis; however, many struggle, which impacts self-determination in the following areas: self-monitoring, self-regulation, goal setting, and planning (Cheak-Zamora et al., 2020). Additionally, many individuals with ASD show an underdeveloped sense of independence, interpersonal skills, and ability to manage stress and emotions (White et al., 2022). Interpersonal skills are often referred to as soft skills (Riggio & Tan, 2013). Interpersonal skills include being able to work with others and social intelligence (Riggio & Tan, 2013). Individuals with ASD often struggle in these areas due to the difficulties they already have with social skills (Tharian et al., 2019; Thompson & Knight, 2019). These skills are needed for individuals to fully develop their self-determination skills. When self-determination can be developed, individuals often experience a greater sense of freedom and are in control and autonomous (White et al., 2022); however, individuals with ASD often stick to strict routines, and, due to uncomfortable feelings surrounding new situations, often rely on caregivers to plan and maintain schedules and activities (Cheak-Zamora et al., 2020).

Often, individuals with ASD are limited in developing self-determination skills because they rely on caregivers, meaning they are limited in their ability to make decisions and control their environment (Cheak-Zamora et al., 2020). In order to improve the development of self-determination skills, individuals with ASD need to be offered opportunities to practice these skills; however, Morán et al. (2021) noted that most research advises that individuals with ASD are not often offered the opportunities and support needed to practice and develop their skills. As with the rest of ASD, self-determination is not one size fits all. While positive post-school outcomes are associated with individuals that can develop self-determination skills, individuals with ASD are often linked to poor post-school outcomes because people with ASD have lower enrollment in post-secondary education programs, lower rates of employment, and live less independently (Morán et al., 2021). Additionally, those with ASD who are employed, often make less money and work fewer hours (Kraemer et al., 2022). Regardless of independent life status, most do not engage in their community at the same rates as peers with other disabilities (Kraemer et al.,2022). Opportunities to develop self-determination need to be embedded throughout the educational programming to improve the outcomes for all individuals with ASD (Kraemer et al., 2022). Furthermore, the opportunities must be specific to the student and the deficit areas.

ASD and Self-Advocacy

Self-determination is a skill needed in independent life. When looking at individuals with disabilities, those who have higher levels of self-determination are more likely to leave secondary schooling with higher levels of positive community experiences (Cheak-Zamora et al., 2020; Kraemer et al., 2022; Mazzotti et al., 2018). Self-advocacy is one of the many areas encompassed in the total area of self-determination. Self-advocacy is when a person speaks or acts on their own behalf without assistance (Garner & Shadow, 2018). This relates to self-determination because self-advocacy helps to give the person power over life (Cheak-Zamora et al., 2020; Garner & Shadow, 2018). The ability to self-advocate is a valuable skill that can improve outcomes for individuals. With self-advocacy, individuals can reduce the chances of being exploited and increase their overall self-esteem (Garner & Shadow, 2018). Both of these can lead to improved well-being and success in life. Self-advocacy promotes more inclusive practices and cultures (Waltz et al., 2015). Developing self-advocacy skills is essential for everyone; however, like with self-determination, individuals with ASD may need additional support and opportunities to develop this skill effectively.

It is crucial for individuals with ASD to learn self-advocacy skills in high school and it eases the transition afterwards. The development of self-advocacy skills is necessary for individuals to gain access to the support needed to be successful in life. If students opt for post-secondary education, they are met with additional social, emotional, and organizational demands, which are typically areas that are underdeveloped in individuals with ASD (Elias & White, 2018). The higher demands placed on individuals upon leaving high school often result in less-than-desirable outcomes for people with ASD. Their challenges often result in poor academic and vocational performance and poor social outcomes (Elias & White, 2018). As with self-determination, parents often provide the necessary support for their children to succeed in the post-secondary environment (Cheak-Zamora et al., 2020; Elias & White, 2018). Schools must provide transition planning and training for individuals with an IEP; however, the intense supports provided by schools are not readily available in the post-secondary world (Elias & White, 2020).

Many students decide to further their education by attending an academic institution of higher learning following graduation from high school. Individuals with ASD are no different, and many opt to participate in higher education. During the 2008-2009 academic year, 88% of higher education institutions enrolled students with disabilities, and 56% noted enrollment of students with ASD (Sarrett, 2018). While individuals with ASD tend to have a high enrollment in higher education, and trends indicate enrollment will continue to increase (Sarrett, 2018; Sefotho & Onyishi, 2021), individuals with ASD have lower graduation rates when compared to non-disabled peers as well as peers with other disabilities (Sarrett, 2018). Individuals with ASD often experience challenges in primary and secondary schooling. As they transition to post-secondary education, they tend to experience similar challenges, but have additional struggles because routines and structure are significantly different than what they are used to, educational spaces are often larger and can become overwhelming, and access to support is often dependent on higher levels of self-advocacy skills and a willingness to self-disclose (Sefotho & Onyishi, 2021). Many higher education institutions offer accommodations for students with disabilities, such as extended time, distraction-free testing, flexible due dates for assignments, breaks during class, use of technology during class, note takers, clear and explicit directions, use of visuals, and optional group activities; however, these are general accommodations typically used for any student with a disability (Sarrett, 2018). One problem with employing general accommodations is they often do not align with the needs of the students (Sarrett, 2018). This means that individuals with ASD, especially females, are still not provided with the type of support needed for success (Sarrett, 2018).

One of the biggest challenges for students with ASD in higher education is the need for self-advocacy. Sefotho and Onyishi (2021) noted that higher education is often the first-time individuals with ASD are required to self-advocate. Sarrett (2018) explained that many students with ASD do not feel comfortable explaining their needs or are unsure how to advocate for themselves. Whether it is their first-time self-advocating, they are unsure how to advocate, or they do not feel comfortable, students are still unable to access the support needed to have a successful experience within higher education. Females with ASD often struggle in K-12 education because they are not provided with the proper support needed for success. Understanding their experiences can not only help to improve K-12 educational experiences, but provides the potential to improve outcomes for higher education.

Summary

ASD is a complex disorder that various factors can influence. One of the factors gaining attention is gender. Although this area is relatively new in research, many researchers are beginning to examine how ASD impacts females and how it differs from males. Social cognitive theory and the female autism phenotype theory were used to guide the understanding of ASD and how females with ASD deviate from the norm. The literature reviewed examined ASD as a disorder, starting from the initial studies to the current time. This was followed by a discussion of the prevalence of ASD and the similarities and differences between genders, with a specific look at diagnosing females with ASD.

Additionally, ASD and its appearance with other disabilities were examined, specifically looking at how ASD and ADHD, and ASD and anxiety interact. This was taken a step further to examine the impact of co-morbidity on females with ASD. Finally, a look at special education law within the K-12 environment and how that differs from the protections provided was examined. This was also to specifically focus on ASD, the transition to adulthood, and the needed skills of self-determination and self-advocacy for success in adult life. Due to the current understanding of ASD and the tools used to analyze it, females are often diagnosed later in their educational careers. A gap in the literature exists in understanding how this late diagnosis impacts the K-12 educational experiences of females with ASD. By examining these experiences, stakeholders can work to implement supports and services that will help to ensure a positive educational experience.

CHAPTER THREE: METHODS

Overview

This transcendental phenomenological study aimed to examine the educational experiences of females diagnosed with autism spectrum disorder (ASD). This chapter includes a description of the transcendental phenomenological research design based on the work of Moustakas (1994). This chapter explains the process for selecting the setting and participants and provides a description and rationale for each data collection and analysis method. Data collection includes individual interviews, questionnaires, and written responses to journal prompts. Finally, the process and procedures are detailed to allow replication of this study.

Research Design

Qualitative research involves developing a study that reaches the heart of the individual, group, or problem (Creswell & Poth, 2016). If done correctly, the final research product will provide voices to the participants by using rich descriptions and interpretations of the problem to contribute to the existing literature or call for change, along with demonstrating the reflexivity of the researcher (Creswell & Poth, 2016). The researcher examined the educational experiences of females diagnosed with ASD. The experiences of females with ASD are often not investigated because most studies use males as their only participants or use a mix consistent with the accepted 4:1 boy-to-girl ratio (Cridland et al., 2014). Conducting research with male only participants or limited female participation means that females still need to be given a place to have their voices and experiences heard. Since qualitative research continually seeks empowerment and voices to those who are too often silenced, this method provides more significant opportunities for females with ASD voices to be heard than if quantitative research was employed (Creswell & Poth, 2016).

Phenomenology focuses on providing understanding and meaning to the shared lived experiences of the participants (Moustakas, 1994). One of the basic principles of phenomenology is to examine the singular essence of the phenomenon or event (van Manen, 2016). To uncover and understand the experience, phenomenology describes what they experienced and how they experienced it (Moustakas, 1994). Since the research focused on understanding the experiences of females with ASD, a phenomenological research design was employed.

It is important to dig into the experiences and be able to provide a detailed description of the females' experiences because their experiences are often overlooked. First-person accounts of real-life experiences are required to gather reports and ensure the voices accurately represent the phenomenon (Moustakas, 1994). The type of phenomenology that was used is transcendental because it focuses more on the description of the experience rather than interpretations of the researcher (Creswell & Poth, 2016). Husserl, a German mathematician from the late 1800s, is often cited as the father of phenomenology, but Moustakas (1994) is credited as the founder of transcendental phenomenology (Creswell & Poth, 2016). Husserl's ideas are more philosophical and abstract, which made others who followed him question the definition of phenomenology (Creswell & Poth, 2016; Moustakas, 1994). Moustakas (1994) noted Husserl's influence when describing the conceptual framework for transcendental phenomenology. While Moustakas' (1994) phenomenology shares many of the same characteristics as other types, the use of epoché sets it apart from the rest. Epoché, often referred to as bracketing, is the process of the researcher acknowledging personal experiences with the phenomenon, working to remove the bias caused by those personal experiences, and attempting to examine the phenomenon without the influence of the personal experience (Moustakas, 1994).

Research Questions

The following research questions were developed for this study to fill the gap in the literature on the educational experiences of females with ASD.

Central Research Question

What are the lived K-12 educational experiences of females diagnosed with autism spectrum disorder?

Sub-Question One

How does the environment affect females with ASD accessing educational support systems?

Sub-Question Two

How do females with ASD experience change after receiving an autism spectrum diagnosis?

Sub-Question Three

How do the behaviors associated with autism spectrum disorder affect access to educational support?

Setting and Participants

This section outlines the location and participants for this study. A description of the setting will be described, along with a rationale for why the location will be appropriate. The section also includes a description of the participants and the selection process.

Setting

The setting for this qualitative study focused on the participants rather than a specific site location. Participants were recruited from anywhere in the United States. While the hope was to find participants near my location in southwestern Pennsylvania to allow for individual face-to-face interviews, this was not a requirement for participants. By keeping the site across the United States, a deeper picture of the females' experiences was developed. If the research had focused on a single school district, the understanding of the educational experiences would have been limited to the opportunities, strengths, and weaknesses of the school district. A similar version would be found if the research used a single geographic area: the experiences provided by the participants would be limited to the site. Using individuals from various parts of the United States, a broader picture of the educational experiences was developed, which can be used to improve educational practices for females with ASD.

Pseudonyms were employed to protect the identity of the school districts the females attended. The purpose of the study was not to determine which schools provide the best educational opportunities; therefore, using pseudonyms ensures that a comparison of the schools is not made and keeps the focus on the participants' experiences. Although the schools were not the focus of the study, school names and districts will not be disclosed in this research.

Participants

Specific criteria were needed for participants to qualify to gain a clear understanding of the educational experiences of females with ASD. First, each participant must have been assigned female sex at birth to ensure that all participants are female and to keep with the purpose of the study, which was to examine and understand the educational experiences of females with ASD. Participants must also have received a diagnosis of ASD through a school psychologist, psychiatrist, or pediatrician. It is important to note that some participants may have a medical diagnosis of ASD instead of an educational one. This is because females tend to be diagnosed later than is typical for males. Some participants may not have received their diagnosis until after graduation from high school. For this study, a diagnosis will be defined as participation in an evaluation with a school psychologist, psychiatrist, or pediatrician, and being found to demonstrate the characteristics necessary to obtain a medical or educational determination of ASD. Finally, participants must be between the ages of 18-25. The age range ensures that participants can reflect upon their K-12 educational experiences. Participants must also have gone onto post-secondary education or training. This was to ensure that each participant was cognitively able to provide their own informed consent.

Demographic information regarding age, race, and location was collected to understand educational experiences better. Still, this information is not specific criteria to be included in the study.

A total of 10 participants were used in the study. Participants were selected using convenience sampling of individuals within my life that fit the criteria for the study. Additionally, social media posts and emails sent to local organizations that work with individuals with ASD were used. Snowball sampling was also used. The emails to local organizations, emails to individuals in my life, and social media posts can be found in Appendix A and Appendix B. A questionnaire was sent to possible participants. The questionnaire was used to gather participants, along with demographic information and a timeline of their ASD journey. This questionnaire was also a form of data collection. This questionnaire can be found in Appendix C. Table 1 provides the demographic information of the participants.

Table 1
Female Participants

Name	Current Age	Ethnicity	Age of Diagnosis	ASD Level	Employed	Post-Secondary Education

Aderyn	25	Black	15	Level 1	Yes	Yes
Ciara	25	Black	24	Level 1	Yes	Yes
Lena	22	Black	22	Level 2	Yes	Yes
Kahleena	24	White	20	Level 1	Yes	Yes
Kinvara	23	Black	21	Level 1	No	Yes
Sabine	24	Black	19	Level 2	No	Yes
Synthia	22	Black	17	Level 1	No	Yes
Remi	20	Latino	19	Level 1	Yes	Yes
Violet	22	White	10	Level 1	No	Yes
Xarianna	25	Black	20	Level 2	No	Yes

Researcher Positionality

Personal experiences developed through interpersonal relationships evoked my initial interest in exploring females diagnosed with ASD. Specifically, a maintained friendship with a female diagnosed with ASD at the age of 22 heightened the interest. In disclosure, this individual expressed immense clarity upon receiving the diagnosis. Specifically, she noted that upon hearing the diagnosis, something within her seemed to click into place, and all of her quirks began to make sense. She remembered how difficult high school was and the various coping strategies she used to make it through her days. Upon learning her diagnosis, aspects of life have become more accessible, and her differences from typical society do not seem so overwhelming now. Unfortunately, she is not alone in her story. Many females receive diagnoses late in their schooling career, later in life, or not at all. While it is not unheard of for males to receive a diagnosis later in life, it is usually made in the early stages. Having a diagnosis allows schools to create plans to help create opportunities for educational success. The experiences are often much different for females because they do not receive help when needed. Understanding the differences in not only ASD, but in education, can help to create a better understanding of ASD and allow researchers and educators to ensure success for all students with ASD.

Interpretive Framework

Feminist theory was the interpretive framework I ascribed to for this study. Feminist theory emphasizes conducting transformative research for women (Creswell & Poth, 2016). Females with ASD are rarely studied independently because males are diagnosed more often (Harrop et al., 2015). When research and studies are done to examine the symptoms and best practices used to support individuals with ASD, females are less likely to be included because their representation in the category is much lower, creating a cyclical trend; females are less likely to be diagnosed, resulting in less participation in research, resulting in females being less likely to be diagnosed (Rynkiewicz & Łucka, 2018). This trend is just one possible explanation for why females have more difficulty receiving a diagnosis. Understanding the educational experiences of females with ASD is a step toward developing ways to better support females with ASD.

Philosophical Assumptions

Philosophical assumptions focus on the researcher's beliefs, values, and biases (Creswell & Poth, 2016). They are used to help the reader understand the world through the eyes of the researcher. Three assumptions are addressed: ontological, epistemological, and axiological.

Ontological Assumption

Ontological assumptions deal with the nature of reality and the idea that there are multiple realities (Creswell & Poth, 2018). What this means is that everyone has a different reality. This concept can be challenging to understand because we spend so much time in our heads that it is easy to view the entire world as we see it. However, every experience impacts our reality, making it different than others. How I consider the topic may differ from the study participants, and their views might differ from the readers. Since I am the researcher, I reported each participant's various experiences and themes, even if what they said differed from my reality. The participants' experiences and reality are as meaningful as my own, or the readers', and the experiences and truth must be represented accurately and respectfully.

Epistemological Assumption

The second philosophical assumption is epistemology, which examines truth and knowledge, including how humans can acquire each. For qualitative research, knowledge is known through the experiences of others. Evidence of knowledge and truth is provided through quotes obtained from the participants (Creswell & Poth, 2018). To learn and understand these experiences, Creswell and Poth explained that the researcher needs to get as close as possible to the participants in the study. This can include observing and interviewing the participants in an authentic context to understand the experiences. It is essential that the participants do not view the researcher as an outsider because this can impact the understanding of knowledge and truth.

Axiological Assumption

One of the aspects of qualitative research that I love is the axiological assumption. Qualitative research makes the researcher's values known (Creswell & Poth, 2018). Everyone has values, interpretations, and biases. In most aspects, we are told we must remove ourselves from the study, but qualitative research has the researcher acknowledge these values and how they shape the understanding (Creswell & Poth, 2018). I do not have a clear stake in my research because I do not have ASD, and I do not have any female family members who have ASD.

However, I have noticed this is another area where females are often overlooked. By understanding the experiences of females with ASD, I can better understand the types of support and services needed to provide them with a positive educational experience. Proverbs 3:27 states, “Do not withhold good from those to whom it is due, when it is in your power to do it” (*English Standard Version*, 2001). I may not be a girl with ASD, but I do have the ability and opportunity to contribute to the research and hopefully be a positive force.

Researcher’s Role

Transcendental phenomenology focuses on describing experiences rather than interpreting the experiences (Moustakas, 1994). Since I was the human instrument for this study, I set out to gain a rich and detailed understanding of the experiences through the voices and words of those within the phenomenon. To do this, I followed the steps Moustakas (1994) laid out, including the very significant idea of epoché. Although the epoché process is one of the fundamental ways transcendental phenomenology is set apart from the rest of qualitative research, it was Husserl who developed this concept (Moustakas, 1994). Epoché states that researchers must remove pre-determined judgments, biases, and ideas to view the phenomenon and experiences with clear eyes and a blank slate (Moustakas, 1994). While this is the ideal scenario for conducting a transcendental phenomenological study, it is complex and rarely achieved. However, breaking through those prejudgments is an essential part of phenomenology. To achieve a valid transcendental phenomenological study, I worked to see the world in a new light without the burden of customs, beliefs, and personal assumptions (Moustakas, 1994). I noted and kept track of my biases and judgments using a reflexive journal, which can be found in Appendix D. I had the assumption that before receiving an ASD diagnosis, the females had a negative educational experience, which changed when they received the diagnosis.

Procedures

The experiences of females with ASD are often not explored, meaning their voices are not heard. Transcendental phenomenology provides an opportunity for females to share their stories and experiences. The participants of this study can break the silence and seek change to improve educational opportunities for others like them. Therefore, it is crucial to describe the steps used in this study to replicate it.

Permissions

Liberty's Institutional Review Board's Approval was obtained before any data collection. The IRB approval letter can be found in Appendix D. Once approval was obtained, I began following the recruitment plan to gather participants for the study.

Recruitment Plan

The sample pool for this study was any female who received either a medical or educational diagnosis of ASD. Since the focus of the study was more on the participants than the setting, the sample pool included females throughout the United States. While the hope was to find participants near my location in southwestern Pennsylvania to allow for individual face-to-face interviews, this was not a requirement for participants. Ideally, phenomenological studies have anywhere from 5 to 25 participants (Creswell & Poth, 2016). For this study, a total of 10 participants were used. Participant selection began with a convenience sample of individuals within my life who fit the criteria for the study. Additionally, social media posts and emails sent to local organizations that work with individuals with ASD were used. Snowball sampling was also used; I asked initial participants to forward my recruitment letter to individuals they know who might fit the study criteria. Convenience sampling and snowball sampling did not work as well as intended; only one participant had been gained. I applied for a modification to my initial proposal to include compensation of a $25 Amazon gift card. This modification was approved by Liberty's IRB and the approval is in Appendix D. The emails to local organizations, emails to individuals in my life, and social media posts can be found in Appendix A and Appendix B. Included in the emails and social media posts was the recruitment information, which explained the study's purpose and the tasks that were asked to be completed. A link to the letter of consent and subsequent questionnaire was contained in the emails, letters, and social media posts. All participants were at least 18 years of age; therefore, parental consent was not required. The first page of the questionnaire was the informed consent, explaining the purpose of the study and participation criteria. Once participants provided their informed consent, demographic information was collected, followed by items that allow for the creation of a timeline of each participant's ASD journey (see Appendix C).

Data Collection Plan

Qualitative research focuses on the human parts of the phenomenon. Researchers focus on the heart of the individual, group, or problem being studied. Since qualitative research works to understand human or social issues, the methods and data collection associated with quantitative analysis is not appropriate to measure the needs (Chamberlain, 2009). Data collection for this study used the methods of phenomenology because this approach uses the participants' shared experiences to establish meaning and describe the phenomenon's essence (Creswell & Poth). The primary method of data collection used in phenomenological studies is in-depth individual interviews that use interactive, open-ended questions (Moustakas, 1994). A questionnaire with timeline items and responses to journal prompts were additional methods of data collection.

Questionnaire

A questionnaire was the first method for collecting data for this study. Questionnaires are often used to help gather participants as they are a simple way to ensure that individuals meet the criteria for the study; however, more in-depth questions can be used for descriptive or explanatory research (Saris & Gallhofer, 2007). The questions used should use more open-ended questions that focus on the purpose of the study.

The first part of the questionnaire was used to collect demographic information about the participant The second part of the questionnaire focused on developing a timeline of significant events in each participant's ASD journey. This data collection method was used to answer the central research question: What are the lived K-12 educational experiences of females diagnosed with autism spectrum disorder? Additionally, sub-questions two and three are included within the questionnaire: how do the females' experiences change after receiving an autism spectrum diagnosis; and how do the behaviors associated with autism spectrum disorder affect access to educational support? Before administering the questionnaire, my committee conducted a review of the questions to ensure they targeted the purpose of the study, along with the central research question and each of the sub questions. Before completing any part of the questionnaire, participants were prompted to provide their informed consent (see Appendix E).

Questionnaire Questions

The full questionnaire with the demographic questions included can be found in Appendix C. The questions relating to the timeline of the ASD journey are detailed below.

1. Are you currently employed? If so, what type of work do you do? SQ2
2. Are you currently or have you ever attended post-secondary education or training? If so, what did you study or what area was your training? SQ2

3. How old were you when you received your ASD diagnosis? CRQ
4. Have you had any other diagnoses in addition to ASD? If so, when? SQ2
5. Following an ASD diagnosis, did you receive services in school? (Services can be accommodations during classes, pull-out support, related services, or any other support provided by the school). SQ2
6. If you answered "yes" to the previous question, please describe the type of services you received. If you answered "no," please type "n/a." SQ2
7. If you were receiving any kind of services while in K-12 schooling, did you ever loose services? SQ3
8. If you answered "yes" to the previous question, please describe the circumstances surrounding the loss of services, along with your feelings about the loss. If you answered "no," please type n/a. SQ3
9. What were the best supports, accommodations, services, or interventions provided to you by your school? SQ2
10. Please list any other events experienced growing up until now that you feel are significant and why. CRQ
11. Are there any significant turning points where you saw your ASD diagnosis in a new light? If so, please describe. CRQ

The third question begins to develop the timeline of the ASD journey by determining when each participant received their diagnosis. Additionally, questions 10-11 focus on developing a deeper understanding of the educational experiences. Carpenter et al. (2019) noted that females are more often diagnosed with ASD later in life than males. Questions 1-2 and 4-6 focus on developing an understanding of how the educational experiences changed once receiving a diagnosis. Questions 7-8 examine the services and support received by the participants once they were diagnosed with ASD. Often, the diagnosis comes later in schooling for females, which leaves them with less access to the services and interventions that can help them to achieve success in school and prepare for life after school (Whitlock et al., 2020).

Questionnaire Data Analysis Plan

Although the data collection method is a questionnaire, which typically follows statistical analysis, the questions were open-ended and similar to interview questions. For that reason, data analysis followed the steps laid out by Moustakas (1994). This analysis included coding and the development of themes, followed by a textural description (what was experienced) and a structural description (how it was experienced) (Creswell & Poth, 2016; Moustakas, 1994). Coding was done during the initial review of the responses to the questionnaire. Relevant ideas and comments were highlighted and searched for in each response. Codes were grouped together to develop themes of the experience. The codes and themes can be found in Appendix F. After the themes were developed, the information was synthesized to describe the experience (Moustakas, 1994). Finally, a textural description and a structural description were developed to describe what was experienced and how it was experienced (Moustakas, 1994). The analysis of the questionnaire was combined with the individual interviews and journal prompt responses to create a final description of the K-12 educational experiences of females with ASD.

Individual Interviews

The second type of data collection that was used for this study were individual interviews. Interviews are social interactions that result in the conversation and exchanging of ideas (Creswell & Poth, 2016). When conducting phenomenological research, it is essential to use person-to-person interviews as the first means of data collection (Moustakas, 1994).

Additional follow-up interviews were not required to understand the experience fully. With qualitative research, interviews are often more complex than they may sound. Since interviews are a data collection method, the researcher becomes the research instrument (Galletta, 2013). The interview structure for this study will be semi-structured. Semi-structured interviews give the researcher the flexibility to understand the experience (Galletta, 2013). Interview questions must be open-ended to allow the participants to share their experiences, yet not so broad that participants speak to various topics that make it challenging to achieve commonality.

Since the focus of this study was on the K-12 educational experiences of females with ASD, semi-structured interviews were an appropriate data collection method to gather their experiences. This data collection method answered the central research question: What are the lived K-12 educational experiences of females diagnosed with autism spectrum disorder? Additionally, each of the sub-questions is responded to with the interview questions: how does the environment affect females accessing educational supports systems; how do the females' experiences change after receiving an autism spectrum diagnosis; and how do the behaviors associated with autism spectrum disorder affect access to educational support? Interviews were conducted via a Zoom meeting, as none of the participants were located near my area of southwestern Pennsylvania. Interview times varied based on the availability of each participant, but were generally held in the evening. Before beginning each interview, verbal consent was obtained to video and audio record each session, along with a review of the purpose of the study and the participants' right to decline participation in the study. Participants of the interviews were the researcher and study participant. The following questions were used to guide the interview and keep it focused and on track. However, they also left space open to allow the interview to develop organically.

Individual Interview Questions

1. Please describe your educational experience from your first memories of school through the end of high school. CRQ
2. What do you remember of school before receiving your ASD diagnosis? SQ2
3. What challenges did school cause for you? SQ1
4. How did receiving your diagnosis change your experiences? CRQ
5. Please describe your thoughts and feelings about receiving the diagnosis. CRQ
6. Who helped advocate for you to receive an ASD diagnosis? SQ3
7. How well do you think the school handled your disability? SQ1
8. How did your parents or guardian advocate for you before you had a diagnosis? SQ3
9. When did you start to notice your disability? SQ3
10. Did you have a different disability diagnosis before ASD? If so, what was it? SQ2
11. How do you think ASD impacted your relationship with peers and teachers? SQ3
12. Prior to your diagnosis, what were your goals and plans for the future? Did they change after you received your diagnosis? How so? SQ2
13. What supports, if any, were offered to you in school before your diagnosis? SQ1
14. Is there anything else about your K-12 educational experience that you want to share? CRQ

Questions 1, 4-5, and 14 were used because they get at the core of this study and set the stage for understanding their experiences. Questions 2-3 and 6-13 focus on understanding the factors that led the females to receive an ASD diagnosis. Most of what the world understands about ASD comes from the work of Kanner and Asperger, who developed similar ideas even though they were working independently and on different continents (Feinstein, 2010; Murray, 2012).

Both men used almost exclusively males in their various studies, which means many of the ideas and diagnostic tools only relate to part of the population. Understanding the diagnostic process as it relates to females can help researchers improve.

Individual Interview Data Analysis Plan

Before any data analysis began, each participant was provided a transcript of their interviews so they could read through it for errors and ensure it captures the experience. None of the participants responded back with feedback. Interviews capture the understanding in the words of each person who experienced it. To accurately represent the participant and the experience, it is crucial to ensure the transcription is accurate. Moustakas (1994) outlined how data analysis for a phenomenological study should be conducted. Analysis for the individual interviews followed a similar process as the questionnaire. The analysis included coding and theme development, followed by a textural description of the experience (what was experienced) and a structural description of the experience (how it was experienced) (Creswell & Poth, 2016; Moustakas, 1994). The codes and themes can be found in Appendix F. The codes, themes, and descriptions were then combined to develop a composite description of the essence of the females' experiences (Moustakas, 1994). The developed themes were used to describe the experience (Moustakas, 1994). A final description of the essence of the phenomenon was presented once data from each collection procedure was analyzed.

Journal Prompts

The final collection method used for this study was journal prompts. Gathering written responses from participants is considered a traditional qualitative research method (van Manen, 2016). For this study, responses were obtained by providing participants with a prompt and allowing time to complete the reaction. When discussing a personal experience, it can be challenging to find the words to describe the experience honestly. Journal prompts allowed participants time away from the researcher and the study to reflect. The participants were able to take the time needed to gather and organize their thoughts before responding to the question. A total of four journal prompts were used for the study. Prompts were sent one at a time, with at least two weeks between each prompt being sent. Participants were asked to respond to each prompt as they received it. While written responses are the traditional way to respond to journal prompts, it may not be the best method of responding for the participants. To ensure participants could provide the most authentic and engaging response to each prompt, they were permitted to hand-write, type, video record, or voice record their responses. This allowed participants flexibility to use the style for which they were most comfortable. The following are the journal prompts that were used for this study.

Journal Prompts

1. How would you describe ASD?
2. What is one thing about ASD you wish you knew before entering school?
3. Please share a recent experience (within the last month) where ASD impacted you in an unexpected way.
4. What do you like most about ASD, and how did it affect your schooling?

These journal prompts aimed to understand ASD and educational experiences better.

Journal Prompts Data Analysis Plan

Journal prompts provided responses for data analysis. Responses to journal prompts allow for thematic analysis, using text to give meaning to human experiences (van Manen, 2016). The journal prompts were analyzed using the steps outlined by Moustakas (1994). The analysis included coding and theme development (Moustakas, 1994). Each response was analyzed for significant information regarding the experience, and the statements were grouped into themes (Creswell & Poth, 2016; Moustakas, 1994). Codes and themes can be found in Appendix F. Theme development was followed by a textural description and structural description of the experience to develop a composite description of the essence of the females' experiences (Moustakas, 1994). The developed themes were combined with the descriptions provided by interviews and questionnaire analysis to create a complete synthesis of the experience.

Data Synthesis

Data synthesis is the step in the analysis procedures where findings across data collection methods are triangulated to corroborate and consolidate findings. Creswell and Poth (2016) noted that triangulation is when the researcher uses multiple and different sources, methods, or theories to verify evidence and validate the study. Three different data collection methods were used to obtain data triangulation. Triangulation was achieved through the analysis and corroboration of data from individual interviews, questionnaires, and responses to journal prompts. Each data collection method examined a different aspect of the full central research question to gain a clear understanding of the K-12 educational experiences of females with ASD. Triangulation is the method that was used to achieve data synthesis. Any themes not corroborated by two sets of data cannot be triangulated and will need to be areas of future study.

The data was analyzed to provide a description detailing the shared experience's essence. Data analysis and synthesis is often a cyclical cycle of looping through data and connecting themes (Galletta, 2013). An example of the codes and themes can be found in Appendix F and an example of themes with significant statements can be found in Appendix G. This assessment fits with Moustakas' (1994) data analysis model because the steps are often repeated as new information and insight are gained. Each data collection method has its own set of themes developed from the conversations and prompts; however, those themes comprise the essence of the experience. While the individual textual and structural descriptions are used in the outline for analyzing data for personal interviews, they are also helpful in synthesizing all of the data. According to Creswell and Poth (2016), textual description is the *what* of the experience. This was created using examples and information from all three data collection methods and provides a more complete picture of the *what*. A structural description focuses on the *how* of the experience (Creswell & Poth, 2016). The final step is the synthesis of the textural and structural descriptions to create a composite description of the essence of the experience, incorporating quotes and examples from each data collection method to support the themes.

Trustworthiness

When conducting any type of research, it is essential to establish trustworthiness. For quantitative research, this tends to be the sections that focus on the validity, reliability, and generalization of the study; however, those terms do not quite fit within the world of qualitative research (Creswell & Poth, 2016). There may still be some debate about addressing the idea of trustworthiness in qualitative research; the constructs described by Guba are the most widely accepted (Shenton, 2004). Credibility, transferability, dependability, and confirmability are used to establish trustworthiness in qualitative research (Shenton, 2004; Creswell & Poth, 2016). These terms offer greater quality and rigor to qualitative studies than those typically associated with studies. The following sections examine credibility, transferability, dependability, and confirmability to create trustworthiness for this study.

Credibility

Credibility refers to what quantitative research calls internal validity, which means the study does what was intended (Shenton, 2004). Ensuring the research met the intentions is one of the keys to demonstrating trustworthiness. The following were used to ensure credibility: triangulation, debriefing, and member checks.

Triangulation

Triangulation refers to using multiple sources, methods, or theories to provide evidence of accuracy within a study (Creswell & Poth, 2016). Data collection triangulation was obtained through questionnaires, individual interviews, and responses to journal prompts. The qualitative methods of this study followed the phenomenological outline for conducting interviews and data analysis provided by Moustakas (1994).

Debriefing

Debriefing is done through meetings and discussions with peers and superiors (Shenton, 2004). Peer debriefers challenge the perspective by keeping the researcher honest and asking tough questions regarding methods and interpretations (Creswell & Poth, 2016). This credibility strategy allowed me to discuss my findings and ideas with a colleague. The colleague used as peer debriefer was a peer in my academic program who was familiar with my research and was able to provide additional perspectives to my research. A sample of my peer debriefing can be found in Appendix J.

Member Checks

Member checks are considered the most effective strategy to ensure credibility in qualitative research (Creswell & Poth, 2016). Participants were provided with a transcript of their interviews and asked to review it to ensure the information accurately captured their words, voice, and experience. I also wanted to ensure that I had an accurate and complete understanding of the experiences these females had faced; therefore, I had the participants review my knowledge by reviewing my copy of the main points from each participant. Participants were also provided with a final copy of my presentation of findings, which included the themes developed from data collection. This allowed me the opportunity to ensure that I was able to truly capture the essence of the experiences of the participants. Although participants were offered the opportunity to provide feedback, no one responded.

Transferability

When looking at quantitative research, one of the main goals is to determine how well the findings can be applied to another study or other situations; according to Shenton (2004), this is called external validity. However, with qualitative research, the sample populations are smaller, and the context is specific to the individual participants, which makes creating situations that can be applied to other studies nearly impossible. Instead, qualitative research relies on thick, rich descriptions to create transferability, which demonstrates that the insights gained from the study can be applied to other settings (Creswell & Poth, 2016). To provide the descriptions needed for transferability, I followed Creswell and Poth's (2016) advice by returning to my data shortly after collecting it to provide additional context and illustrations to be used during the analysis. The females from this study were from various locations across the United States and were at varying places within their educational careers. Additionally, participants also have variability in other demographic areas including ethnicity, employment, academics, and independent living. The descriptions of their educational experiences provide insight into the positive and negative experiences.

Dependability

Dependability ensures that future researchers can repeat the study and obtain similar results (Shenton, 2004). A clear description of the research design and why it was appropriate for this study was detailed to create dependability. I also included an outline of the data collection and analysis methods outlined by Moustakas (1994). Additionally, I participated in a reflective thought regarding the study, which Shenton (2004) noted is when the researcher self-reflects on the effectiveness of the process. My dissertation committee and Liberty's IRB also reviewed my procedures to ensure dependability. The descriptions provided for each of these ensures that another researcher could reproduce the study with another group of females with ASD.

Confirmability

Confirmability ensures the findings were developed from the participants' own words and experiences and not the voice and bias of the researcher (Shenton, 2004). The first step I took to create confirmability was an audit trail. An audit trail is how the researcher details the process for arriving at the findings (Creswell & Poth, 2016). The audit trail included details regarding procedures, raw data, and analyzed data. I also used triangulation, as detailed above. The last step I took to create confirmability was through reflexivity. My understanding of the experience, bias, and values are clearly stated and documented to ensure the findings are the authentic voice of the participants and not my own.

Ethical Considerations

It is crucial to ensure that the study follows ethical practices. The first step was to obtain approval from Liberty's IRB by providing evidence that my study adheres to ethical guidelines (Creswell & Poth, 2016). The IRB letter of approval is included in Appendix D, along with the IRB letter of approval for a modification to add compensation. Steps were taken to ensure participants clearly understood the research and their role within it. A concise letter describing the study, tasks, and the voluntary nature of the study was provided to every prospective participant (see Information Sheet in Appendix E). The letter also provided information regarding the risks and benefits of participation. Each participant was required to provide informed consent by electronically typing their name and the date on the information sheet page before completing the online confidential questionnaire. Each interview session began with a statement reminding the participants that their participation in the study was completely voluntary and that they could withdraw at any time (see Appendix E). Participant identities were protected in a variety of ways. Pseudonyms were provided to each participant, and only general information regarding the location was provided to understand a description of the setting. A master list of participants and locations was utilized, but it will be stored on a different password-protected computer than the rest of the data. Video and audio recordings, along with the written responses to journal prompts, are stored on a password-protected computer. The data will be saved for three years and then will be destroyed.

Summary

The study followed the steps outlined by Moustakas (1994) for a transcendental phenomenological study, which sought to explore the educational experiences of females who received a diagnosis of ASD. The research design was selected because of the focus on the description of the experience rather than the researcher's interpretation (Creswell & Poth, 2016). A questionnaire to develop a timeline of significant events in each participants' ASD journey was used as the first method of data collection. Individual interviews and responses to journal prompts were the other methods of data collection. Data analysis for the questionnaire and individual interviews followed the steps laid out by Moustakas (1994). This method was used for the questionnaires because the questions asked were open-ended and similar to interview questions. The analysis for journal prompts followed the steps outlined by van Manen (2016) because this approach outlines how to analyze text. Finally, the specific steps and measures used to ensure trustworthiness were provided.

CHAPTER FOUR: FINDINGS

Overview

The purpose of this transcendental qualitative study was to examine the K-12 educational experiences of females with ASD. This chapter is designed to present the findings obtained through data collection and analysis. This chapter contains a description of each participant, along with quotes from the questionnaires, individual interviews, and journal prompts. The quotes are taken verbatim from the participants. The developed themes and sub-themes are discussed, along with outlier data. Finally, the research questions are presented along with a brief answer for each question.

Participants

Recruitment of participants was difficult, as convenience and snowball sampling did not have the success rate expected, and participation relied more on posting the questionnaire on social media pages and local businesses and organizations. Providing participants with a gift card was successful in getting individuals to complete the questionnaire, but it caused many to respond whether they fit the criteria or not. There were many responses to the questionnaire, but only ten percent of the responses fit the study requirements.

Research participants consisted of ten females between the ages of 20-25. Seven of the participants identified as Black/African American, with one identifying as Latino, and two identifying as Caucasian/White. Five females were identified as having Level 1 ASD. Two others were never formally told a level diagnosis, but based on the description felt they were Level 1. Three of the participants were Level 2. Ten participants were currently attending or had attended post-secondary education or training. Five participants were currently employed, and five participants were not currently employed [See Table 1]. All ten participants were located on the eastern side of the United States.

Aderyn

Aderyn was 25 years old at the time of the study. She lived in New York and identified as Latino. Aderyn was diagnosed with Level 1 ASD. Aderyn attended post-secondary school for marketing, and she currently works as a salesperson. She was diagnosed with ASD 10 years before this study. Prior to her ASD diagnosis, Aderyn was diagnosed with ADHD. While attending K-12 school, Aderyn received speech and language therapy and occupational therapy services. She did not lose any services while in school. Aderyn found occupational therapy services to be the most essential, especially with the focus on sensory processing skills. When asked how she would describe ASD, Aderyn said, “ASD is a unique lens through which I view the world.” Aderyn spoke often about how ASD made her unique, and how much she appreciated the way she viewed the world. She noted, “My ASD could have led to a strong affinity for subjects like mathematics or computer science, thanks to my heightened attention to detail and logical thinking.”

Ciara

Ciara was 25 years old at the time of the study. She lived in Virginia and identified as Caucasian. Ciara was diagnosed with Level 1 ASD. She attended post-secondary school for computer engineering. Ciara is not currently employed. She received her diagnosis in 2022. Ciara noted that she did not have any diagnoses prior to ASD. Although she did not have a formal diagnosis during K-12 school, Ciara noted that she did receive accommodations such as sensory breaks. She was also offered the opportunity to have preferential seating and was given positive reinforcement. Ciara struggled with the social aspect of ASD. She noted that she experienced “Difficulty making and keep friends.” When asked how she would describe ASD, Ciara took more of a technical approach, stating, “Autism . . . refers to a broad range of conditions characterized by challenges with social skills, repetitive behaviors, speech, and nonverbal communication.”

Kahleena

Kahleena was 24 years old when she participated in this study. She identified as African American. Kahleena received a Level 2 ASD diagnosis in 2019. Kahleena attended post-secondary education and graduated with a bachelor’s degree in history. She currently works as a sales representative. Even though she did not have a formal ASD diagnosis while attending K-12 education, Kahleena’s school still provided her with support. She received social skills instruction for her social challenges. Kahleena said that a turning point in her ASD journey was meeting someone else with ASD because it helped her realize that she was not alone. Kahleena spoke a lot about her challenges, but also noted how ASD changed her way of thinking, stating that it taught her, “a profound lesson in empathy, resilience, and the beauty of embracing your challenges.”

Kinvara

Kinvara was 23 years old during this study. She identified an African American, who lived in Virginia. She was identified as Level 1 ASD in 2021. Kinvara is currently self-employed. She attended post-secondary education for statistics. Kinvara did not have her diagnosis while attending K-12 school, but she was still provided with some support for her education. She noted that she was mostly being allowed to take regular breaks throughout the day. Kinvara was not diagnosed with any other disabilities; although she did note that she has anxiety, which she says is part of her ASD and not a separate disorder. To her, ASD “means experiencing the world in a unique and sometimes intense way. It’s like having a different operating system for processing information and emotions.”

Lena

Lena was 22 years old when she participated in the study. She lived in Florida and identified as African American. Lena was never told a formal level diagnosis, but based on the descriptions felt that she was a Level 1. Lena attended post-secondary education for educational technology. She is currently employed, but did not provide her job field. She was diagnosed with ASD six months before participating in the study. Lena was not diagnosed with any other disabilities and did not have a diagnosis while in K-12 schooling. She did have access to supports during her K-12 school career. Lena explained that her favorite thing about ASD is the uniqueness, stating that ASD caused her to have, “unique and creative perspectives, which can lead to interesting insights and discoveries.”

Remi

Remi was 20 years old during this study. She was diagnosed with Level 1 ASD in 2022. Remi identified as Caucasian, and she lived in Virginia while attending post-secondary education for nursing. She is currently employed in a nutrition education program as an assistant and AmeriCorps 4-H employee. Remi was not diagnosed with ASD or any other disabilities while attending K-12 school. Since her diagnosis, Remi’s post-secondary institution has provided her with the following accommodations: extended testing time, breaks, and taking tests in the Testing Center. Remi explained that ASD is “a different way of thinking/processing information.” She also noted that ASD itself is not a disability, but the world is modeled after neurotypical people.

Sabine

Sabine was 24 years old when she participated in this study. She was diagnosed with Level 2 ASD five years before this study. She identified as an African American who lived in New Jersey. Sabine has held jobs in the past, but is currently unemployed. She did attend post-secondary training, but did not finish. Sabine was not diagnosed with ASD or any other disabilities while attending K-12 education. She did not receive any supports in school for ASD. Sabine took a more literal approach to describing ASD by stating that ASD is, "a disorder that causes developmental issues in the brain that doesn't allow [me to] behave like the general population." She went on to explain that for her, she has trouble communicating.

Synthia

Synthia was a 22-year-old African American from Texas. She was diagnosed with Level 1 ASD in 2018. Synthia did attend post-secondary training, but she did not complete her training. She has held employment in the past, but is currently not working. During K-12 school, Synthia had several services and supports such as modified assignments and regular breaks, but noted that flexible seating and structured routines where the most helpful. Synthia stated that once the supports were put in place, everything became easier for her. Although Synthia works to embrace her ASD, she explained that this is not always easy. She spoke about having a job that she had to quit because her sensory issues made it too difficult to concentrate and this, "made her feel different."

Violet

Violet was 22 years old during the study. She identified as an African American from Albany, New York. She is not currently employed. Violet attended post-secondary education to study ASD. Violet was diagnosed with Level 1 ASD when she was 10 years old. She did not have other diagnoses, but had a behavior assessment completed at 11 years old. Violet's school provided her with the following supports: one-to-one aid, speech therapy, occupational therapy, weekly meetings with the school counselor, breaks, extra time for tests and assignments, fidget toys, and preferential seating. Violet was unable to pick which supports were the best because all were extremely beneficial to her education. Violet noted that she always struggled with communication, but her ASD gave her an interest in art and music, and she was able to, "use art and music to communicate and express my emotions."

Xarianna

Xarianna was 22 years old at the time of the study. She identified an African American who lived in Virginia. She was diagnosed with Level 2 ASD in 2021. Xarianna attended post-secondary school for accounting. She is not currently employed. Xarianna did not receive her ASD diagnosis until after K-12 education and did not receive any support while in school. Xarianna noted that school was difficult because she found it hard to remember what the teacher was saying, but she was able to absorb information from preferred interests. She also felt very ashamed in front of other students. When asked how she would describe ASD, she took a more literal approach by stating that, "ASD is [a] developmental disability caused by difference[s] in [the] brain which affects social communication skills."

Results

This section is focused on the main themes and sub-themes that emerged from this study. The themes were developed following transcription, evaluation, analysis, and triangulation of the questionnaire, interviews, and journal prompts. These themes create a clear picture of the educational experiences of the participants and demonstrate the need for understanding these experiences. Table 2 shows the themes and sub-themes that were identified.

Table 2

Themes and Sub-themes

Theme	Sub-theme
Feelings After Receiving a Diagnosis	Relief
	Unique
Challenges of ASD	Academic challenges
	Social challenges
	Personal challenges
Relationships with Others	School relationships
	Personal relationships
Supportive Schools	Support from teachers
	Support from related services

Receiving ASD Diagnosis

K-12 schooling is difficult enough on its own. The challenges increase when disabilities are added. Many of the participants were aware of their differences among their peers. In response to a journal prompt, Sabine noted, “I was being bullied almost every time,” which impacted her educational career. While receiving the ASD diagnosis was not a magic fix for all of the challenges the participants faced, nine participants noted a sense of relief and an understanding of why they were different. Additionally, participants spoke about how the diagnosis allowed them to understand their uniqueness.

Relief

One of the questions participants were asked to answer during the individual interviews focused on describing thoughts and feelings after receiving their ASD diagnosis. Each of the participants spoke about some kind of relief in having the diagnosis. Synthia responded with, "Like I knew what was wrong." All the participants made mention of noticing their differences or feeling different from their peers. Lena explained that she had mixed feelings with diagnosis, but the forefront of emotions was one of relief:

> Wow...when I first received my diagnosis, I felt a mix of emotions. I was relieved to finally have an explanation for why I was struggling so much. I was also scared and worried about what the future would go. I wasn't sure how my diagnosis with my friendships in my school, how I think about my future. I struggle to understand my whole feeling. But then I learn to celebrate the unique strength. I have become more confident.

In a journal prompt, Lena went on to discuss how having the ASD diagnosis allowed her to become more accepting of herself and focus more on her "…unique and creative perspectives, which can lead to interesting insights and discoveries."

Aderyn had less complicated feelings surrounding her diagnosis. She said, "So it was like a fog had kind of been lifted. And I could see my potential more clearly." She went on to explain that everything suddenly began to make sense for her; "So I realized that my brain works differently. And that was okay for me. It wasn't a flaw; it was just a different way of processing information." Aderyn was excited to begin understanding ASD and finding different strategies that would work for her. In one journal prompt, Aderyn remarked, "I embrace ASD as an integral part of who I am, contributing to the complexity and richness of my existence."

Remi’s relief came in the form of accepting herself. She explained that for her, “it was a very exciting thing to receive the diagnosis.” Remi often noted the differences between herself and other students. She had trouble with academics, specifically diagraming sentences and abstract concepts. Her struggle to understand the material often made her feel stupid. The diagnosis allowed her to realize that she was not stupid, noting, “It’s simply that I learned in a different way.”

Unique

Receiving any kind of diagnosis can be life changing for anyone. For the participants in this study, the ASD diagnosis allowed them to understand and accept their uniqueness. When asked to respond to a journal prompt about what she liked most about ASD, Violet noted that she struggled with communication, but ASD gave her high interests in art and music. After receiving the diagnosis, she used ASD to her benefit and found ways of communicating and expressing her emotions through art and music. In her journal prompts, Kinvera wrote often about the uniqueness of ASD. When asked to describe ASD, she wrote, “ASD, to me, means experiencing the world in a unique and sometimes intense way. It's like having a different operating system for processing information and emotions.” She went on to say that ASD is, “like seeing the world through a different lens, which can be both challenging and beautiful.” When asked to discuss what she likes most about ASD, she explained that ASD allowed her to have, “special ways of looking at things and unique skills.” Ciara also discussed being unique when asked to explain what she liked most about ASD:

> The uniqueness of ASD for me cannot be over emphasized. I love the fact that I can display a range of strengths and abilities that can be directly related to my diagnosis,

> including to read and a high level of comprehension, memorizing and learning information quickly. Thinking and learning in a visual way.

Ciara went on to discuss how she loves that ASD caused her to have intense and focused interests because she was able to develop a love for music. In her questionnaire, she noted that having ASD has allowed her to gain a better understanding of the world.

Challenges of ASD

The challenges caused by ASD were a common theme discussed throughout the questionnaires, individual interviews, and journal response prompts. ASD impacted each of the participants in various aspects of their lives. There was significant overlap in three distinct areas: academic challenges, social challenges, and personal challenges. Remi noted her difficulty with math, stating she "…had a really hard time grasping math because as math is very abstract." Xarianna discussed how, "…being in a social setting, talking to people, many people in school was a challenge" for her. Aderyn explained that she struggled with sensory issues, such as the loud classroom, lockers, and lighting.

Academic Challenges

ASD impacts every aspect of an individual's life. Many people are aware of the social and communication challenges caused by ASD, but many have academic challenges as well. Both Remi and Sabine commented on having significant challenges with grammar. Remi said, "I found that diagramming sentences was very frustrating, something that I never could understand and in fact, still don't really understand." She went on to say that she was frustrated with having to do it simply because it was a requirement since she was able to speak and write clearly. Sabine stated, "[It was] difficult to understand what's being taught. And I find it difficult to identify difficult sentences and also objects as well." Neither truly felt school had met their needs. Sabine struggled so much that she did not want to be called on during lessons because she did not understand the content, while Remi noted that she,

> felt that as far as school went, a lot of the times the way it was set up wasn't very conducive to the way that I learned, and where my natural, like, ability lies, and just make things more confusing.

When given a journal prompt asking what she wished she knew about ASD before entering school, Synthia wrote about accommodations. She wished she knew she would need accommodations in school and that teachers would have been able to teach to diverse learning styles because that would have allowed her to thrive academically.

Social Challenges

All participants noted that ASD caused them to experience challenges with social interactions. This was unsurprising as ASD is characterized by deficits in social interaction and communication, but three of the participants' challenges went beyond the typical ASD difficulties. Aderyn, Kahleena, and Ciara all had high levels of wanting social acceptance, even though they were met with resistance. Each expressed that they wanted to have friends and successful interactions, but struggled with making friends and understanding unspoken rules of communication. Ciara wanted to develop relationships with her peers, but often felt like peers would distance themselves from her. Aderyn and Kahleena discussed how they would be excited to engage in social situations, but the situations would not play out how they wanted. Aderyn would often rehearse various conversations in her head before entering the situation, but often found that her practiced script did not match the actual interaction. Kahleena would attend playdates and parties, but feel isolated from her peers. Additionally, when asked how she would describe ASD, Ciara wrote, “It is characterized by challenging me with social skills, behaviour, speech, communication." Aderyn noted that she often had difficulty with navigating social interactions and misunderstandings with peers. Ciara wrote about how social situations were often overwhelming for her. Kahleena said, "My teacher used to scold me in the communication issues [because] I didn't know how to communicate my feelings to her at the time."

Personal Challenges

While most of the challenges discussed by the participants fell into either academic challenges or social challenges, there were some that were specific to the participant, but still a challenge caused by ASD. Kahleena noted that around the age of 12 she noticed she was different because, she would, "have this repeating pattern of behavior and interests." She also explained that she prefers to wear clothes for a longer period of time than is normal. Sabine noticed she was different when she was 10 years old. She noted academic challenges of feeling like she could not read or understand as quickly or effectively as other students. This led to her struggling with being called on during lessons. This caused her to have problems with emotional regulation; she was often very sad, stating, "And I really tried as much as I can. But I find it so difficult to cope and to adjust and also to understand things easily."

Violet shared an experience where she was struggling with completing group work. The members in her group complained to the teacher and she was disciplined. This led to her own personal struggle of trying to prove herself. She wrote, "I promised myself to really work hard and prove everyone wrong that I wasn't disabled... I was only moving with my pace." Violet noticed she was different from her peers around the age of 10, because she was struggling in so many different areas. Violet noted that she often did not know what was wrong with her. She explained that she loved lunchtime, but often found the students and "sometimes even the—the noise they were making it was kinda irritating."

Internalized behaviors are when people take negative behaviors and turn inward instead of directing them outward toward others. Examples of internalized behaviors include anxiety, being socially withdrawn, or feeling sad. Three of the participants noted struggling with internalized behaviors because of ASD. Lena explained that many of her ASD characteristics were internalized and went unnoticed. These characteristics included hiding her feelings from those around her and her difficulties interacting with others. Remi talked about having a babysitter that made it clear she did not like or understand her. Remi never told anyone that she was having such a tough time, stating,

> And of course, I definitely should have like been to my parents, like, hey, this lady is being mean. But, you know, I, I from a young age, I was a child who, like, I blamed it on my self, and not on her.

That combined with other negative experiences involving social interactions caused her to retreat from something that she loved due to experiencing elevated levels of anxiety. Kinvara explained that she still struggles with keeping her behaviors locked in. In one journal prompt, she explained how she was struggling to concentrate while at work. Instead of discussing her challenges with anyone, she quit, writing, "... and it made me feel different and I was not happy about it. I felt that it's like I was being stressed and had anxiety."

Relationships

The second theme to emerge from this study is relationships. Individuals with ASD often face difficulties in social interactions and communication, which can impact relationships. Participants discussed their relationships with their teachers and peers, which were often complicated. Lena said, "I remember, feeling like I was different from my classmates" and she had trouble interacting with them. Family relationships were another area that was often brought up by participants. Nine of the ten participants expressed how important family had been during their ASD and K-12 journey.

Peers

Peer relationships influenced the educational experiences of the females. Xarianna and Remi expressed having negative feelings toward their peer relationships, while Ciara had more complicated feelings. All three explained peers often made them feel isolated. Xarianna noticed there was a stigma around her disability, explaining that the few friends she did have started to distance themselves, “because they think I will transfer my disability to one.” Remi explained that she “very quickly realized that I was the outlier in my group of peers.” She went on to explain that “I was like the one kid who didn’t get included, and the one kid who didn’t get invited to do things, and people would give me weird looks.” She noted that things did not get much better as she got older, in fact, it became very obvious to her that there was something off. Ciara had negative experiences, stating that she felt like her peers were always judging her and made her feel like she was a burden. She noted the lack of understanding influenced interactions and had some peers tell her she, “should have just dropped out of school and maybe just sit down and shoot myself.” However, other peers saw her strength and were impressed with her drive to be successful.

Family

Family support is a key aspect of growing up. Supportive families can help ease the difficulties children face, especially those with a disability. Nine of the ten participants made special mention of family members that supported their journeys. One piece that was mentioned often by the participants was the family support during the diagnosis process. Violet explained that it was her mother who advocated for her diagnosis. When discussing the evaluation process, Violet said:

> I guess she noted that I might be having a problem. No, she's always working on me. And maybe she's noted this change or the difference between me and others. And that that made her so worried. Yeah. And she advocated for the diagnosis.

Sabine also spoke about how important her mother was to her ASD journey. She noted that it was her mother who provided her with the most support. Not only was Sabine’s mother the one who helped advocate for her, but she continued to lift Sabine up whenever she experienced challenges. When talking about her mother, Sabine remarked that her mother is, “the reason why I look at myself and say indeed, I am blessed with the most powerful human, because she have not given up on me.”

Family support comes in various ways. While most of the participants spoke about how it was their mother who advocated or provided the most support, this was not the case for Kahleena. She explained that it was her aunt her first noticed her differences and advocated for her to receive a diagnosis. Her aunt’s support went beyond just assisting her in the diagnostic process. Kahleena noted that, “she always gave me materials that will help that will help with- she advised me to always speak up for myself, she advised my family members to always speak up for me.”

Supportive Schools

K-12 school can be difficult for most students. Individuals with disabilities often face additional challenges. This was the case for the participants in this study. The females talked about their academic, social, and personal challenges throughout their individual interviews and journal prompts. While school may not have been easy for them, the schools tried to provide them with the best support. Violet commented that, “Before there was no support, it was super, super tough before the diagnosis.” Many of the participants’ schools and teachers were proactive and provided support to the students even though they did not have a formal diagnosis during K-12 school.

Support from Teachers

Teachers play a crucial role in education. The way they interact with students can turn positive educational experiences negative or negative experiences positive. This was the case for Kinvara. She explained that ASD helped to create a good relationship with her teachers. She said, “I had a really good rapport with my teachers. Yeah, because most of the time, I had to spend time with them, because I was kind of slow. So I guess it really created a good rapport with them.” Kahleena also felt her relationship with her teachers improved because of ASD. She said, “Um I think that if I didn't have the the autism there wouldn't have been that extra interest in me. It made me special…” She went on to explain that teachers paid more attention to her. She felt that this helped to build a stronger relationship because it went beyond just going to class, listening to the lesson, and leaving. Lena had mixed feelings on the support provided by her teachers. On the one hand, she felt like she received a lot of direction from them. This often helped with the academic challenges she faced, but she also said, “this leads to a lot of special attention and often singled out.” This was difficult because she was already very aware of her differences.

Aderyn and Violet both received a diagnosis while still attending K-12 education. When asked how they felt the school handled the diagnosis, Aderyn thought her school did a great job and that her teachers were committed to supporting her. Violet emphatically replied, “Yeah they handled it extremely well!” Aderyn explained that because of her diagnosis, she was able to form close relationships with her teachers. They were understanding and patient, “and accepting some of my unique traits.” Both noted how well their teachers followed their IEPs. Aderyn said, “So this plan included additional time for assignments and exams. Also, a quiet space for study, sensory breaks, and also access to a resource room with specific educational professional.” Violet noted that her teachers provided her with time to meet with her counselor weekly to discuss social-emotional needs, the ability to take breaks, extra time on assignments, the use of fidget toys during lessons, and preferential seating.

Many of the participants did not receive their formal diagnosis for ASD until after leaving K-12 school, though they noted their school and teachers still provided them with various accommodations to help support their academic and functional skills. Xarianna explained that she was often provided with modified assignments that were based where her skill levels were, and she had access to regular breaks. In one of her journal prompts, Xarianna commented that it was difficult for her to concentrate during classes and her teachers knew this, which is most likely why she was given these supports without a formal diagnosis. Ciara also did not have her ASD diagnosis during K-12 education, but noted on the questionnaire that she was provided with, “Quiet spaces, positive reinforcement, and preferential seating,” which she found to be successful supports.

Support from Related Services

For the participants of this study, not all the support came in the from teachers. Many of the females were also provided access to related services. On the questionnaire, Violet noted:

> I had a one-on-one aide who helped me with my organization and time management skills. I received speech therapy to help me with my communication skills. I received occupational therapy to help me with my fine motor skills and sensory processing.

During the individual interview, she went on to explain that communication was difficult for her. She struggled to have clear and complete communication, but once she started speech therapy, she quickly saw her skills improve.

Aderyn was also provided with access to related services to support her ASD. In her questionnaire, Aderyn commented that she was given occupational therapy for her motor and sensory processing skills. When discussing her challenges during the individual interview, Aderyn spoke about her social and communication needs. She noted there were often, “misunderstandings with my peers,” which often led to her being bullied. Aderyn was also provided with speech and language therapy to support her social and communication challenges. She explained that the school handled the disability well and the support from the related service was great, but even with the help, she was still bullied.

Outlier Data and Findings

There were two outlier findings in this study. The first outlier is two of the participants developed self-advocacy skills on their own because of the ASD diagnosis. This does not align with the research questions and was an unexpected development. The second outlier development was feelings of shame with an ASD diagnosis.

Self-Advocacy

On her questionnaire, Remi explained that she has been, “able to advocate for ASD in a public setting, and then continuing that spirit of advocacy into college by being a part of the Autism Advocates club.” In response to a journal prompt, Aderyn wrote about being excited to attend a movie with a friend who was inexperienced when it came to ASD. Aderyn thought she could attend the movie successful, but quickly became overwhelmed with the lights and sounds. “Sensory overload set in, and I couldn't focus on the movie. I felt anxious, restless, and on the verge of a meltdown.” Not used to speaking up for herself, Aderyn shared her experience with her friend. She was happy to learn her friend was understanding. She commented that this experience highlighted the importance of self-advocacy. In her questionnaire, Aderyn noted that her diagnosis led to her embracing ASD as part of her identity and using that to, “advocate for neurodiversity in the workplace.”

Feelings of Shame

In one way or another, each participant noted some feelings of relief after receiving an ASD diagnosis; however, one participant, Ciara, did not feel the immediate relief and it took her much longer to accept herself. Initially, she was met with feelings of shame. In a journal prompt, she wrote, “At the time, I was also very secretive about having a disability. Almost no one outside my family and early intervention team had that knowledge. I was afraid and embarrassed to admit I had a disability.” During her interview, Ciara commented, “there was this kind of fear crept into like I wasn't myself any more so just I don't know.” This feeling was unique to Ciara. Violet explained that she had a misunderstanding about ASD when she was first diagnosed. She said that she remembered, “asking the doctor how long I would be alive.” She continued:

> I was so worried of how I'm going to relate with others will even other students, even my friends, will they even accept me the way I am? Yeah. And for the past few days, I felt isolated. I felt so lonely.

However, her fears did not last long. Once she began to learn about ASD, she realized that it was just part of who she was and she embraced the ways ASD made her different.

Research Question Responses

The purpose of this phenomenological study was to understand the K-12 educational experiences of females with ASD. Responses to a questionnaire and four journal prompts, along with participation in individual interviews were used to understand these educational experiences. Data from the three data collection methods were used to answer each research question.

Central Research Question

What are the lived K-12 educational experiences of females diagnosed with autism spectrum disorder? Participants discussed the challenges faced during K-12 education. Seven of the participants did not receive their ASD diagnosis until after completing high school. While nine of the females were able to receive some kind of support from their school or teachers, they still faced academic, social, and personal challenges. Kahleena said:

> Challenges school caused for me...okay, so I saw it-it's having issues with communicating my feelings with the persons I find in class, as a social interaction. I struggle to read social cues or communicate effectively [with] my peers in school [this] led to me having feelings of isolation and difficulty making friends. I was sensitive to loud noises in the school environment. Yeah, and of course bright lights from the light sources at times. Yeah. Those were the challenges I faced.

The various challenges caused by ASD were not the only experiences of the group. Participants often discussed finding beauty and uniqueness in their diagnosis. Although initially being secretive and shameful of her diagnosis, Ciara eventually embraced her ASD, writing, “The uniqueness of ASD, for me, cannot be overemphasized.” Kinvara wrote that ASD is, “experiencing the world in a unique and sometimes intense way” and that ASD gave her, “…special ways of looking at things and unique skills.”

Sub-Question One

How does the environment affect females with ASD accessing educational support systems? The school environment played a key role in the participants' ability to access educational supports. Aderyn, Synthia, and Violet were all diagnosed with ASD while attending K-12 education. Each were given IEPs and support from the school. Synthia commented, "My teacher was aware of it. So I didn't become an issue when I was experiencing problems." Violet remarked that, "Before there was no support, it is super, super tough before the diagnosis." However, afterwards she was given related services in the form of a one-to-one aid, speech therapy, and occupational therapy, along with having other support during lessons.

Many of the other participants were offered supports during K-12 schooling even without a formal diagnosis. Xarianna said, "At the school, they really assisted me because they understood how I was." She went on to explain that she was given positive reinforcement during her lessons. Kahleena explained that she was given support from her school in the form of social skills training.

The access to support was impacted by the environment. All the participants except Remi attended public K-12 education. Remi attended private schools or was homeschooled. When discussing accommodations and supports she said:

> I didn't receive any interventions. There were, like, situations where I really would have benefited from those, but the thing is that, you know, it's weird, because, thankfully, I was homeschooled, as I said, and so a lot of the accommodations would have made public school I already had, like, being able to test it by private environment.

Remi's access to accommodations and supports did not come until she entered college. She did explain that her college has been amazing in supporting her and she does have access to supports such as being able to take her tests in the testing center and extended time, which she says have been game changing for her.

Sub-Question Two

How do females with ASD experience change after receiving an autism spectrum diagnosis? Change came in the form of relief and acceptance. Many of the participants noted that an ASD diagnosis did not change their goals or plans for the future. They saw change in the form of being able to understand why they were different from their peers and accepting themselves. Remi explained:

> So I think it was a very exciting thing to receive the diagnosis. A lot of the time, you meet people who haven't had that experience. But I put a lot of pressure on myself and was upset with myself, and I couldn't seem to meet expectations that neurotypical people can you know, like, I felt really stupid, because I didn't know how to diagram sentences. And I felt really stupid because I, like, couldn't understand abstract concepts. But I think that like now that I have the diagnosis, I'm much more forgiving of myself, and realizing that it's not that I'm stupid. It's simply that I learned in a different way.

Sabine explained how after receiving her diagnosis she began to look at herself in a new light:

> Okay, I'll say it has been amazing to me because I now feel like I'm important. I feel I'm coping and also, like I'm able to do those things I wasn't able to do because I feel like I've gotten to the point that I have accepted who I am, and I'm trying as much as I can to make a difference in my society. Despite who I am and what I am. I know that I am great. And I know that I have a positive impact in my society.

The participants had spent much of their lives noticing the differences between themselves and their peers, often feeling different and isolated. The ASD diagnosis allowed them to accept their differences and move forward with a new understanding of themselves.

Sub-Question Three

How do the behaviors associated with autism spectrum disorder affect access to educational supports? Many individuals with ASD experience challenges when it comes to communication and social interactions. The participants in this study were no different. The behaviors often associated with these types of challenges allowed participants to receive support from their schools. Lena described her challenges by saying:

> One of my biggest challenges was the social aspect of school. I often find it because hard to understand what was expected of me in social situations. For example, I find it hard to understand things like body language or tone of voice. I also struggle with understanding personal space and how those these orders and other challenges to sensory overload I often experience. I had difficulty with loud noises, bright lights and crowded space this made it hard to concentrate on my homework.

She went on to explain that her school provided her with various accommodations to support her such as social skills therapy to help her manage social interactions, as well as coping skills for when social interactions became too much.

While communication and social interactions are the most common challenges associated with ASD, individuals can have other areas of need. Some participants noted challenges with executive functioning skills. For Violet, she explained that it was difficult for her to move from one activity to another, and following the school's operating calendar was challenging. She noted that her school gave her, "a one-on-one aide who helped me with my organization and time management skills." Synthia also noted that she struggled with executive functioning skills. Her school responded by providing her with structured routines, which she explained helped her navigate K-12 education.

Summary

Ten participants described their K-12 educational experiences through a questionnaire, individual interviews, and responses to four journal prompts. Four themes were developed from this data, which were a) Challenges of ASD, b) Relationships, c) Receiving ASD Diagnosis, and d) Supportive Schools. There were two outlier themes in which two participants developed self-advocacy skills as a result of their ASD diagnosis, and one participant experienced feelings of shame upon receiving the diagnosis. The central research questions focusing on the K-12 educational experiences of females with ASD were answered, showing that participants struggled during K-12 education because of the characteristics associated with ASD. Additionally, the sub-questions were answered, showing that while the participants faced many challenges because of ASD, their schools were often proactive and supportive. Overall, participants felt that the schools handled their ASD effectively and provided them with helpful supports.

CHAPTER FIVE: CONCLUSION

Overview

The purpose of this qualitative transcendental phenomenological study was to explore the K-12 educational experiences of females with ASD. This chapter examines the results of this study by exploring the themes that were developed from analysis and triangulation of data provided by the participants. The discussion begins with an interpretation of the findings. This interpretation includes a summary of themes that were developed in Chapter Four. Next, the implications for policy and practice are explored. The theoretical and methodological implications are reviewed. Finally, the limitations and delimitations and recommendations for future research are explored.

Discussion

After the completion of data analysis, the findings demonstrated that participants experienced challenges in K-12 education caused by ASD, relationships were impacted prior to and following the diagnosis, participants experienced relief and acceptance of uniqueness after receiving an ASD diagnosis, and schools were overall supportive of students. My interpretations of these findings are discussed, following summary of thematic findings. The implications for policy and practice and theoretical and methodological implications are discussed. This chapter will also expand on the limitations and delimitations of this study, along with recommendations for future research.

Summary of Thematic Findings

There were four themes identified in this study. The themes included challenges of ASD, relationships, feelings upon receiving a diagnosis, and supportive schools. Participants discussed the academic, social, and personal challenges they faced because of ASD. For these participants, the social aspect was more than just the experience of challenges; the development and maintenance of relationships with peers, teachers, and family was explored. The individual interviews and journal prompts revealed the feelings of relief and acceptance of uniqueness many of the participants felt after they received their ASD diagnosis. Despite each participant receiving an ASD diagnosis at different points in their lives, the theme of supportive schools in the form of support from teachers and support from related services emerged. Each of themes led to a deeper understanding of the overall K-12 educational experiences of these females with ASD.

Critical Discussion

This transcendental phenomenological study set out to understand the K-12 educational experiences of females with ASD. The results provided a deeper understanding of the thoughts, feelings, and challenges participants had during their educational career. The results led to findings that include late diagnosis, gender bias, barriers, and teacher impacts on experiences. Examination of these three points may lead to improving the overall K-12 educational experiences of females with ASD.

Late Diagnosis

ASD is a neurological disorder that can be found in anyone; however, the category is biased toward males (Whitlock et al., 2020). According to Lockwood et al. (2021), the bias can be seen in the perception, assessment, and diagnosis on ASD. Nine of the 10 participants faced this challenge. Seven of the nine did not receive a diagnosis until after leaving K-12 education. This late diagnosis led to various challenges during school, such has trouble with social interactions, academic struggles, and sensory problems.

Of the three who received their diagnosis while still in K-12 school, two were not diagnosed until high school. This means they while they did have access to support while attending K-12 education, the support was not provided until the end of the school career. While access to support is also beneficial, earlier access could have eased some of their challenges. The one participant who received her diagnosis closer in age to when males generally receive their diagnosis, she fell into the stereotype explained by Carpenter et al. (2019) in which females need to have more significant behaviors associated with ASD than males with ASD or display additional intellectual or behavioral problems. The additional intellectual or behavioral problems is what helped the participant receive her diagnosis. She was diagnosed at 10 years old. During that process, she explained that she participated in a developmental history at 10 years old, most likely evaluating for intellectual disabilities. She also participated in a behavioral assessment at 11 years old. According to Lord et al. (2020), early access is key for success. The earlier identification allowed her to access classroom supports and related services that helped to create a more positive educational experience.

Gender Bias

Several researchers (Carpenter et al., 2019; Harrop et al., 2015; Song et al., 2021; Whitlock et al., 2020) have examined ASD in relation to females. Harrop et al. (2015) conducted a study examining the family experience of females with ASD and found that there was a gender bias among health professionals causing females to be misdiagnosed or be provided with a formal diagnosis. The results of this study suggested that gender bias is not limited to healthcare professionals, but extends to teachers. Seven of the 10 participants received their diagnosis following K-12 schooling, even though all seven noted challenges with social interactions during their time in K-12 education. All seven explained that teachers noticed there was an issue and were even provided with interventions during school, but none of the teachers recommended them for formal testing.

Social Skills and Communication are the Biggest Barriers

While ASD impacts each person differently, there are still core characteristics used in the identification and diagnosis process, which include difficulties in social interactions and communication, and restricted and repetitive behaviors (Carpenter et al., 2019; Thompson & Knight, 2019). There are additional characteristics often associated with ASD, such as early development of behaviors and unusual sensory-motor behaviors (Lord et al., 2018; Carpenter et al., 2019; Thompson & Knight, 2019). Some of the participants noted sensory issues such as loud classrooms, sensitivity to light and bulb sounds, and restricted behaviors such as wearing the same clothes. However, the findings from this research suggested the biggest barrier facing females in K-12 education is the social interaction and communication piece. All of the participants indicated social interaction and communication caused the most issues. Misunderstandings with peers, trouble navigating interactions, and not understanding social cues were the most common issues described by the females in this study. The problems faced lead to bullying and feelings of isolation, common barriers identified by Whitlock et al. (2020). The environment of school was difficult for the females. Schools require several social interactions a day with different people, which can be exhausting for those who struggle. While most of the participants indicated they had a hard time with the social interactions and communication expected of them from peers, others indicated similar issues when interacting with adults. Though those interactions did not lead to the bullying associated with peer interactions, the adult interactions were still just as draining and challenging. These various challenges associated with social interactions and communication impacted the participants' overall K-12 educational experience.

Teachers Impact Experiences

Individuals spend thirteen years in the K-12 educational system. They interact with a variety of school personnel and peers daily for the time they are in the system. These interactions help to shape the experience. Teachers are often cited as being the most important educational input in schools (Liu & Loeb, 2021). Teachers are important to the overall school system because research establishes that effective teachers have positive impacts on test scores in the areas of math and reading and they can impact college attendance and income (Liu & Loeb, 2021). With that in mind, it is not surprising to learn that the participants in this study noted teachers as being an integral part of their experience. All of the participants commented on the challenges they faced due to ASD. Only three of the participants received their diagnosis while still attending K-12 education; the other seven were not identified until after leaving. However, almost all of the participants spoke about the supports offered to them by their teachers. For some, this support came in the form of taking the time to review content, provide encouragement, and positive reinforcement. Other teachers noticed the social skills and communication struggles and took the time to help improve their skills. Additional supports provided by the teachers included preferential seating and the ability to take breaks. While it was clear these supports did not suddenly fix all the challenges posed by ASD, the supports did help to improve the overall educational experience. Without access to such supportive teachers, the females may have had vastly different and more negative experiences.

Implications for Policy or Practice

This study's results extended the understanding of the K-12 educational experiences of females with ASD. As with the participants of this study, many females with ASD are diagnosed late in their K-12 school career or sometime after leaving the institution. These individuals often face challenges in social interactions, executive functioning, and academics, but are limited in the support they receive because of the diagnosis coming later. Data from this study demonstrates the need for changes in policy and practice to improve the educational experience of females with ASD.

Implications for Policy

Social interactions and communication with various people occur daily in K-12 education, as well as life in general. Escaping social demands and communication with others after leaving K-12 education is almost impossible. The participants noted that social interactions were one of the biggest challenges they faced in their educational careers. While many of them had some access to social skills instruction, they did not feel it was enough to fully remove that barrier. Additionally, participants indicated challenges with the development of interpersonal skills, even if they did not use that specific wording. According to Riggio and Tan (2013), interpersonal skills are often referred to as soft skills and reference skills areas, such as working with others and social intelligence. Social-emotional learning often focuses on the development of such skills. Adding school district level policy that require all students to participate in a social-emotional curriculum could help individuals with ASD who do not have a diagnosis begin to develop the skills necessary for success in K-12 education, as well as in life in general. Even females, such as Violet, who received a relatively early diagnosis of ASD would still benefit from this type of instruction, while still having access to their own related service instruction in social skills.

There are many laws and regulations in place to ensure equitable educational opportunities for students with disabilities. The most well-known is the Individuals with Disabilities Education Act (IDEA, 2004), which ensures all students with disabilities are provided access to free and appropriate public education. Access to the interventions, plans, and supports provided by IDEA is contingent on being a student identified with a disability. Unfortunately, as demonstrated by this study, there are often many students that fall through the cracks. Seven of the 10 participants did not receive a diagnosis until after leaving K-12 education, despite many teachers seeming to recognize the females were struggling. School districts should budget funds for professional development sessions that focus on identifying and referring students with ASD, and ASD in females. Providing teachers and school personnel with a deeper understanding of identifying students with ASD may help to reduce the number of students that fall through the cracks. Additionally, spending time focusing on just ASD females could help to reduce some of the gender bias surrounding ASD, allowing more females with ASD to be referred to for evaluation.

Participants in this study often noted struggling with sensory regulation during their time in K-12 education. They found school to be chaotic due to the large and loud classroom. Some participants had access to breaks, allowing them to remove themselves from the area to reset their self-regulation. However, those breaks took students already struggling in academics and removed them from the educational environment. School districts may benefit from budgeting funds to develop sensory friendly classrooms. Removing the sensory demands may allow for greater access to education.

Implications for Practice

Research establishes the existence of a disproportionality rate between the diagnosis of ASD among males and females. Across the genders, the accepted ratio of diagnosis is four males to every one female (Glass & Guld, 2016; Murray, 2012; Zener, 2018). If females are diagnosed with ASD, it is often later in life, or they need to display more severe ASD symptoms or have additional intellectual or behavioral concerns (Carpenter, 2019). This was the case for the participants of this study. The one participant, Violet, who was diagnosed at a relatively young age, was tested due to intellectual and behavioral concerns. The remaining nine participants did not receive a diagnosis until near the end of K-12 education or after leaving the school system. It is thought that females have a more difficult time receiving a diagnosis because the tools used to diagnose ASD are normed for males (Carpenter, 2019). To help females have a better chance of receiving a diagnosis and the necessary support for success in K-12 school education and life, diagnostic tools should be developed specific to females. The development of such tools could reduce the disproportionality rate and allow females to receive support similar to the support the males receive.

ASD can have a medical diagnosis, educational diagnosis, or both. The diagnosis type depends on the individual and specific needs. For either one, the person needs to be evaluated by a pediatrician, psychiatrist, or school psychologist. The findings indicated that females often share similar ASD characteristics with males, which could mean they are overlooked for a diagnosis because they are female. Clinicians need to be aware of the gender bias of ASD. Often, biases influence decision-making in an unconscious manner. Clinicians need to acknowledge their own biases when it comes to ASD and females with ASD. This may allow the clinicians to go into the evaluation with clear eyes, which in turn could mean females are not overlooked for ASD simply due to their sex.

Schools play an important role in more than just the academic development of students. Schools provide a space for social interaction, emotional development, and life lessons. Findings from this study showed the significant role the schools had on the overall success of the participants. By having such supportive schools, the participants felt their time in K-12 education was more positive. School administration needs to be aware of how large an impact the school can have on individuals. Developing spaces of empathy, inclusivity, and acceptance could help to improve outcomes for females with ASD.

As demonstrated by the participants of this study, teachers can be an asset when it comes to the educational experiences during K-12 education. The females in the study spoke highly of their teachers and the support provided to them, even if they did not have a formal diagnosis of ASD. Gómez-Marí et al. (2022) noted that the attitudes teachers display toward individuals with ASD can impact interactions for those individuals both within and outside the classroom. Teachers need to understand the role they play, not only in the development of academics, but in the overall development of students. Teachers should work to develop classrooms that are inclusive and provide accommodations to students. They should also develop an understanding of ASD and the various ways ASD presents in females. This may allow them to be more proactive instead of reactive during academic and social interactions.

Parents are an important resource for females with ASD to access necessary support and intervention. Communication and collaboration between families and teachers is needed to help ensure positive outcomes for all students, but especially those with disabilities. Parents often know their child the best and can provide background on strengths, needs, and preferences. For the participants of this study, the teachers may have helped to provide support to the females, but it was the parents and families that advocated for an ASD diagnosis. Parents need to be aware of their significant impact on the educational experiences of their children.

Theoretical and Empirical Implications

This section examines the empirical and theoretical implications of this study. The theory used to guide the study was social cognitive theory. This theory aims to explain learning and behavior through the reciprocity among the person, behavior, and environment (Bandura, 1999; Schunk, 2020). Within this model, the factors are constantly changing and influencing the others. The influence is not always equal, and one aspect tends to dominate interactions. Social interactions often play a part in influencing each of the factors.

Empirical Implications

The existing empirical literature surrounding the K-12 educational experiences of females with ASD was examined in Chapter Two. This study allowed females with ASD a chance to reflect on their K-12 education and give voice to those experiences. Many did not receive their diagnosis until after leaving K-12 education, which meant they spent their school career often wondering why they were different.

Previous research demonstrates that females are diagnosed at lower rates than males (Glass & Guld, 2016; Harrop et al., 2015; Whitlock et al., 2020). One of the main theories regarding understanding the underdiagnosis of females with ASD is the female autism phenotype. One study used the female ASD phenotype to suggest that ASD presents differently in females than it does in males (Hull et al., 2020; Mandy et al., 2011). The evidence of this study differs from the idea that ASD presents differently. The participants of this study often demonstrated the same characteristics of ASD as males. For example, Aderyn explained that, "loud classrooms, the lockers, and complex social dynamics for me proved to be a bit overwhelming . . . then also struggling with sensory sensitivities." Remi commented on struggling with abstract math concepts and navigating social demands which caused challenges for her. Violet noted that she had trouble with her executive functioning and self-regulation skills, specifically following the school's operating calendar and transitioning to different classes and activities. Additionally, there are the social challenges that were expressed by the rest of the participants. All of these are typical characteristics associated with ASD. For the participants of this study, their symptoms are similar to those demonstrated by males with ASD. Further, this study aligns more with the study conducted by Mandy et al. (2011) which found that females who are high-functioning and do not have severe restricted and repetitive behaviors are less likely to be diagnosed with ASD than males.

While the results of this study seem to move away from the female autism phenotype theory, it does not mean this theory has been disproven. In fact, it is possible the participants in this study were identified because they demonstrated more of the classical characteristics of ASD. Since the female autism phenotype suggests that ASD presents differently in females, it is likely that many females are continuing to go undiagnosed because they do not have the classical characteristics that clinicians expect.

The results of the study aligned with the idea that females will need to demonstrate more significant ASD behaviors or have additional intellectual or behavioral problems to receive a timely ASD diagnosis (Carpenter et al., 2019). Only three of the 10 participants were diagnosed with ASD while still attending K-12 education. Two of them were in high school before receiving a diagnosis. The one who was diagnosed relatively early, was also being evaluated for intellectual disabilities and had a behavior assessment completed. The other seven participants were not diagnosed until after leaving K-12 school, and most were in their early twenties when a diagnosis was made.

The results of this study support previous research indicating that females are more likely to be diagnosed with ASD later in their life (Carpenter et al., 2019; Harrop et al., 2015; Whitlock et al., 2020). Seven of the 10 participants were not diagnosed with ASD until after they left K-12 education. While the age of concern is often the same between males and females, females are often diagnosed much later (Harrop et al., 2015; Whitlock et al., 2020). Many of the participants demonstrated characteristics of ASD, such as Kahleena's pattern of restricted behaviors and movements, or various social skills deficits demonstrated by all of the participants. One idea as to why they are diagnosed later is that there is a gender bias within the category. Lockwood and Estrin et al. (2021) noted that clinicians and diagnostic tools are often biased when it comes to diagnosing ASD in females. The tools that are used to diagnose ASD were developed from the initial research done by Kanner and Asperger, which used males as the only participants, causing the tools to be inadequate when it comes to females (Carpenter et al., 2019). Since many of the participants did not receive their diagnosis until after leaving school, even though teachers did note concerns regarding social interactions and behavior, it is impossible to say that gender bias by the teachers was the reason for the late diagnosis, but it does demonstrate an area for future research.

Although ASD causes deficits in social interactions and communication skills, this does not mean that those affected do not want to engage with others. One theory regarding the differences among the sexes is that females have greater social motivation than males (Song et al., 2021). The results of this study provided support for this theory. Aderyn, Kahleena, and Ciara noted feelings of wanting acceptance from others, but struggling with social interactions.

They wanted to develop relationships and friendships with peers, but were often met with resistance. Ciara could feel peers distancing themselves from her no matter how hard she tried to engage and develop relationships. Aderyn wanted so much to have appropriate interactions that she took to creating her own scripts and rehearsing the conversations in her head; unfortunately, the interactions would not play out as planned. Kahleena would often attend playdates and parties hoping to connect with others, but was often left feeling isolated. These behaviors demonstrated high levels of seeking social acceptance and social motivation, which is consistent with prior research conducted by Cola et al. (2022), who found that females with ASD demonstrated greater social motivation by having more instances of social words (making reference to other people) than males with ASD.

The findings of this study added to the current understanding of ASD. Each person with ASD is impacted in a different way, but they will see the effects throughout their lives. With the new umbrella term, clinicians can identify the disorder's severity based on the amount of support required for individuals to be successful (Ellison et al., 2019). The inclusion of severity levels allows clinicians to identify areas of strength and weakness and develop plans to support needs (Gardner et al., 2018). The participants of this study were Level 1 and Level 2. Participants were given a chance to voice their challenges within K-12 education, along with the appropriateness of any support offered to them. They have added more understanding to severity levels in ASD.

The study also addressed a gap in literature. When examining ASD, males are diagnosed at higher rates than females, which means males are more likely to be used as participants in studies. Carpenter et al. (2019) that in many studies, females are often excluded from participation because when using the accepted male-to-female ratio, the female participation in the study would be low. The lack of participation in studies means that the current understanding of how ASD impacts females is lacking. The results indicated the need to understand these experiences, along with how ASD is different between the two sexes. Participants noted that their main area of challenge was in social interactions and communication, which are the core characteristics of ASD.

Theoretical Implications

Bandura's (1986) social cognitive theory was the theoretical framework for this study. This theory uses triadic reciprocity to show how learning and behavior take place. This reciprocity focuses on the interactions between the person, behavior, and environment (Bandura, 1999; Schunk, 2020). Each factor influences the other based on feedback from the interactions. Additionally, Bandura (1999) noted that people are active participants within their environment and want to control their own lives. The desire to control one's life does not stop the individual from moving through the triadic model, but it can influence how the three environments interact.

One aspect of Bandura's (1986, 1999) theory that sets it apart from other theories used to explain behavior is the idea that individuals can actively influence their environments and behavior. People influence their own life by observing and interpreting interactions among the triadic model, which in turn influences how they move through the model (Schunk, 2020). This study aligns with this theoretical proposition because the females noted observing other social interactions and trying to imitate. For example, Aderyn said, "Because I would rehearse conversation in my mind, but I found it difficult to adapt to adapt to situations [that] deviated from my prepared script." While Kahleena did not create scripts to follow during social interactions, she found herself struggling with understanding the unspoken rules of communication and social interactions. She would observe others interacting, but be unable to apply what she learned. This finding supports Bandura's (1999) theory that people are active participants within their learning and environment. It also demonstrates that individuals with ASD may need additional instruction in their areas of deficit. While the participants did observe and imitate, social interactions and communication were still a challenge.

The findings in this study support the theory that self-regulation is necessary for greater movement throughout the triadic reciprocity model (Bandura, 1999). According to Schunk (2020), self-regulation refers to one's ability to activate and sustain internal and external behaviors to obtain a goal. With the difficulties associated with ASD in the areas of social interaction and communication, individuals often struggle with self-regulation (Charitaki et al., 2021). Without access to appropriate interventions, individuals with ASD struggle to navigate appropriately through the triadic model.

During the individual interviews, participants often spoke about how the environment of K-12 schools proved to be challenging. They spoke of the way the school system was laid out and struggling to make transitions. Others commented on the sensory difficulties. Aderyn noted that she struggled with the loud classrooms, noises from the lights, loud hallways because of the lockers, and chaotic lunchrooms. She often found it difficult to concentrate on the lessons because of her heightened sensitivity to sensory sounds. All participants explained that social interactions and communication were their main difficulty area. Remi said, "I was like the one kid who didn't get included, and the one kid who didn't get invited to do things, and people would give me weird looks." Participants struggled to regulate themselves in various environments, often leading to misunderstandings and feeling as though they did not belong. They struggled to develop their self-regulation skills, making it more difficult to take charge of their own lives. Often, external factors influenced their interactions.

Limitations and Delimitations

The sample size of this study was 10 participants. While the sample still fell within the recommendation by Creswell and Poth (2016) of five to 25 participants, it is on the lower end. 75 individuals completed the questionnaire; however, two indicated they did not give consent to video or audio recordings, which excluded them from participation in the study. After careful review of the remaining 73 completed questionnaires, only 10 of them fit the criteria. It appears that many people saw a $25 Amazon gift card was offered for participation and completed the form regardless of meeting the requirements. Several individuals indicated they did not have ASD, were male, or were a Level 3 diagnosis, all of which were automatic exclusions from participation in the study. Since recruitment for the study involved posting on various social media platforms, it is possible participants completed the questionnaire and subsequent interviews and journal prompts with responses they thought the researcher wanted to hear instead of recounting their true personal experiences. Following the analysis of the questionnaires, individual interviews, and journal prompts completed by the first ten participants, it appeared that thematic saturation was reached. Limitations of this study also included location. The setting was open to females within the United States; however, this meant individual interviews needed to be conducted virtually. While a virtual setting still allowed for participants to describe their experiences, it limited the ability for the researcher to capture non-verbal language, such as body language. Finally, this study's data was collected using a questionnaire, individual interviews, and responses to journal prompts and was subject to the researcher's interpretation.

In this study, participants were delimited by age. Individuals needed to be 18-25 years old during the time of the study to participate. The age restriction was a mindful decision. Participants needed to be of an age where they could reflect upon their K-12 experiences from a neutral stance. Being in the middle of the educational system may have produced inaccurate feelings of the experience. However, participants needed to not be so far removed from the experience, as people tend to romanticize the past. The age range allowed participants to still have the experience in their minds and be able to look at it from a more neutral perspective. Participants were also required to be female assigned at birth. The focus of the study was to understand the K-12 educational experiences of females. Allowing individuals assigned male at birth, but identifying as female into the study had the potential to skew data in terms of the age in which participants are diagnosed. Participants could not be identified as a Level 3 severity. Individuals with Level 3 severity often need extensive support in K-12 education and independent living. Since participants needed to be able to recall and detail their experiences, it was possible Level 3 severity females would not have been able to accurately articulate their experiences. Finally, participant responses to individual interviews were provided verbally. Since interviews needed to be conducted virtually, this provided the most convenient way for participants to respond, but it might not have been the best way for each participant to convey their experience. Individuals with ASD struggle with communication and social interaction, both of which were needed for participation in the individual interviews. Allowing participants alternate ways of responding, such as written responses could have allowed participants more time to process the question. It could also allow the participants a way to accurately articulate their experience instead of trying to ensure they were using the correct social conventions.

Recommendations for Future Research

The recommendations for future research are based on the results and findings of this study. The first recommendation is to explore the social experiences of females with ASD after participation in social-emotional learning instruction. Based on the participants of this study, social interactions and communication were one of the biggest challenges they faced in K-12 education. Participation in social-emotional learning may help to improve their skills, and by extension, their experiences. Participants should be in the secondary level of education, since females with ASD are often identified later.

The second recommendation is to explore teacher perceptions of ASD in males and females. Based on responses from the participants in this study, many teachers seemed to know that the participants were struggling with social skills; however, few of them were diagnosed during K-12 education. It is possible recommendations for ASD evaluations were not done because teacher perceptions are biased towards males.

Qualitative research relies heavily on individual interviews. Whether the interview is conducted in person or virtually, the participants are still required to engage in social interactions and communication. These types of interactions are difficult for individuals with ASD. Future research may benefit from understanding the experiences of individuals with ASD, whether male or females, by allowing participants other methods of responding to interview questions. Allowing participants to respond to questions through writing, would allow them time to sit with the question and fully understand it before providing a response. Additionally, they may be able to better articulate a response and their experience in writing rather than verbally.

Finally, the study demonstrated the need for additional research in how ASD impacts females. The participants of this study demonstrated more of the classical characteristics of ASD, which on the surface seems to go against the female autism phenotype theory. While the participants did receive their diagnosis later, which is consistent with current research for females, it is possible they received a diagnosis because their symptoms were more aligned with ASD in males. It is possible that there are many more females with ASD who have not been diagnosed because they do not have the classical characteristics. Continuing to research and understand ASD in females will provide a clearer picture of how ASD in females presents, as well as their experiences. Quantitative or mixed-method research should be considered when developing future research. This would allow for the inclusion of numerical data into the study of this topic.

Conclusion

The purpose of this study was to explore the K-12 educational experiences of females with ASD. To capture the lived experience of females with ASD, a transcendental phenomenological research design was implemented. The theoretical framework for this study was social cognitive theory. A questionnaire, individual interview, and responses to four journal prompts were used to collect data and triangulate findings across participants and sources. The data were analyzed to develop four themes and nine sub-themes. A voice was given to the experience providing significant implications for policies, practices, and future research. The findings highlighted that social skills and communication are the biggest barriers for females with ASD. In addition, the findings supported previous research that indicated females are diagnosed later than their male counterparts. Future research is suggested to explore the impact instruction in social-emotional learning has on females and to understand how ASD is represented in the female population.

References

Anderson, J., Marley, C., Gillespie-Smith, K., Carter, L., & MacMahon, K. (2020). When the mask comes off: Mothers' experiences of parenting a daughter with autism spectrum condition. *Autism: The International Journal of Research and Practice, 24*(6), 1546-1556. https://doi.org/10.1177/1362361320913668

Aravamudhan, S., & Awasthi, S. (2021). The use of prompts and precision teaching to address speech sound disorders in a 17-year-old girl with autism. *Behavior Analysis in Practice, 14*(3), 644-659. https://doi.org/10.1007/s40617-020-00470-7

Arnold, E. M., Goldston, D. B., Walsh, A. K., Reboussin, B. A., Daniel, S. S., Hickman, E., & Wood, F. B. (2005). Severity of emotional and behavioral problems among poor and typical readers. *Journal of Abnormal Child Psychology, 33*(2), 205-217. https://doi.org/10.1007/s10802-005-1828-9

Ashwood, K. L., Tye, C., Azadi, B., Cartwright, S., Asherson, P., & Bolton, P. (2015). Brief report: Adaptive functioning in children with ASD, ADHD and ASD + ADHD. *Journal of Autism and Developmental Disorders, 45*(7), 2235-2242. https://doi.org/10.1007/s10803-014-2352-y

Bandura, A. (1999). Social cognitive theory: An agentic perspective. *Asian Journal of Social Psychology, 2*, 21-41.

Billups, F. (2021). *Document and artifact analysis tools*. SAGE Publications. https://doi.org/10.4135/9781071878699

Boorse, J., Cola, M., Plate, S., Yankowitz, L., Pandey, J., Schultz, R. T., & Parish-Morris, J. (2019). Linguistic markers of autism in females: Evidence of a "blended phenotype" during storytelling. *Molecular Autism, 10*(1), 14-14. https://doi.org/10.1186/s13229-019-0268-2

Bruck, S., Webster, A. A., & Clark, T. (2022). Transition support for students on the autism spectrum: a multiple stakeholder perspective. *Journal of Research in Special Educational Needs, 22*(1), 3-17. https://doi.org/10.1111/1471-3802.12509

Burton, J. M., Creaghead, N. A., Silbert, N., Breit-Smith, A., Duncan, A. W., & Grether, S. M. (2020). Social communication and structural language of females with high-functioning autism spectrum disorder. Language, Speech & Hearing Services in Schools, *51*(4), 1139-1155. https://doi.org/10.1044/2020_LSHSS-20-00004

Carpenter, B., Happé, F., & Egerton, J. (Eds.). (2019). *Females and autism: Educational, family and personal perspectives*. Taylor & Francis Group.

Centers for Disease Control and Prevention. (2022, March 31). *Autism and Developmental Disabilities Monitoring (ADDM) Network*. U.S. Department of Health & Human Services. https://www.cdc.gov/ncbddd/autism/addm.html

Charitaki, G., Soulis, S., & Tyropoli, R. (2021). Academic self-regulation in autism spectrum disorder: A principal components analysis. *International Journal of Disability, Development, and Education, 68*(1), 26-45. https://doi.org/10.1080/1034912X.2019.1640353

Cheak-Zamora, N., Maurer-Batjer, A., Malow, B. A., & Coleman, A. (2020). Self-determination in young adults with autism spectrum disorder. *Autism: The International Journal of Research and Practice, 24*(3), 605-616. https://doi.org/10.1177/1362361319877329

Claxton-Dolan (2022). *A Step-by-Step Guide to Writing a Literature Review for Doctoral Research*. Kendall Hunt Publishing. https://mbsdirect.vitalsource.com/books/9781792466052

Cola, M., Yankowitz, L. D., Tena, K., Russell, A., Bateman, L., Knox, A., Plate, S., Cubit, L. S., Zampella, C. J., Pandey, J., Schultz, R. T., & Parish-Morris, J. (2022). Friend matters: Sex differences in social language during autism diagnostic interviews. Molecular Autism, *13*(1), 5-5. https://doi.org/10.1186/s13229-021-00483-1

Creswell, J. W., & Poth, C. N. (2016). *Qualitative Inquiry and Research Design: Choosing Among Five Approaches* (4th Edition). SAGE Publications, Inc.

Cridland, E. K., Jones, S. C., Caputi, P., & Magee, C. A. (2014). Being a girl in a boys' world: Investigating the experiences of girls with autism spectrum disorders during adolescence. Journal of Autism and Developmental Disorders, *44*(6), 1261-74. http://dx.doi.org/10.1007/s10803-013-1985-6

Egerton, J., Carpenter., B & the Autism and Girls Forum. (2016). *Girls and Autism- Flying Under the Radar: A Quick Guide to Supporting Girls with Austism Spectrum Conditions.* London: nasen

Elias, R., & White, S. W. (2018). Autism Goes to College: Understanding the Needs of a Student Population on the Rise. *Journal of Autism and Developmental Disorders, 48*(3), 732-746. https://doi.org/10.1007/s10803-017-3075-7

Ellison, K., Bundy, M. B., Gore, J., & Wygant, D. (2019). Exploration of the DSM-5's Autism Spectrum Disorder Severity Level Specifier and Prediction of Autism Severity. *Exceptionality, 27*(4), 289-298. https://doi.org/10.1080/09362835.2019.1579721

Feinstein, A. (2010). *A history of autism: Conversations with the pioneers* (1st ed.). Wiley-Blackwell. https://doi.org/10.1002/9781444325461

Flannery, K. A., & Wisner-Carlson, R. (2020). Autism and education. *The Psychiatric Clinics of North America, 43*(4), 647-671. https://doi.org/10.1016/j.psc.2020.08.004

Gardner, L. M., Campbell, J. M., Keisling, B., & Murphy, L. (2018). Correlates of DSM-5 autism spectrum disorder levels of support ratings in a clinical sample. *Journal of Autism and Developmental Disorders, 48*(10), 3513-3523. https://doi.org/10.1007/s10803-018-3620-z

Garner, P., Sandow, S. (2018). *Advocacy, self-advocacy and special needs* (First ed.). Routledge. https://doi.org/10.4324/9780429489952

Garrad, T., Vlcek, S., & Page, A. (2022). The importance of the promotion of evidence-based practice as a reasonable adjustment in mainstream education settings for students with autism spectrum disorder. *Australasian Journal of Special and Inclusive Education, 46*(1), 101-112. doi:10.1017/jsi.2022.5

Gentry, T., Kriner, R., Sima, A., McDonough, J., & Wehman, P. (2015). Reducing the need for personal supports among workers with autism using an iPod touch as an assistive technology: Delayed randomized control trial. *Journal of Autism and Developmental Disorders, 45*(3), 669-684. https://doi.org/10.1007/s10803-014-2221-8

Ghanouni, P., & Raphael, R. (2022). Transition to adulthood in individuals with ASD: What does the employment look like? *Journal of Education and Work, 35*(3), 307-325. https://doi.org/10.1080/13639080.2022.2048253

Glass, K. J., & Guld, F. A. (2016). *Childhood autism spectrum disorder: Evidence-based assessment and intervention.* Momentum Press.

Gobrial, E., & Raghavan, R. (2012). Prevalence of anxiety disorder in children and young people with intellectual disabilities and autism. *Advances in Mental Health and Intellectual Disabilities, 6*(3), 130-140. https://doi.org/10.1108/20441281211227193

Gómez-Marí, I., Sanz-Cervera, P., & Tárraga-Mínguez, R. (2022). Teachers' attitudes toward autism spectrum disorder: A systematic review. *Education Sciences, 12*(2), 138. https://doi.org/10.3390/educsci12020138

Hens, K. (2021). Towards an ethic of autism. Open Book Publishers. https://doi.org/10.11647/OBP.0261

Han-Ting, W., Ju-Wei, H., Kai-Lin, H., Ya-Mei Bai, Tung-Ping, S., Cheng-Ta, L., Wei-Chen, L., Shih-Jen Tsai, Tai-Long, P., Tzeng-Ji, C., & Mu-Hong, C. (2018). Timing of the diagnoses of attention deficit hyperactivity disorder and autism spectrum disorder in Taiwan. *Journal of Autism and Developmental Disorders, 51*(3), 790-797. https://doi.org/10.1007/s10803-018-3655-1

Harris, J. (2018). Leo Kanner and autism: A 75-year perspective. *International Review of Psychiatry (Abingdon, England), 30*(1), 3-17. https://doi.org/10.1080/09540261.2018.1455646

Harrop, C., Gulsrud, A., & Kasari, C. (2015). Does gender moderate core deficits in ASD? An investigation into restricted and repetitive behaviors in girls and boys with ASD. *Journal of Autism and Developmental Disorders, 45*(11), 3644-3655. https://doi.org/10.1007/s10803-015-2511-9

Honeybourne, V. (2016). Educating and Supporting Girls with Asperger's and Autism: A Resource for Education and Health Professionals (1st ed.). Routledge. https://doi-org.ezproxy.liberty.edu/10.4324/9781315172620

Hull, L., Petrides, K. V., & Mandy, W. (2020). The female autism phenotype and camouflaging: A narrative review. *Review Journal of Autism and Developmental Disorders, 7*(4), 306-317. https://doi.org/10.1007/s40489-020-00197-9

Johan, L. K., Högström, J., Nord, M., Bölte, S., Serlachius, E., & Falck-Ytter, T. (2017). Autistic Traits and Symptoms of Social Anxiety are Differentially Related to Attention to Others' Eyes in Social Anxiety Disorder. *Journal of Autism and Developmental Disorders, 47*(12), 3814-3821. https://doi.org/10.1007/s10803-016-2978-z

Kang, J., & Barnes, G. (2013). A common susceptibility factor of both autism and epilepsy: functional deficiency of GABA^sub A^ receptors. *Journal of Autism and Developmental Disorders, 43*(1), 68-79. https://doi.org/10.1007/s10803-012-1543-7

Klauber, T. (2018). *The many faces of Asperger's syndrome* (First ed.). Taylor and Francis. https://doi.org/10.4324/9780429482380

Klett, L. S., & Turan, Y. (2012). Generalized effects of social stories with task analysis for teaching menstrual care to three young girls with autism. *Sexuality and Disability, 30*(3), 319-336. https://doi.org/10.1007/s11195-011-9244-2

Kozel, B. A., Barak, B., Kim, C. A., Mervis, C. B., Osborne, L. R., Porter, M., & Pober, B. R. (2021). Williams syndrome. *Nature Reviews. Disease Primers, 7*(1), 42-42. https://doi.org/10.1038/s41572-021-00276-z

Kraemer, B. R., Tomaszewski, B., Rentschler, L. F., Steinbrenner, J. R., Hume, K. A., McDaniel, S., Dawalt, L., Brum, C., & Szidon, K. (2022). Quality of the Transition Component of the IEP for High School Students with Autism. *Career Development and Transition for Exceptional Individuals, 45*(4), 200-212. https://doi.org/10.1177/21651434221079743

LaBianca, S., Pagsberg, A. K., Jakobsen, K. D., Demur, A. B., Bartalan, M., LaBianca, J., & Werge, T. (2018). Brief Report: Clusters and Trajectories Across the Autism and/or ADHD Spectrum. *Journal of Autism and Developmental Disorders, 48*(10), 3629-3636. https://doi.org/10.1007/s10803-018-3618-6

Leedham, A., Thompson, A. R., Smith, R., & Freeth, M. (2020). 'I was exhausted trying to figure it out': The experiences of females receiving an autism diagnosis in middle to late adulthood. Autism: The International Journal of Research and Practice, *24*(1), 135-146. https://doi.org/10.1177/1362361319853442

Lengyel, L. S., & Vanbergeijk, E. (2021, 06). A BRIEF HISTORY OF SPECIAL EDUCATION. *The Exceptional Parent (Online), 51*, 25-29. https://go.openathens.net/redirector/liberty.edu?url=https://www.proquest.com/magazines/brief-history-special-education/docview/2540561106/se-2

Liu, J., & Loeb, S. (2021). Engaging teachers: Measuring the impact of teachers on student attendance in secondary school. *The Journal of Human Resources, 56*(2), 343-379. https://doi.org/10.3368/jhr.56.2.1216-8430R3

Lockwood Estrin, G., Milner, V., Spain, D., Happé, F., & Colvert, E. (2021;2020;). Barriers to autism spectrum disorder diagnosis for young women and females: A systematic review. Review Journal of Autism and Developmental Disorders, *8*(4), 454-470. https://doi.org/10.1007/s40489-020-00225-8

Loomes, R., Hull, L., & Mandy, W. P. L. (2017). What is the male-to-female ratio in autism spectrum disorder? A systematic review and meta-analysis. Journal of the American Academy of Child and Adolescent Psychiatry, *56*(6), 466-474. https://doi.org/10.1016/j.jaac.2017.03.013

Lord, C., Brugha, T. S., Charman, T., Cusack, J., Dumas, G., Frazier, T., Jones, E. J. H., Jones, R. M., Pickles, A., State, M. W., Taylor, J. L., & Veenstra-VanderWeele, J. (2020). Autism spectrum disorder. *Nature Reviews. Disease Primers, 6*(1), 5-5. https://doi.org/10.1038/s41572-019-0138-4

Lord, C., Elsabbagh, M., Baird, G., & Veenstra-Vanderweele, J. (2018). Autism spectrum disorder. *The Lancet (British Edition), 392*(10146), 508-520. https://doi.org/10.1016/S0140-6736(18)31129-2

Mandy, W., Chilvers, R., Chowdhury, U., Salter, G., Seigal, A., & Skuse, D. (2011). Sex differences in autism spectrum disorder: Evidence from a large sample of children and adolescents. *Journal of Autism and Developmental Disorders, 42*(7), 1304-1313. https://doi.org/10.1007/s10803-011-1356-0

Masri, A. T., Nasir, A., Irshaid, F., Alomari, F., Irshaid, A., Al-Qudah, A., Nafi, O., & Almomani, M. (2022). Genetic evaluation of children with autism spectrum disorders in developing and low-resource areas. *Autism: The International Journal of Research and Practice, 26*(6), 1491-1498. https://doi.org/10.1177/13623613211055535

McDonald, T. A. M. (2021). The broader autism phenotype constellations–disability matrix paradigm: Theoretical model for autism and the broader autism phenotype. *Medical Hypotheses, 146*, 110456-110456. https://doi.org/10.1016/j.mehy.2020.110456

Morán, M. L., Mayumi, H., Raley, S. K., Alsaeed, A. H., Shogren, K. A., Xueqin, Q., Gómez, L.,E., & Alcedo Mª Ángeles. (2021). Self-determination of students with autism spectrum disorder: A systematic review. *Journal of Developmental and Physical Disabilities, 33*(6), 887-908. https://doi.org/10.1007/s10882-020-09779-1

Moyse, R., & Porter, J. (2015). The experience of the hidden curriculum for autistic females at mainstream primary schools. European Journal of Special Needs Education, *30*(2), 187-201. https://doi.org/10.1080/08856257.2014.986915

Muratori, F., Calderoni, S., & Bizzari, V. (2021). George Frankl: An undervalued voice in the history of autism. *European Child & Adolescent Psychiatry, 30*(8), 1273-1280. https://doi.org/10.1007/s00787-020-01622-4

Murray, S. (2011). Autism (1st ed.). Routledge.

Moustakas, C. E. (1994). *Phenomenological research methods*. Sage Publications. https://doi.org/10.4135/9781412995658

Navot, N., Jorgenson, A. G., & Webb, S. J. (2017). Maternal experience raising females with autism spectrum disorder: A qualitative study. *Child: Care Health & Development 43*(4), 536-545. https://doi.org/10.1111/cch.12470

O'Brien, C., Beattie, J., & Sacco, D. (2020). *Teaching students with special needs: A guide for future educators.* Kendall Hunt.

Oswald, T. M., Winter-messiers, M., Gibson, B., Schmidt, A. M., Herr, C. M., & Solomon, M. (2016). Sex Differences in Internalizing Problems During Adolescence in Autism Spectrum Disorder. *Journal of Autism and Developmental Disorders, 46*(2), 624-636. https://doi.org/10.1007/s10803-015-2608-1

Ottomanelli, L., Goetz, L. L., O'Neill, J., Lauer, E., & Dyson-Hudson, T. (2020). 30 Years after the Americans with disabilities act: Perspectives on employment for persons with spinal cord injury. *Physical Medicine and Rehabilitation Clinics of North America, 31*(3), 499-513. https://doi.org/10.1016/j.pmr.2020.04.007

Pennington, R. (2022). Applied behavior analysis in the classroom: Applied behavior analysis: A valuable partner in special education. *Teaching Exceptional Children, 54*(4), 315-317. https://doi.org/10.1177/00400599221079130

Riggio, R.E., & Tan, S.J. (Eds.). (2013). *Leader Interpersonal and Influence Skills: The Soft Skills of Leadership* (1st ed.). Routledge. https://doi.org/10.4324/9780203760536

Roux, A. M., Shea, L. L., Steinberg, H., Rast, J. E., Anderson, K. A., Hotez, E., Rosenau, K., Kuo, A., Assing-Murray, E., & Shattuck, P. T. (2023). Evidence from the autism transitions research project (2017–2022): Capstone review and services research recommendations. *Autism Research, 16*(3), 480-496. https://doi.org/10.1002/aur.2890

Rubin, R. (2022). Functional brain organization differences found between males and females with autism spectrum disorder. *JAMA : The Journal of the American Medical Association, 327*(13), 1216-1217. https://doi.org/10.1001/jama.2022.3834

Rynkiewicz, A. & Łucka, I. (2018). Autism spectrum disorder (ASD) in females. Co-occurring psychopathology. Sex differences in clinical manifestation. *Psychiatria Polska, 52*(4), 629-639. https://doi.org/10.12740/PP/OnlineFirst/58837

Saris, W. E., Gallhofer, I. N. (2007). *Design, evaluation, and analysis of questionnaires for survey research*. Wiley-Interscience. https://doi.org/10.1002/9780470165195

Sarrett, J. C. (2018). Autism and Accommodations in Higher Education: Insights from the Autism Community. *Journal of Autism and Developmental Disorders, 48*(3), 679-693. https://doi.org/10.1007/s10803-017-3353-4

Schunk, D. (2020). *Learning theories: An educational perspective* (8th ed.). Pearson.

Sefotho, M. M., & Onyishi, C. N. (2021). Transition to Higher Education for Students with Autism: Challenges and Support Needs. *International Journal of Higher Education, 10*(1), 201-213. https://go.openathens.net/redirector/liberty.edu?url=https://www.proquest.com/scholarly-journals/transition-higher-education-students-with-autism/docview/2527285778/se-2

Shenton, A. K. (2004). Strategies for ensuring trustworthiness in qualitative research projects. Education for Information, *22*(2), 63–75. https://doi-org.ezproxy.liberty.edu/10.3233/EFI-2004-22201.

Shoaib, A., Cepeda, M. S., Murray, G., & Ochs-Ross, R. (2022). Autism: comorbidities and treatment patterns in the real world, a retrospective cohort study among children, adolescents and adults newly diagnosed with autism. *Journal of Autism and Developmental Disorders, 52*(10), 4311-4320. https://doi.org/10.1007/s10803-021-05289-x

Silverman, C. (2012). *Understanding autism: Parents, doctors, and the history of a disorder*. Princeton University Press.

Soh, C. P., Goh, T. J., Iliana, M., & Sung, M. (2021). Caregiver- and Child-Reported Anxiety Using an Autism-Specific Measure: Measurement Properties and Correlates of the Anxiety Scale for Children with Autism Spectrum Disorder (ASC-ASD) in Verbal Young People with ASD. *Journal of Autism and Developmental Disorders, 51*(8), 2646-2662. https://doi.org/10.1007/s10803-020-04739-2

Song, A., Cola, M., Plate, S., Petrulla, V., Yankowitz, L., Pandey, J., Schultz, R. T., & Parish-Morris, J. (2021). Natural language markers of social phenotype in females with autism. *Journal of Child Psychology and Psychiatry, 62*(8), 949-960. https://doi.org/10.1111/jcpp.13348

Spilsbury, R. (2019). *Autism*. Rosen Publishing Group.

Sulek, R., Trembath, D., Paynter, J., & Keen, D. (2021). Factors influencing the selection and use of strategies to support students with autism in the classroom. *International Journal of Disability, Development, and Education, 68*(4), 479-495. https://doi.org/10.1080/1034912X.2019.1695755

Tchanturia, K., Adamson, J., Leppanen, J., & Westwood, H. (2019). Characteristics of Autism Spectrum Disorder in Anorexia nervosa: A Naturalistic Study in an Inpatient Treatment Programme. *Autism: The International Journal of Research and Practice, 23*(1), 123-130. https://doi.org/10.1177/1362361317722431

Tharian, P. R., Henderson, S., Wathanasin, N., Hayden, N., Chester, V., & Tromas, S. (2019). Characters with autism spectrum disorder in fiction: Where are the women and females? In E. Chaplin & V. Chester (Eds.), *Women, females, and autism spectrum disorders: Part 1* (pp. 50-63). Emerald Publishing Limited.

Thompson, J. L., & Knight, V. (2019). Teaching children with autism spectrum disorders. In C. O., J. B., & D. S Editors (Ed), Teaching students with special needs: A guide for future educators (pp. 227-249). Kendall Hunt.

Tomblin, B. (2011). Co-morbidity of autism and SLI: Kinds, kin and complexity. *International Journal of Language & Communication Disorders, 46*(2), 127-137. https://doi.org/10.1111/j.1460-6984.2011.00017.x

Valdes, F., Keary, C. J., Mullett, J. E., Palumbo, M. L., Waxler, J. L., Pober, B. R., & McDougle, C. J. (2018). Brief Report: Major Depressive Disorder with Psychotic Features in Williams Syndrome: A Case Series. *Journal of Autism and Developmental Disorders, 48*(3), 947-952. https://doi.org/10.1007/s10803-017-3384-x

Valderas, J., M., Starfield, B., Sibbald, B., Salisbury, C., & Roland, M. (2009). Defining comorbidity: Implications for understanding health and health services. Annals of Family Medicine, *7*(4), 357-363. https://doi.org/10.1370/afm.98

Van Der Steen, S., Geveke, C. H., Steenbakkers, A. T., & Steenbeek, H. W. (2020). Teaching students with autism spectrum disorders: What are the needs of educational professionals? *Teaching and Teacher Education, 90*, 103036. https://doi.org/10.1016/j.tate.2020.103036

van Manen, M. (2016). *Phenomenology of practice: Meaning-giving methods in phenomenological research and writing*. Left Coast Press.

Van Naarden Braun, K., Christensen, D., Doernberg, N., Schieve, L., Rice, C., Wiggins, L., Schendel, D., & Yeargin-Allsopp, M. (2015). Trends in the prevalence of autism spectrum disorder, cerebral palsy, hearing loss, intellectual disability, and vision impairment, metropolitan Atlanta, 1991-2010. *PloS One, 10*(4), e0124120-e0124120. https://doi.org/10.1371/journal.pone.0124120

van Steijn, D. J., Richards, J. S., Oerlemans, A. M., de Ruiter, S. W., van Aken, M. A. G., Franke, B., Buitelaar, J. K., & Rommelse, N. N. J. (2012). The co-occurrence of autism spectrum disorder and attention-deficit/hyperactivity disorder symptoms in parents of children with ASD or ASD with ADHD. *Journal of Child Psychology and Psychiatry, 53*(9), 954-963. https://doi.org/10.1111/j.1469-7610.2012.02556.x

Vicki, B., & Sharpley, C. F. (2020). Self- vs Parent Reports of Generalised Anxiety Disorder Symptomatology in Mildly Impaired Girls with an Autism Spectrum Disorder. *Journal of Autism and Developmental Disorders, 50*(3), 1045-1055. https://doi.org/10.1007/s10803-019-04339-9

Vicki, B., Arnold, W. A., & Sharpley, C. F. (2020). The Role of Sensory Features in Mediating Associations Between Autism Symptoms and Anxiety in Boys with Autism Spectrum Disorder. *Journal of Autism and Developmental Disorders, 50*(7), 2464-2474. https://doi.org/10.1007/s10803-019-03917-1

Waltz, M., van den Bosch, K., Ebben, H., van Hal, L., & Schippers, A. (2015). Autism self-advocacy in the netherlands: Past, present and future. *Disability & Society, 30*(8), 1174-1191. https://doi.org/10.1080/09687599.2015.1090954

Westwood, H., Mandy, W., Simic, M., & Tchanturia, K. (2018). Assessing ASD in Adolescent Females with Anorexia nervosa using Clinical and Developmental Measures: a Preliminary Investigation. *Journal of Abnormal Child Psychology, 46*(1), 183-192. https://doi.org/10.1007/s10802-017-0301-x

White, S. W., Smith, I., & Brewe, A. M. (2022). Brief Report: The influence of autism severity and depression on self-determination among young adults with autism spectrum disorder. *Journal of Autism and Developmental Disorders, 52*(6), 2825-2830. https://doi.org/10.1007/s10803-021-05145-y

Whitlock, A., Fulton, K., Lai, M., Pellicano, E., & Mandy, W. (2020). Recognition of females on the autism spectrum by primary school educators: An experimental study. Autism Research, *13*(8), 1358-1372. https://doi.org/10.1002/aur.2316

Wong, V., McGrew, J., & Ruble, L. (2020). Predicting the Outcomes of Parents of Transition-Age Youth or Young Adults with ASD. *Journal of Autism and Developmental Disorders, 50*(8), 2723-2739. https://doi.org/10.1007/s10803-020-04362-1

World Health Organization. (2021, June 1). Autism spectrum disorders. https://www.who.int/news-room/fact-sheets/detail/autism-spectrum-disorders

Yin, J., & Schaaf, C. P. (2017). Autism genetics - an overview: Autism genetics. Prenatal Diagnosis, *37*(1), 14-30. https://doi.org/10.1002/pd.4942

Yu T.W., Chahrour, M. H., Coulter, M. E., Jiralerspong, S., Okamura-Ikeda, K., Ataman, B., Schmitz-Abe, K., Harmin, D. A., Adli, M., Malik, A. N., D'Gama, A. M., Lim, E. T., Sanders, S. J., Mochida, G. H., Partlow, J. N., Sunu, C. M., & Felie, J. M., Rodrigues, J., Nasir, R. H., Ware, J., Joseph, R. M., Hill, R. S., Kwan, B. Y., Al-Saffar, M., Mukaddes, N. M., Hashmi, A., Balkhy, S., Gascon, G. G., Hisama, F. M., LeClair, E., Poduri, A., Oner, O., Al-Saad, S., Al-Awadi, S. A., Bastaki, L., Ben-Omran, T., Teebi, A. S., Al-Gazali, L., Eapen, V., Stevens, C. R., Rappaport, L., Gabriel, S. B., Markianos, K., State, M. W., Greenberg, M. E., Taniguchi, H., Braveman, N. E., Morrow, E. M., & Walsh, C. A. (2013). Using Whole-Exome Sequencing to Identify Inherited Causes of Autism. *Neuron.*, *77*(2), 259–273. https://doi.org/10.1016/j.neuron.2012.11.002

Zakopoulou, V., Pashou, T., Tzavelas, P., Christodoulides, P., Anna, M., & Iliana, K. (2013). Learning difficulties: A retrospective study of their co morbidity and continuity as indicators of adult criminal behaviour in 18–70-year-old prisoners. *Research in Developmental Disabilities, 34*(11), 3660-3671. https://doi.org/10.1016/j.ridd.2013.08.033

Zeidan, J., Fombonne, E., Scorah, J., Ibrahim, A., Durkin, M. S., Saxena, S., Yusuf, A., Shih, A., & Elsabbagh, M. (2022). Global prevalence of autism: A systematic review update. *Autism Research, 15*(5), 778-790. https://doi.org/10.1002/aur.2696

Zener, D. (2018). Journey to diagnosis for women with autism. In E. Chaplin & V. Chester (Eds.), *Women, females, and autism spectrum disorders: Part 1* (pp. 2-13). Emerald Publishing Limited.

APPENDIX A: RECRUITMENT EMAIL

Recruitment: Email or Letter

Dear Potential Participant

As a doctoral candidate in the Department of Education at Liberty University, I am conducting research to better understand a phenomenon. The purpose of my research is to understand the K-12 educational experiences of females with autism spectrum disorder (ASD). I am writing to invite you to join my study.

Participants must be between the ages of 18 and 25, female assigned at birth, and have received a diagnosis of ASD through a psychologist, psychiatrist, or pediatrician. Participants will be asked to complete an online questionnaire that will gather demographic information along with a timeline of their ASD journey. The questionnaire should take approximately 15-30 minutes to complete. Participants will be asked to take part in a audio and video recorded one-on-one interview, which should take approximately 45-60 minutes. Participants will be provided a copy of their interview transcript to review for errors and ensure it captures the experience. This review should take approximately 10-15 minutes. Participants will be asked to complete a total of four journal prompts. Prompts will be provided one at a time, with at least two weeks in between prompts. Prompts should take approximately 30-45 minutes to complete. Participants will be provided the opportunity to review my main points from each data collection method, which should take approximately 15-20 minutes to complete. Finally, participants will be provided a copy of my presentation containing the themes developed from the study. Participants will be asked to review the presentation to ensure if captures the essence of the experiences. This review should take approximately 15-30 minutes. Names and other identifying information will be requested as part of this study, but participant identities will not be disclosed.

To participate, please click here to complete the demographic and timeline questionnaire. After completion of the questionnaire, I will contact you to schedule an interview.

A consent document is provided as the first page of the questionnaire. The consent document contains additional information about my research.

If you choose to participate, you will need to sign the consent document and return it to me before the time of the interview.

Sincerely,

Tammara Clevenger
PhD Candidate
[redacted]

APPENDIX B: RECRUITMENT SOCIAL MEDIA

Recruitment: Social Media

ATTENTION FACEBOOK FRIENDS: I am conducting research as part of the requirements for a doctor of philosophy at Liberty University. The purpose of my research is to understand the K-12 educational experiences of females with autism spectrum disorder (ASD). To participate, you must be between 18-25 years of age, female assigned at birth, and have an ASD diagnosis (either educational or medical). Participants will be asked to complete an online questionnaire that will gather demographic information along with a timeline of their ASD journey. The questionnaire should take approximately 15-30 minutes to complete. Participants will be asked to take part in an audio and video recorded one-on-one interview, which should take approximately 45-60 minutes. Participants will be provided a copy of their interview transcript to review for errors and ensure it captures the experience. This review should take approximately 10-15 minutes. Participants will be asked to complete a total of four journal prompts. Prompts will be provided one at a time, with at least two weeks in between prompts. Prompts should take approximately 30-45 minutes to complete. Participants will be provided the opportunity to review my main points from each data collection method, which should take approximately 15-20 minutes to complete. Finally, participants will be provided a copy of my presentation containing the themes developed from the study. Participants will be asked to review the presentation to ensure if captures the essence of the experiences. This review should take approximately 15-30 minutes. If you would like to participate and meet the study criteria, please click here. A consent document will be provided as the first page of the questionnaire. Please review this page, and if you agree to participate, click the “proceed to questionnaire” button at the end.

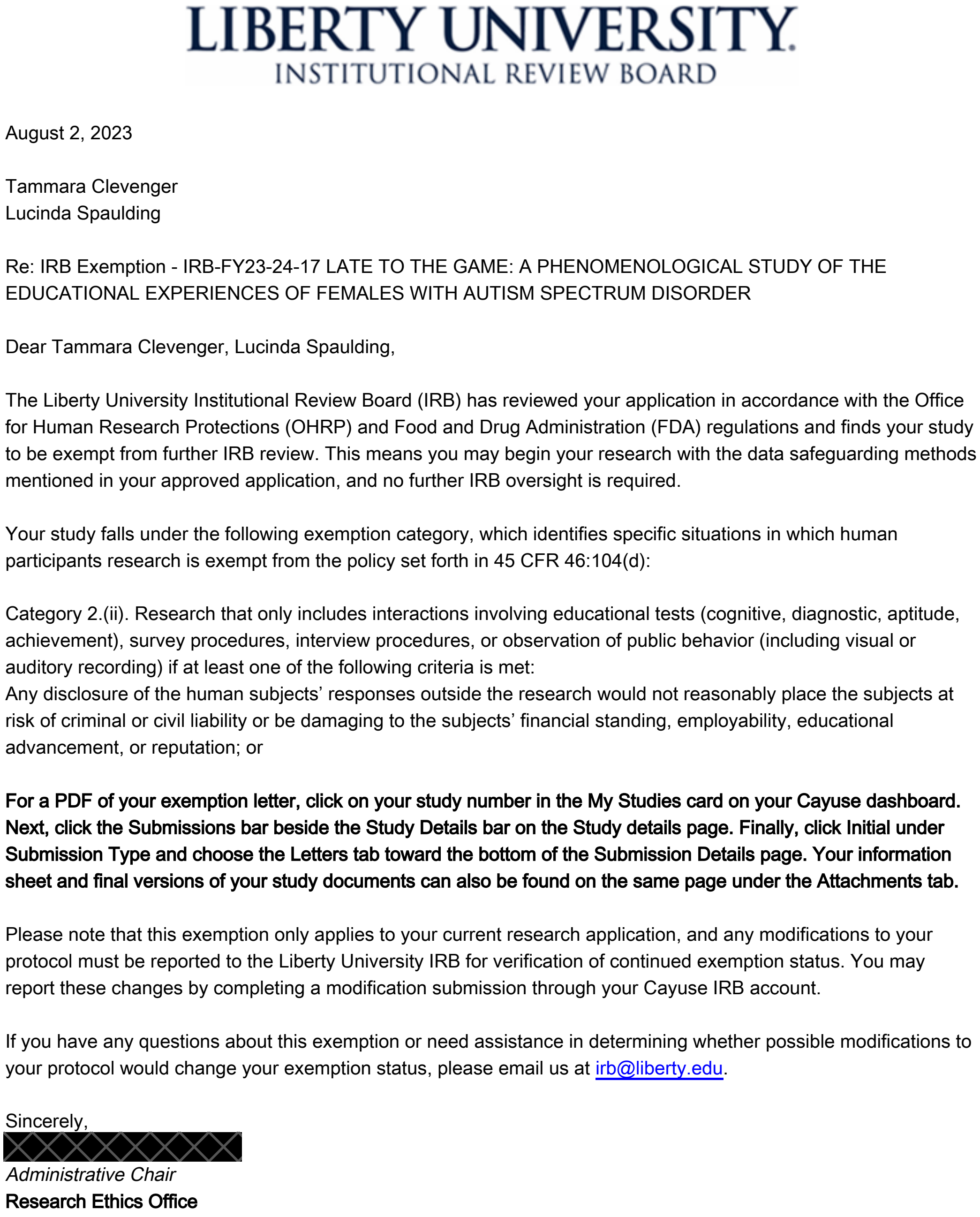
APPENDIX C: QUESTIONNAIRE

1. I have read and understood the above information. I have asked questions and have received answers. I consent to participate in the study.
2. The researcher has my permission to audio-record/video-record/photograph me as part of my participation in this study.
3. Consent has been acknowledged on
4. Name
5. How old are you?
6. Where are you located?
7. What race or ethnicity do you identify?
8. Are you currently employed? If so, what type of work do you do?
9. Are you attending any kind of education or training? If so, what is your major or area of training?
10. Please share the best way to reach you to schedule an individual interview.
11. Please share some days and times that work best for you to conduct an individual interview.
12. When did you receive your ASD diagnosis?
13. Following an ASD diagnosis, did you receive services in school? (Services can be accommodations during classes, pull out support, related services, or any other support provided by the school).
14. If you answered yes to the previous question, please describe the type of services you received. If you answered no, please type n/a

15. If you were receiving any kind of services while in K-12 schooling, did you ever loose services?
16. If you answered yes to the previous question, please describe the circumstances surrounding the loss of services, along with your feelings about the loss. If you answered no, please type n/a.

What were the best supports, accommodations, services, or interventions provided to you by your school?

APPENDIX D: IRB PERMISSION



LIBERTY UNIVERSITY.
INSTITUTIONAL REVIEW BOARD

August 2, 2023

Tammara Clevenger
Lucinda Spaulding

Re: IRB Exemption - IRB-FY23-24-17 LATE TO THE GAME: A PHENOMENOLOGICAL STUDY OF THE EDUCATIONAL EXPERIENCES OF FEMALES WITH AUTISM SPECTRUM DISORDER

Dear Tammara Clevenger, Lucinda Spaulding,

The Liberty University Institutional Review Board (IRB) has reviewed your application in accordance with the Office for Human Research Protections (OHRP) and Food and Drug Administration (FDA) regulations and finds your study to be exempt from further IRB review. This means you may begin your research with the data safeguarding methods mentioned in your approved application, and no further IRB oversight is required.

Your study falls under the following exemption category, which identifies specific situations in which human participants research is exempt from the policy set forth in 45 CFR 46:104(d):

Category 2.(ii). Research that only includes interactions involving educational tests (cognitive, diagnostic, aptitude, achievement), survey procedures, interview procedures, or observation of public behavior (including visual or auditory recording) if at least one of the following criteria is met:
Any disclosure of the human subjects' responses outside the research would not reasonably place the subjects at risk of criminal or civil liability or be damaging to the subjects' financial standing, employability, educational advancement, or reputation; or

For a PDF of your exemption letter, click on your study number in the My Studies card on your Cayuse dashboard. Next, click the Submissions bar beside the Study Details bar on the Study details page. Finally, click Initial under Submission Type and choose the Letters tab toward the bottom of the Submission Details page. Your information sheet and final versions of your study documents can also be found on the same page under the Attachments tab.

Please note that this exemption only applies to your current research application, and any modifications to your protocol must be reported to the Liberty University IRB for verification of continued exemption status. You may report these changes by completing a modification submission through your Cayuse IRB account.

If you have any questions about this exemption or need assistance in determining whether possible modifications to your protocol would change your exemption status, please email us at irb@liberty.edu.

Sincerely,
[redacted]
Administrative Chair
Research Ethics Office

LIBERTY UNIVERSITY.
INSTITUTIONAL REVIEW BOARD

October 19, 2023

Tammara Clevenger
Lucinda Spaulding

Re: Modification - IRB-FY23-24-17 LATE TO THE GAME: A PHENOMENOLOGICAL STUDY OF THE EDUCATIONAL EXPERIENCES OF FEMALES WITH AUTISM SPECTRUM DISORDER

Dear Tammara Clevenger, Lucinda Spaulding,

The Liberty University Institutional Review Board (IRB) has rendered the decision below for IRB-FY23-24-17 LATE TO THE GAME: A PHENOMENOLOGICAL STUDY OF THE EDUCATIONAL EXPERIENCES OF FEMALES WITH AUTISM SPECTRUM DISORDER.

Decision: Exempt

Your request to compensate participants by giving each individual who completes the study procedures a $25 Amazon gift card has been approved. **For a PDF of your modification letter, click on your study number in the My Studies card on your Cayuse dashboard. Next, click the Submissions bar beside the Study Details bar on the Study Details page. Finally, click Modification under Submission Type and choose the Letters tab toward the bottom of the Submission Details page. If your modification required you to submit revised documents, they can be found on the same page under the Attachments tab.**

Thank you for complying with the IRB’s requirements for making changes to your approved study. Please do not hesitate to contact us with any questions.

We wish you well as you continue with your research.

Sincerely,

[redacted]

Administrative Chair
Research Ethics Office

APPENDIX E: INFORMATION SHEET

Title of the Project: Late to the Game: A Phenomenological Study of the Educational Experiences of Females with Autism Spectrum Disorder
Principal Investigator: Tammara Clevenger, Doctoral Candidate, Department of Education, Liberty University

Invitation to be Part of a Research Study

You are invited to participate in a research study. To participate, you must be between 18-25 years of age, females assigned at birth, and have an ASD diagnosis (either educational or medical). Taking part in this research project is voluntary.

Please take time to read this entire form and ask questions before deciding whether to take part in this research.

What is the study about and why is it being done?

The purpose of the study is to understand the K-12 educational experiences of females diagnosed with ASD.

What will happen if you take part in this study?

If you agree to be in this study, I will ask you to do the following:

1. Complete an online questionnaire that will gather demographic information along with a timeline of their ASD journey. The questionnaire should take approximately 15-30 minutes to complete.
2. Take part in an audio and video recorded one-on-one interview, which should take approximately 45-60 minutes.
3. Review a copy of your interview transcript errors and ensure it captures the experience. This review should take approximately 10-15 minutes.
4. Complete a total of four journal prompts. Prompts will be provided one at a time, with at least two weeks in between prompts. Prompts should take approximately 30-45 minutes to complete.
5. Review my main points from each data collection method, which should take approximately 15-20 minutes to complete.
6. Review the presentation of the themes developed to ensure if captures the essence of the experiences. This review should take approximately 15-30 minutes.

How could you or others benefit from this study?

Participants should not expect to receive a direct benefit from taking part in this study.

Benefits to society include a deeper understanding of the K-12 educational experiences of females diagnosed with ASD.

What risks might you experience from being in this study?

The expected risks from participating in this study are minimal, which means they are equal to the risks you would encounter in everyday life.

How will personal information be protected?

The records of this study will be kept private. Published reports 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.

- Participant responses to the online questionnaire will be kept confidential by replacing names with pseudonyms.
- Interviews will be conducted in a location where others will not easily overhear the conversation.
- Data will be stored on a password-locked computer. After three years, all electronic records will be deleted.
- Recordings will be stored on a password locked computer until participants have reviewed and confirmed the accuracy of the transcripts and then deleted.

Is study participation voluntary?

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

What should you do if you decide 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 will be destroyed immediately and will not be included in this study.

Whom do you contact if you have questions or concerns about the study?

The researcher conducting this study is Tammara Clevenger. You may ask any questions you have now. If you have questions later, **you are encouraged** to contact her at [redacted]. You may also contact the researcher's faculty sponsor, Lucinda Spaulding, [redacted].

Whom do you contact if you have questions about your rights as a research participant?

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 IRB. Our physical address is

Institutional Review Board, 1971 University Blvd., Green Hall Ste. 2845, Lynchburg, VA, 24515; our phone number is 434-592-5530, and our email address is irb@liberty.edu.

Disclaimer: The Institutional Review Board (IRB) is tasked with ensuring that human subjects research will be conducted in an ethical manner as defined and required by federal regulations. The topics covered and viewpoints expressed or alluded to by student and faculty researchers are those of the researchers and do not necessarily reflect the official policies or positions of Liberty University.

Your Consent

By signing this document, you are agreeing to be in this study. Make sure you understand what the study is about before you sign. You will be given a copy of this document for your records. The researcher will keep a copy with the study records. If you have any questions about the study after you sign this document, you can contact the study team using the information provided above.

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

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

____

Printed Subject Name

____

Signature & Date

APPENDIX F: CODES AND THEMES

Codes	Themes
Unique, different, relief, coping, empathy, resilience, beauty, embrace, embracing, unexpected, breakaway, express, secretive, embarrassing, afraid, complexity, self-advocacy, make sense, boost confidence, exciting, amazing, positive, impact, improvement, happy, fog lifted	Receiving ASD Diagnosis
Social, social interactions, communication, peers, abstract, executive function, emotions, anxiety, attention, loud, sensory, sensitivities, classrooms, not understanding, light, misunderstanding, bullying, hard to follow, classes, stupid, isolated, repeating patterns and behaviors, hiding, no support	Challenges of ASD
Peers, classmates, students, teachers, parents, mom, aunt, family	Relationships
Teachers, speech, school, attention, interest, pull-out, special, help, support, academic challenges, close relationships, IEP, plan, accommodations, breaks, seating	Supportive Schools

APPENDIX G: SAMPLE THEME WITH SIGNIFNCANT STATEMENTS

Participant	Theme: Challenges of ASD
Aderyn	Loud classrooms, the lockers and a complex social dynamics for me proved to be a bit overwhelming, then also struggled with sensory sensitivities. And I found it kinda challenging to concentrate when, sorry, sense light sound and the noise of the lunch room, lunchroom. understanding and maybe navigating the social interactions. misunderstandings with my peers. Because I would rehearse conversation in my mind, but I found it difficult to adapt to adapt to situations deviated from my prepared script. First, before the diagnosis for me, life was a constant struggle. So I had a hard time focusing on tasks staying organized, and often feeling overwhelmed by the demands of school and met the demands of school. So first was kinda for always forgetting important details and missing deadlines. After diagnosis: There are also some challenges not all teachers who are equally familiar with autism. And some unintentionally misunderstood my had limited experience in accommodating students with ASD. So this inconsistency in understanding and support and support sometimes lead to difficulty in certain classes. Also, bullying and social challenges, ongoing issues. While the school add anti bullying measures in place, they couldn't prevent every negative social interaction. So for me, it was a challenge to navigate the complex social dynamics of a school and the support for social skills. Development was limited. As we settled into the theater and the movie began, I started to feel overwhelmed by the bright lights and loud sounds. Sensory overload set in, and I couldn't focus on the movie. I felt anxious, restless, and on the verge of a meltdown
Ciara	I wanted to what the joy wasn't there anymore.

	My experience wasn't quiet...high school-high school I was- I was- I was giving me kind of special treatments like it was special but to me it wasn't because I felt I was isolated from other students kind of I don't know. So every other person, but she made me feel like isolated everybody just got to know that this girl is having such a problem you understand? So it wasn't really in psychological support. challenges with social skills, repetitive behaviors, speech and nonverbal communication. developmental disability caused by differences in the brain. People with ASD often have problems with social communication and interaction, and restricted or repetitive behaviors or interests. Though, sometimes I struggle with interpreting texts, social interactions, abstract ideas or literary devices (metaphors, idioms, sarcasm), and understanding instructions,
Lena	I had difficulty making things and interacting with others. I thought we had to understand social cues. And I often felt overwhelmed. I didn't know why I struggled to understand things like the orders when I received my diagnosis. One of my biggest challenges was the social aspect of school. I often find it because hard to understand what was expected of me in social situations. For example, I find it hard to understand things like body language or tone of voice. I also struggle with understanding personal space and how those these orders and other challenges to sensory overload I often experience. I had difficulty with loud noises, bright lights and crowded space this made it hard to concentrate on my homework OK. Uhm did uhm I have some disability

	before I was diagnosed with autism, uhm I was actually diagnosed with Attention Decifit Hyperactive Disorder when I was first evaluated. The doctor thought my problem is with focusing with the main issue, however different labels they will order issues. Okay. I still struggle with focus and hiding happy, but I also have to with social interactions and communication. I will eventually have autism which better explain the range of my things. Sorry, the range of my symptoms. Looking back explain that my autism symptoms were always there but they weren’t as obvious until I got older. developmental disorder that affects communication and behavior. Living with ASD may require specialized services or supports, such as occupational therapy, speech therapy, or tutoring. These can be costly, and may not be covered by insurance. In addition, living with ASD have difficulty holding down a job or maintaining financial independence. This can have a significant impact on their quality of life, and can lead to unexpected financial struggles
Kahleena	It has been tough because I really are issues understanding what I was taught. I used to have difficulty with social interaction. My teacher used to scold me in the communication issues I didn't know how to communicate my feelings to her at the time Challenges school caused for me...okay, so I saw it it's having issues with communicating my feelings with the persons I find in class. As a social interaction. I struggle to read social cues or communicate effectively my peers in school led to me having feelings of isolation and difficulty making friends. I was sensitive to loud noises in the school environment. Yeah, and of course bright lights from the light sources at times. Yeah. Those were the challenges I faced.

	communication took a different form I struggled with verbal expression, simple phrases and sentences were hurdles. We can do more marked by specific activities and many unexpected, unexpected changes required delegates navigation I was always isolated by the parties and playdates were approached with good excitement and care because so much sound would amaze me. Crowd would have me feeling anxious. I find certain sounds overwhelming, and struggled with bright lights or specific textures.
Kinvara	What I can actually say about before my junior high school, I was diagnosed with autism and I can say, I didn't have many challenges. Before I was diagnosed with autism, I, I don't think I had severe challenges. I was I was really having some good time. The school that I that I attended really accommodated me so well. It is a developmental disability caused by differences in the brain. It is characterized by challenge me with social skills , behaviour, speech , communication. It generally affects how the brain works. unexpected events and schedule changes has also distressed. sensory experiences like I had a problem with some sounds which became overwhelming and uncomfortable for me
Remi	So if I had a difficult time I had a really hard time grasping math because as math is very abstract. I had a very difficult time with abstract concepts, and difficult time with how the system of school is laid out. I found that diagramming sentences was very frustrating, something that I never could understand and

	in fact, still don't really understand. Because I'm naturally inclined to formulate sentences correctly. And diagramming made sentence structure a lot harder than actually was for me. So I felt that as far as school went, a lot of the times the way it was set up wasn't very conducive to the way that I learned, and where my natural, like, ability lies, and just make things more confusing. Um, but as far as my experience in general school, uhmm, I think I covered a lot of that just sort of like, social aspects made it a lot harder to learn. So I found that was a lot easier from a cyber place.
	especially about how it impacts my ability to learn. I have very strong learning skills, but because of the fact that the structure of my schooling was not as conducive to my learning style as it could have been, I was not able to use my learning ability to the fullest potential.
Sabine	I find, sometimes I have difficulties in coping, and I struggled a lot in school, from my kindergarten to grade 12 level. difficult to understand what's being taught. And I find it difficult to identify difficult sentences and also objects as well. So it was so difficult for me to call in school because I, I feel like it was difficult for me to understand what I'm being taught in school easily. So it was so stressful for me. And so growing as a child was so difficult for me, because I've seen a lot of people doing things I cannot do. So it makes me feel so sad. And I want to be like them. But I find it so difficult to those things to you because of my disability. So it makes me so sad. And I really tried as much as I can. But I find it so difficult to cope and to adjust and also to understand things easily.
	ASD for me means a disorder that causes developmental issues in the brain that doesn't allow me behave like the general population. It's means I have problems with communicating and all

	One of them was that not alot of people know about ASD , and not alot of people understand the different ways it affects different people.
Synthia	What I remember is is the the difficulty I know learning. And then just like social interaction and executive functioning. Usually being in a social setting, talking to people many people in school was a challenge. Sometimes, it can be challenging for me to understand social cues or express my emotions
Violet	Okay, it was so so hard to move with the operating calendar like switching from one activity to the other but yeah, this couldn't sit in with the yeah, with the service that is a one on one aid that helped move to management. ASD is a disorder that affects communication and relation to other people . It affects how you socialize with people.
Xarianna	I consider the biggest challenge is that it was to understand because a teacher can teach and you understand everything but after sometimes you'll find yourself even to put what they had said after some time it's a challenge because I didn't remember anything I all all things that you had thought ASD is developmental disability caused by difference in brain which affects social communication skills,thus make one to have difficulty in communication with other people and have repetitive behaviors of interest.

APPENDIX H: SAMPLE OF RESPONSES TO JOURNAL PROMPTS

Journal 1: How would you describe ASD?

I think that in simplest terms, I would describe it as a different way of thinking/processing information. On its own I do not believe that ASD is a disability, but I think what makes it a disability is the fact that society has been built on neurotypical principles. I also believe that ASD is a focusing of mental energy inward, rather than outward. This means that those of us on the spectrum often have vibrant inner worlds, but then have a difficult time interacting with the actual world.

Journal 2: What is one thing you wish you knew about ASD before entering school?

I wish that I had known more about what Autism is, and especially about how it impacts my ability to learn. I have very strong learning skills, but because of the fact that the structure of my schooling was not as conducive to my learning style as it could have been, I was not able to use my learning ability to the fullest potential.

Journal 3: Please share a recent experience (within the last month) where ASD impacted you in an unexpected way.

One way that ASD has really impacted me within the last month is when I am socializing with a group of two or more people. A particular instance of this happened today, when I went to lunch with two friends. We all know each other and so there were no introductory interactions between us, but I am accustomed to spending time with each of them primarily one-on-one. I found that during the conversation, I was unable to give input in time to keep up with what was being said because I was unable to properly read how and where to naturally contribute to the conversation. By the end of the interaction, I found that I had contributed no more than two sentences, and I was barely a part of the conversation. I ended up leaving early because I felt frustrated with my inability to communicate in the way that I wanted to.

Journal 4: What do you like most about ASD, and how did it affect your schooling?

Even though being on the spectrum can present a lot of challenges, there are also some things that I really love about it. One of those things is that even though I have a bad auditory memory, I have a very strong visual memory (especially when it comes to memorizing words and key phrases). Throughout my schooling, I found that a lot of teaching was primarily auditory, so it was difficult for me to memorize concepts as well as others could. But when I discovered that I learn so much better when I see something written down, I was able to tailor my study style to that, and I now rarely ever have issues with learning new concepts.

APPENDIX I: SAMPLE OF INTERVIEW TRANSCRIPT

Clevenger, Tammy
Okay, so the first question is, please describe your educational experience from your first memories of school through the end of high school.

Aderyn
Memories...from high school to from primary to high school...concerning when I had- when I- on the issue of ASD?

Clevenger, Tammy
Yeah, um, you can talk about the issues with autism or you can just talk about any significant memories from schooling that kind of stand out to you. Just whatever kind of memories you want to share.

Aderyn

Hmmm, first...my name is Aderyn (*pseudonym to protect identity*), I think you already know that. And I started...oh, I'm nervous. Can I collect myself just one second? In my primary school, my memories were filled with mostly moments of curiosity, and maybe exploration. Then I had a fascination, fascination with maybe numbers, especially the prime numbers. And I often found solace in counting patterns. So my teacher, her name was [redacted] (*name removed to protect identity*). She recognized my unique talents and encouraged me encouraged my interest. And the business of friendship, I made a few close friends who appreciated my honesty, maybe my unique perspective. But when I transitioned to high school, it seemed brought a mix of some excitement, and anxiety. So then maybe the bustling of hallways, the loud lockers, and most of the time the crowded cafeterias could have a challenge. But by the support of a special education teacher, his name was [redacted] (*name removed to protect identity*) developed strategies to navigate my challenges to a more better way until I got into university. So in high school, high school, for me was a time of self discovery. Then I also joined the school's chess club. And then I also participated in some art exhibition. And then, throughout the years, I faced the ups and downs of adolescence. At one point I had a crush on a classmate, then as I approached graduation, that's when I learned to embrace my ASD as a part of what made me special. So the experiences of primary to high school had shaped my character, instilling them in maybe more resilience, and a deep understanding of my uniqueness, my challenges and also my strength. So my graduation ceremony kinda marks the end of one chapter. And it was the beginning of another chapter of adulthood. Yeah.

Clevenger, Tammy
Perfect. Thank you so much. So you mentioned you mentioned some challenges. Can you talk about what challenges school gave you?

Aderyn
Okay. In high school or all of them?

Clevenger, Tammy
In just, it can be any any grade level, just whatever challenges you had in school.

Aderyn
Okay. First. Mm hmm. For me, like entering a school was really daunting for me. So the challenge is for me first day, loud classrooms, the lockers and a complex social dynamics for me proved to be a bit overwhelming, then also struggled with sensory sensitivities. And I found it kinda challenging to concentrate when, sorry, sensing light sound and the noise of the lunch room- lunchroom. So it was a big challenge for me, but one of the biggest challenges was understanding and maybe navigating the social interactions. That's, that's how I had kind of a few friends- friends. And sometimes it can also lead to misunderstandings with my peers. Because I would rehearse conversation in my mind, but I found it difficult to adapt to- adapt to situations deviated from my prepared script. Yeah.

Clevenger, Tammy
How did receiving your diagnosis change your experiences?

Aderyn
Okay, change my...First, before the diagnosis for me, life was a constant struggle. So I had a hard time focusing on tasks staying organized, and often feeling overwhelmed by the demands of school and meet the demands of school. So first was kinda for always forgetting important details and missing deadlines. So, but with that, the diagnose, everything started to make- it make sense for me. So I realized that my brain works differently. And that was okay for me. It wasn't a flaw, it was just a different way of processing information. Then under this knowledge, I began to explore- to explore strategies and, and treatments that could help me manage my ASD. So like, medication, therapy, lifestyle changes became- became like a part of my daily routine. So with these tools, I found that I could concentrate better, and also stay on top of my responsibilities and make better choices. So it was like a fog had kind of been lifted. And I could see my potential more clearly. So receiving this diagnosis, also brought understanding and empathy from my friends and family. They ended up planning about the challenges I faced, and they were more supportive, and patient with me. It also strengthened my relationships and allowed me to open up about my experiences. So for me, one of the changes the most profound changes was- what- was the boost in my self confidence. I no longer saw myself as someone who couldn't keep up or who was constantly failing. Instead, instead, I recognized my strength and the unique perspective that is it provided I became more accepting of myself. And also I can started embracing my- my- my creativity.

Clevenger, Tammy
Who helped you advocate to receive your autism diagnosis?

Aderyn
That has to be a friend of mine. Can you repeat the question please?

Clevenger, Tammy
Who helped you advocate to receive your autism diagnosis so who helped you to get your diagnosis?

Aderyn

I can't remember whether it was my parents or my friends. I think it was my parents, because no, it was my my teacher. So along the way, I feel a few dedicated teachers played pivotal roles in my life. So they are teacher of mine, Mrs. Fukami recommends that had a distinct learning, learning needs and provided invaluable insight to my parents. So they ended up collaborating with special education professionals to ensure that I received the necessary accommodation and support in school. I think that was my teacher, my teacher.

Clevenger, Tammy
After your diagnosis, how well do you think your school handled your disability?

Aderyn
Okay...okay for one...it wasn't, it was easy at first, because changes never a welcoming thing at all times. So, but on the positive side. My school was committed to providing support and accommodations. So they play they implemented and individualized education plan tailored to my specific needs. And also they realized that it wasn't only me that had autism, there were there were many students with the same problem. They just didn't know what the problem was. So this plan included additional time for assignments and exams. Also a quiet space for study, sensory breaks, and also access to a resource room with specific educational professional. So and also some teachers for me. So for me, it was the understanding for me and went to the extra mile to ensure my success. They communicated with me like my parents too. And they made the necessary adjustments in the classrooms for me. However, there were also some challenges. There are also some challenges not all teachers who are equally familiar with autism. And some unintentionally misunderstood my had limited experience in accommodating students with ASD. So this inconsistency in understanding and support and support sometimes lead to difficulty in certain classes. Also, bullying and social challenges, ongoing issues. While the school add anti bullying measures in place, they couldn't prevent every negative social interaction. So for me, it was a challenge to navigate the complex social dynamics of a school and the support for social skills. Development was limited. So overall, my school's efforts to accommodate disability were commendable in some aspects, but I guess what they think about it now there was a room for improvement, maybe communication between teachers. And maybe some parents may play a crucial role in ensuring the success of every ASD student. Yes.

Clevenger, Tammy
And when did you start to notice your differences or when did you start to notice your autism?
Aderyn
Okay, I started to think it was during my primary school years that these differences became more apparent for me. So I noticed that I struggled with certain social interactions by challenge challenging to make friends and then and also understand the unspoken rules of communication. So I often preferred solitary activity and had specific interest, but I must in myself deeply, so severe, like sensory sensitivities became evident as well. Noises some light and maybe certain textures could really overwhelm me. And I began to develop coping strategies to deal with this sensitivity. But as I progressed from primary school to high school, it became increasingly kinda clear that my way of thinking and processing information was distinct. I recognized that I had that you make perspective, and set of strengths. But I also faced challenges that others around me didn't seem to experience. But it wasn't until later in my school that I received an official autism

diagnosis, which may be kinda provided a clear understanding of why I had felt different was this. Yes, yeah. Okay.

Clevenger, Tammy
Prior to getting your autism diagnosis, were you ever diagnosed with anything else?

Aderyn
No, I don't think so. It was just some like some of the people thought that it was stupidity, I couldn't read. Like I couldn't understand small small things. Many people thought it was stupidity but no, that wasn't me. Any anything that I was diagnosed with.

Clevenger, Tammy
How do you think autism impacted your relationship with peers and teachers?

Aderyn
Okay...okay. First...autism presented challenges in understanding in maybe navigating social interaction. So for me... first on the positive side, I formed close friendship with a few individuals who are understanding patience also. And accepting some of my unique traits. But on the negative sides...my differences made me a target for bullying, and teasing a lot in school. So a lot of my peers who didn't understand autism might misinterpret my actions like or reaction, leading to misunderstanding and sometimes a lot of negative social experiences. So some of them really misinterpreted a lot of my actions, but for my teachers, some were understanding and others really didn't understand me. And I think as of today, I don't blame those who didn't understand me because even them at some point they didn't understand it. Yeah.

Clevenger, Tammy
Prior to your diagnosis, what were your goals and plans for the future?

Aderyn
Okay, what did I think? Okay. Okay, I envisioned myself pursuing a college education and maybe embarking on a career that aligns with my interest. So I had dreams, aspirations, and a vision for what I wanted to achieve. So my interests were likely shaped by my unique strengths and passions, I really wanted to be a lawyer. And I set goals for personal and professional growth, hoping to make maybe a positive impact on the world and find fulfillment in law. But the key difference between before the diagnosis was that I may not have had a clearer understanding of the specific challenges I would face due to autism. These challenges would like would later shape my journey, leading to a more more -better approach to achieving my dreams and aspiration. While while still accommodating. They make aspect aspects of my maybe like, let's call it neurodiversity. So receiving an autism diagnosis really changed, or rather, made me have a reassessment of my opinions and grow goals. But I would, I wouldn't necessarily change the essence of my ambitions. I think it really, like, made me think more about what to do in law that would help autistic patients still, yes. Okay.

Clevenger, Tammy
Prior to your diagnosis, did your school offer you any sort of supports or accommodations before you got diagnosed with autism?

Aderyn
Pardon?

Clevenger, Tammy
Before you were diagnosed with autism, did your school give you any sort of support or accommodations in your classes?

Aderyn
Hmm. Okay, prior to my autism diagnosis. I think the support I received in school have varied. So, some teachers and school staffs provided support based on observation of my needs, while others may not have been aware of those needs, so some teachers perspective, I noticed that I had unique learning needs some tried made efforts, they have found additional explanations or even allowed me extra times for assignments antics. Yeah.

Clevenger, Tammy
Okay. And my last question is, is there anything else about your primary through high school educational experience that you want to share?

Aderyn
Hmm. Okay. I think there are some related to my school experiences that I'd like to share. One I've think I might have been involved in extra curricular activities. Like I would love to have been involved in some of the extra curricular activities that aligned with my interests and talents. And those activities could be in could be like a source of joy and personal growth for me. And again, like any other student, I would have liked to experience both successes and difficulties in my academic journey, like any other, like any other student, and these activities or these experiences would have would have contributed to my personal and intellectual development. And again, I would have loved if I had supportive classmates or peers who are understanding who are supportive and who offered friendship. That is the child that would have missed maybe the challenges of school life. And again, I would love if schools made it on call for themselves to promote awareness and inclusion for the autistic students, which may help the students have a more understanding and supportive environment for students with autism. And maybe not just autism, but other unique needs. Because with my school experience, we whether with or maybe without autism diagnosis would have been maybe a complex tapestry of interactions, emotion and growth, that this reminds me that every individual's journey through education system is a unique, and they've ever been one shared by my a combination of personal characteristics, relationships, and the broader school environment. So I think awareness is a key thing for every school. Yeah.

Clevenger, Tammy
Thank you so much for your answers. You Your experiences have been very, very insightful into my study, and I appreciate this.

APPENDIX J: SAMPLE PEER DEBRIEF

May 12, 2023- Summary of Zoom meeting with peer

I asked my peer to review my Chapter 3, specifically examining research design and procedures. The conversation went well. She asked that I look back at my section on justifying why transcendental would be used for the study, explaining the way it was written was a bit confusing. We also discussed the wording for research questions. I was not completely convinced with the way my questions were currently written. Finally, we discussed my recruitment plan. She agreed that not limiting it to my area should allow for more participants.

February 1, 2024- Email exchange with peer

Tammy: Good Morning! I finally finished working through my coding and developing themes. Can you take a good at the themes along with the codes and let me know your thoughts? Thanks, again for your help!

Peer: Hi Tammy! I am happy to help! Your codes and themes make sense. You may want to change your wording on After Diagnosis; I can see what you are getting out with the sub-themes, but I think there is something better to use. Maybe since your focus seems to be thoughts and feelings use include that in the theme. I think your theme of Different can be included with your Challenges.

Tammy: Thanks for the feedback! Yes, I see what you are saying with the After Diagnosis. How about Feelings After Receiving a Diagnosis? I think you’re right, Different should be included with the challenges. The participants did not really talk about specifically being different in a positive way, so it seems more like it was challenging them. I’ll add another challenge type for Personal.

March 1, 2024- Summary of Zoom discussion with peer

My peer and I met to discuss my completed Chapter 4. She found my results to be interesting and surprising. We talked about how we both expected results to indicate that females were given no support or have support from being diagnosed with a different disability and not meeting their needs. However, most of the participants received some kind of support even if they did not have a formal diagnosis. She did note that since social skills was something all of the participants talked about that I should review my sections on social skills and peers and see if there was anything else that could be added. Since this chapter was already with Dr. Spaulding for review, I decided to wait until I received her feedback to make any changes.

March 11, 2024- Summary of Zoom meeting

I shared the feedback I had received from Dr. Spaulding with my peer. She agreed that it would be a good idea to review the data again and see if there was anything that was specific to females. I had already been looking at the data and found that some of the participants had internalizing behaviors. Nothing was specific to having another disability like anxiety, although that was mentioned. We talked about where to add that, whether it would be another sub-theme in Challenges or add it to the sub-theme of Personal. We determined it made more sense to add it to Personal.

We also discussed Chapter 5. I explained that I was thinking I should add a section in interpretation about gender bias since many of the participants received support for ASD without a formal diagnosis and it is possible teachers had a gender bias. She agreed that should be added. She suggested going back to review my Chapter 2 for what makes ASD different in females and males to see what other implications can be added. We discussed the idea that females have greater social motivation than males. That is part of my literature review and results seemed to indicate that was the case since some of the participants spoke about wanting to have friends and relationships but often not knowing or understanding how to engage. She also suggested reviewing social cognitive theory again because she thought there was an implication for the theory with females observing and imitating social interactions.

APPENDIX K: SAMPLE REFLEXIVE JOURNAL

July 15, 2023

It has been about 5 days since I submitted my application for IRB approval. I am also in my last week of pregnancy scheduled for an induction in 4 days. With this in-between time, I have not stopped working. I have continued to research and learn about autism in females. Prior to beginning this process, I had never really considered myself to be feminist or to even know much about that theory to be honest. But learning and understanding the disadvantages females with ASD face when compared to male has changed my views. Females with ASD deserve the same level of understanding and support as their male counterparts. While I know my study is not going to set the world on fire, I do hope it will be a small spark to get females the attention needed to support not only K-12 school but overall life.

August 2, 2023

I received IRB approval! I am so excited to begin data collection! I have already prepared a list of people and places to contact and social media sites to post in.

October 17, 2023

Data collection is not going well and I feeling very discouraged. I have posted in various social media sites, contacted several businesses, and reached to various people. At this point I only have 2 participants and I am beginning to feel like I will not get any more. When developing my research design, I was originally going to use a focus group as a method of data collection. Dr. Spaulding pointed out that may not be the best idea since the main characteristic of ASD is the deficit in social skills. She said it may be hard to get participants to discuss anything in a group setting. This was sound advice, but I should have thought of this when attempting to get participants.

I met with Dr. Spaulding to discuss next steps. She suggested adding compensation. She said that since I am looking for college students and young adults, adding a gift card may get more interest. Taking her advice into consideration, I submitted a modification to my study to IRB to add a $25 gift card.

November 1, 2023

The addition of the gift card was a success! Within a few hours of adding the gift card, I had over 20 responses to the questionnaire. My initial excitement at seeing this was slightly reduced when I began reading responses. Many responses did not seem to actually read the information sheet because several participants were male or over the age range. But I will not be discouraged. I am finally moving forward. I have already scheduled and held a few interviews and have more scheduled in the upcoming days. I am feeling excited and more energized about my study than I have in the last few months.

November 5, 2023

I had a great interview with fifth participant! She is currently 25 years old and received her diagnosis while attending school. This was surprising as she was the first participant who had received a diagnosis while still attending K-12 education. She was diagnosed at the age of 15, which fits more with prior research about females with ASD. She had also been evaluated for ADHD prior to ASD, but did not receive a diagnosis for ADHD.

She had so many examples of her experiences in school dealing with ASD. She struggled a lot with academic and social demands of school. Even with the support she was provided, it wasn’t easy for her. But one of the great things about her and the others that I interviewed was their embracement of ASD. They all openly accepted ASD and embraced their own unique qualities that come from ASD. It was awesome to be able to see the connections between her and previous participants.

November 13, 2023

I finished my final interview! It was a long and difficult to get here. With how my recruitment started, I did not think I would ever finish. I loved talking with each of my participants and learning more about their stories. Their experiences showed me again how important it is to learn their stories. I was not surprised to find that most of my participants did not receive their diagnosis until after leaving K-12 education. This fits with my prior research showing late diagnosis. I was surprised to learn that many were still offered support from their teachers without the formal diagnosis. Limited supports are better than none and they were grateful for the help. I am looking forward to reading their journal prompts and seeing how everything fits together.

January 10, 2024

So much has happened these last few months that I was pulled away from data analysis and my study. I am finally getting back to be able to dedicate time to my study, but it is hard getting back at after being away for so long. Coding is taking a great deal of time. I keep reading through each data collection method. It seems like each new read I find new codes and significant statements. All of the participants provided so much valuable experiences it is taking time to analysis. But listening to the recordings, viewing the responses to journal prompts, and examining the timelines developed through my questionnaire has helped to show me just how important my study is and how helpful it was for the females to have someone actually listen to their stories. The last few months have been so difficult for me and it has been nice to have these small wins with my data. I am forever thankful for these females for not only participating in my study but giving me the smalls wins to help me keep moving forward.