AN INVESTIGATION INTO THE EXPERIENCES OF HOMESCHOOLED INDIVIDUALS
WITH AUTISM THAT LED TO SUCCESS IN THE ON-CAMPUS COLLEGE
ENVIRONMENT: A CASE STUDY

by

Carol L. Dolan

Liberty University

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

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ABSTRACT

Rates of autism spectrum disorders (ASDs) are rising, and more individuals with ASD are continuing to college. At the same time, homeschooling is becoming more prevalent, and more students with ASD are being homeschooled. These increases lead to the inference that colleges will see more homeschooled students with ASD applying for admission. The purpose of this case study was to understand experiences of individuals with ASD who were homeschooled that fostered success in the on-campus college environment. The central question guiding this research was: What are the experiences of individuals with ASD who were homeschooled that lead to success in the on-campus college environment? The theory guiding this study was the disability theory as described by Barnes (1991; 2003) and Oliver (1990), which shed light on the ability of individuals with ASD to integrate into the higher education environment. Participants were identified through the Home School Legal Defense Association (HSLDA) and social media sources; a total of 13 individuals participated. Data was collected via documents, interviews, and reflection journals. Interviews were audio and/or video recorded and transcribed verbatim; interviewees were provided an opportunity to review transcripts for accuracy, and transcripts were verified for accuracy by participants. Data was analyzed via categorical aggregation and cross-case analysis. The main finding or theme was the importance of support, especially from parents, both during the homeschool years and during college. All students with ASD in this study had strong familial support systems, and that support resulted in the students succeeding in college as evidenced by academic transcripts.

Keywords: autism, disability, homeschooling, home education, higher education, college, support services
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Dedication

I dedicate this dissertation to the memory of my parents, Lawrence O. and Lottie F. Schwartz. I miss both of you so much! I would not be here today if you had not instilled in me the importance of solid work ethic and integrity. Thank you! I wish you could be here to share this moment with me, but I know we will see each other again one day.

I dedicate this work to the memory of my oldest siblings Mary and Larry and my father-in-law Frank. I dedicate it to my mother-in-law Dorothy as well. From the time I met them, my in-laws accepted me, and they treated me as family after I married their wonderful son, and I always felt comfortable calling them “Mom” and “Dad.”.

I also dedicate this to my other siblings: David, John, Jimmy, Joseph, Lorraine, Vicki, and Diane. All of you have inspired me, and I love each of you.

Finally, I dedicate this to all parents of children with special gifts (needs). Many of the challenges you face are unique and difficult, but God provides strength when you rely on Him. May you find His strength and reassurance. “Seek the Lord and His strength; seek His presence continually!” (1 Chron. 16:11, King James Version).
Acknowledgments

First and foremost, I thank Yahweh, the One true God. He allowed me this opportunity, and He gave me the strength and endurance to finish this race for Him. To God be all the glory!

I also thank my wonderful husband Rick. Honey, there were times when I felt like giving up, but you prayed for me and encouraged me to persist. You also took care of many details around the house so I could focus on my studies. For the many things you did, I am grateful. I love you with all my heart! Thank you for loving me despite my many faults and weaknesses.

My children deserve special thanks. They endured more than five years of “Mom doing school.” Patrick and Florence, I know I did not give you the time and attention you wanted or needed, but you stayed strong. I pray you learned the value of education and being committed to completing every task God gives you to do.

Thank you, Dr. John Duryea, for serving as my Chair. I know I was not the easiest doctoral student, and I am sure I gave you headaches with my antics. You supported me through many difficulties, and you prayed for and encouraged me when I faced trials.

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There are so many other people I want to recognize, but space is limited, so I will thank a few who made this process bearable. Bunnie, thank you for putting up with me and for being there to encourage me when I got down (not only during my dissertation, but in many other classes). You inspired me! Tina, Mary, Katherine, Joe, John, Judy, David, Vicki, Kelly, and so many others, thank you for everything! I love all of you!
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List of Abbreviations

American College Testing (ACT)
American with Disabilities Act (ADA)
Association of Christian Schools International (ACSI)
Autism Spectrum Disorder (ASD)
Centers for Disease Control and Prevention (CDC)
Education Resource Information Center (ERIC)
General Education Development (GED)
Grade Point Average (GPA)
High Functioning Autism (HFA)
Home School Legal Defense Association (HSLDA)
Individuals with Disabilities Education Improvement Act (IDEA)
Individualized Education Program (IEP)
Individualized Family Support Plan (IFSP)
Individualized Home Instruction Plan (IHIP)
Institutional Review Board (IRB)
National Center for Education Statistics (NCES)
National Home Education Research Institute (NHERI)
National Institutes of Health (NIH)
Scholastic Aptitude Test (SAT)
Self-Determination Theory (SDT)
CHAPTER ONE: INTRODUCTION

Overview

The prevalence of autism spectrum disorder (ASD) has risen significantly over the past few decades, and more of those individuals with ASD are attending college, and those trends will likely increase in years to come (CDC, 2014; Gelbar, Shefcyk, & Reichow, 2015). In addition to the increases in ASD, homeschooling is becoming more popular and more students with ASD are being homeschooled. Although research has been conducted on the college experiences of students with disabilities (Barnhill, 2016; Cox et al., 2017; Gelbar et al., 2015; Ray, 2015a), no research has been conducted specifically related to homeschooled students with ASD in college (Rodriguez, Cumming, & Strnadová, 2017; White et al., 2016). The purpose of this case study was to understand the experiences of individuals with ASD who had been homeschooled for at least their high school years that lead to success in the on-campus college environment. This framework includes a background for the research based on available literature related to the topic and the personal situation that was the impetus for the study. Additionally, a statement of the problem, a purpose statement, and the significance for conducting the study are detailed. The central research question and sub-questions and the research plan that were used to accomplish this study are discussed; delimitations and limitations are also included.

Background

Over the past few decades, both the prevalence and incidence of ASD have risen, and they continue to rise; the most recent estimate for prevalence of ASD is approximately 1 in 68 children over the age of five (CDC, 2014). At the same time, the number of families electing to homeschool their children is increasing (Ray, 2015a). Given the increases in both ASD and homeschooling, the number of individuals with ASD being homeschooled will likely also
increase. In addition, the number of students with ASD entering the postsecondary environment
will likely increase as well (Gelbar et al., 2015 Rodriguez et al., 2017). Based on this
information, the number of homeschooled students with ASD entering college will also increase,
and many of those students will take classes residually, or on campus (Gelbar et al., 2015;
Ray, 2015a). To better understand the experiences lend themselves to success in the on-campus
college environment of individuals with ASD who were homeschooled, I conducted a single case
study. Success is defined as passing classes and making progress towards completing the
requirements for earning a college degree and graduating from college (Fichten et al., 2014;
Sommers, 2015). On-campus college students are defined as students who are attending and
taking classes on campus and in classrooms with other students rather than those students who
take classes in an online, hybrid, or other format (Walsh & Robinson Kurpius, 2015). On-
campus college students can be anyone from undergraduate students through doctoral students,
and they can be single, married, separated, etc. The on-campus college environment is the
college campus where students take classes while pursuing a degree in higher education;
technical and vocational schools were not included for this study. The case study research
design is used to “investigate a contemporary phenomenon . . . in its real-world context” (Yin,
2014, p. 2). This study was conducted to fill a gap in the literature that relates to on-campus
college students with ASD who had been homeschooled during high school. The specific gap is
described in more detail in subsequent sections.

**Situation to Self**

Topics with personal significance and meaning to researchers are often more carefully
researched than topics of little or no personal value. However, it is also important that research
is not too personal or involve excessive emotional significance for the researcher (Creswell,
2013). This study had personal significance for me as the researcher, and the topic was distant enough to allow me to remain focused without becoming too emotionally involved and distort the findings. I am a parent of two teenage children, one of whom is a son who has ASD. Diagnosed with ASD before the age of three, my son initially received early intervention services through military programs. Services, as delineated in an individualized family support plan (IFSP) and individualized education plans (IEPs), were later provided through public schools. Due to a variety of unique situations and circumstances, my husband and I determined that it might be best for our son if he were to receive his education at home. Thus, I began homeschooling him in third grade, along with my daughter, who was beginning first grade. Currently, I still homeschool both children, and they are in their high school.

Although not formally diagnosed as such, medical professionals have suggested my son has Asperger’s syndrome, a form of high-functioning ASD (Barnhill, 2016; Buron & Wolfberg, 2008). Even though he was eligible for services, my son did not receive any services from the public school system after we moved to North Carolina more than nine years ago; we still lived in North Carolina at the time of the study. The primary reason for his not receiving services was because the school system had more students needing services than they had staff and facilities to provide support for students with disabilities. Therefore, services were not provided to students in private schools or homeschooled. However, I did have access to a speech and language pathologist, so we had help when needed. As my son aspires to go to college, I wanted to better understand the experiences that contribute to college success for homeschooled individuals with ASD. It is my desire to help other homeschooling families who have children with ASD better prepare their children for college while contributing information for helping colleges better serve students with ASD and other disabilities.
Related to this study, I brought specific biases, philosophical assumptions, and research paradigms with me. As a home educator myself, I view homeschooling as the best option for some students. However, I received my undergraduate education at a public university, and I attended public high school. Furthermore, the children of all my siblings currently attend, attended, or graduated from public schools. I understand that homeschooling may not be the right choice for all families, and I respect those who choose other routes of education.

Regarding my philosophical assumptions, I profess Jesus as my personal Lord and Savior, and I believe the Bible is the infallible Word of God. Having a biblical worldview, I acknowledge that all people are created in the image of God. My Christian worldview enables me to accept others and embrace their differences, which includes making efforts to understand the unique traits of individuals with ASD. My Christian worldview and values contributed to a positive relationship between me and the participants for the study as I respect all individuals as unique creatures created by God (Moreland & Craig, 2003). I believe learning is an opportunity and gift from God. Furthermore, I was motivated to conduct this study to provide better opportunities for homeschooled students with ASD to succeed, with a specific focus in the postsecondary setting. This research was conducted from a Christian perspective guided by the disability theory (Barnes, 1991; Oliver, 1990; Oliver & Barnes, 2012).

**Problem Statement**

Based on research conducted by Ray (2015a), more than two million children are educated in the home, and that number is rising at a rate of 2-8% each year. Additionally, diagnosis of ASD is increasing (CDC, 2014; Gelbar et al., 2015; Ray, 2015a). With the increases in ASD, there have been similar increases in college applications by individuals with ASD (Barnhill, 2016; White et al., 2016). Per Gelbar, Smith, and Reichow (2014), there is “a
paucity of research concerning individuals with autism spectrum disorders (ASD) pursuing higher education” (p. 45). The limited available research indicated that individuals with ASD are more likely to attend and be successful in higher education than individuals with other disabilities (Barnhill, 2016; Shattuck et al., 2014; White, Ollendick, & Bray, 2011). On the other hand, many individuals with ASD struggle in college because of social and communication difficulties characteristic of ASD, and those difficulties, combined with a lack of support services, result in higher attrition rates compared to neurotypical college students (Gelbar et al., 2014; Nicholas, Attridge, Zwaigenbaum, & Clarke, 2015; Van Hees, Moyson, & Roeyers, 2015). Thus, given the increasing prevalence of homeschooling and ASD, it is also important to increase success and improve outcomes for college students with ASD who were homeschooled.

Because college students with ASD have a higher than average attrition rate (Barnhill, 2016; Gelbar et al., 2015 Rodriguez et al., 2017) while homeschooled students perform above average in college (Drenovsky & Cohen, 2012; Martin-Chang, Gould & Meuse, 2011; Ray, 2010), it was important to determine if high college attrition rates hold true for homeschooled students with ASD. This research was important because no research had been conducted on this specific segment of the population, and research was needed to determine if homeschooled students with ASD are successful in the on-campus college environment and what best prepared them for college. Thus, the problem for my research was: Students with ASD have higher college dropout rates when compared to neurotypical college students, and the higher dropout rates are largely due to difficulties with verbal communication and interacting in social situations (Gelbar et al., 2015). Furthermore, individuals with ASD often do not have close personal relationships with peers, and they generally do not interact with peers or professors, and failing
to maintain such relationships often results in these students having weak support systems. The lack of a personal support system contributes to higher dropout rates (Gelbar et al., 2015).

**Purpose Statement**

The purpose of this single case study was to discover and describe the perceptions and social experiences of homeschooled students with ASD who attended on-campus college instructional programs, particularly those experiences with potential for contributing to success in college, with success defined as making progress towards attaining a college degree as evidenced by passing the courses taken (Fichten et al., 2014; Sommers, 2015). Homeschooled students with ASD were defined as students with diagnoses of ASD who received at least part of their primary and secondary education at home with their parents serving as primary educators. More specifically, the homeschooled students for this study were homeschooled, at a minimum, during their high school years. I selected this specific group because a substantial percentage of parents choose to send their children to public high school for a myriad of reasons, such as they do not feel they can teach all the high school subjects with the necessary rigor or they want their children to have the opportunity to participate in high school sports (Grady, Bielick, & Davis, 2010; Lively, 2014). The transition from high school to on-campus college classes would be different for students who went to public high schools than it would be for those students who continued to be homeschooled for high school (Drenovsky & Cohen, 2012; Kranzow, 2013). Individuals enrolled in virtual schools (offered in many states through public schools) were not considered homeschooled students for this study. The theory guiding this study was the disability theory (Barnes, 1991; Oliver, 1990; Oliver & Barnes, 2012) as it delineates the similarities and differences between individuals with ASD and neurotypical students and relate to success in college.
Significance of the Study

The practical significance of this study is that it may provide information to assist in the transition experiences of homeschooled individuals with ASD. The findings provide beneficial information for parents who homeschool students with ASD, individuals with ASD, faculty and staff at institutions of higher learning, and other college students. Shattuck et al. (2014) indicated approximately 17,500 individuals with ASD attend college after graduation from high school, and “very little is known about the subjective experiences of these college students” (p. 1). Given the difficulties with social situations and ability to communicate effectively, which are characteristic of individuals with ASD, many of these students struggle in the relatively independent academia, and specific support services for encouraging self-advocacy are needed (Gelbar et al., 2015).

The empirical significance of this study included the fact that current literature does not address the specific target population of the study. Previously conducted research (e.g., Barnhill, 2016) has been instrumental in effecting changes, such as implementation of support programs, at some institutions of higher learning. Because research is emergent in this area, more research was and is needed, especially related to individuals who had been homeschooled prior to attending college (Barnhill, 2016; Gelbar et al., 2015; Pugliese & White, 2014; Rodriguez et al., 2017; White et al., 2016). A goal that I had for this research was to bring into focus the needs of this specific subset of the population—college students with ASD who had been homeschooled.

The information discovered may prove instrumental in helping parents who homeschool children with ASD, faculty and staff of colleges and universities who have students with ASD, the individuals themselves with ASD, and peers/classmates of these students. Moreover, the results of the study may be used for generating reports, handbooks, and other publications and tools that
may be used for parents, educators, and other stakeholders to help individuals with ASD better assimilate to the postsecondary environment, and better support services specifically designed for helping with social and communication skills may be made available for students with ASD.

The study has theoretical significance as well. Specifically, the results of this study may potentially extend the disability theory (Barnes, 1991; Oliver, 1990; Oliver & Barnes, 2012), the theory upon which I framed this study. One of the hallmarks of the disability theory is that it focuses on how society puts limitations on individuals with disabilities, hindering motivation (Barnes, 1991; Oliver, 1990; Oliver & Barnes, 2012). This study highlighted different attitudes held by individuals within the college setting that factor in college success. Because one significant factor related to success involves social reactions to persons with disabilities (Sherry, 2004), recognizing other individuals’ perceptions of classmates with ASD is a first step in the process of accepting students with disabilities and promoting attitudes, actions, and interventions attributable to helping them succeed in college (Barnes, 2003; Oliver & Barnes, 2012). The information may extend the disability theory and provide new applications of these theories through focusing on the successes of college students with ASD rather than perceived limitations (Benita, Roth, & Deci, 2014; Niemiec et al., 2006; Núñez & León, 2015). It is important to note that the disability theory postulates that limitations are placed on persons with disabilities by society, thus it has a focus on these limitations, not necessarily the ones perceived (Barnes, 2003; Oliver, 1992). In addition, this research could serve to bring about changes and improvements because awareness of the unique and specific challenges faced by college students with ASD is increased, and such changes could potentially result in greater acceptance of individuals with ASD in college and in society in general (Barnes, 2003; Niemiec et al., 2006; Oliver, 1992; 2012; Vansteenkiste et al., 2010).
Research Questions

The purpose of this case study was to discover and describe the perceptions and social experiences of homeschooled students with ASD who attend on-campus college instructional programs. As per Creswell (2013), qualitative research must be guided by one central research question with several sub-questions phrased to more clearly define the central question and the nature and purpose of the research. Yin (2014) stated, “Defining your research question(s) is probably the most important step to be taken in a research study” (p. 11). Creswell (2013) posited that questions for qualitative studies need to ask “how” or “what,” and Yin (2014) wrote that “how” and “why” questions are most appropriate, or favored, for case study research. Moreover, I phrased my research questions (including sub-questions) to address the focus or concern of the research topic, and they align with the theoretical framework (Creswell, 2013; Yin, 2014).

Central Research Question

The central question for this study was: What are the experiences of individuals with ASD who were homeschooled that lead to success in the on-campus college environment? The answers to this question may inform homeschooling parents and college and university faculty and staff of the areas where specific interventions may be implemented for improving the on-campus college experiences of homeschooled individuals with ASD as demonstrated by previous students in similar situations (Gelbar et al., 2015; Ray, 2015a; Yin, 2014). More specifically, this question focused on what contributes to success in college, and success was defined as passing classes and making progress towards completing the requirements for earning a college degree and graduating from college (Fichten et al., 2014; Sommers, 2015) or “progress toward a degree . . . [or] the steady, inexorable accumulation of credit hours” (Sommers, 2015). Fichten et
at. (2014) stated that success can be defined either in terms of either grades attained in classes or successfully earning college degrees. For the purpose of this study, passing classes and making progress towards earning a college degree were used to determine success as the participants had not yet earned college degrees. When social and communication difficulties are not addressed within the college environment and by the institutions, the students with ASD are more likely to drop out of college and not finish the coursework to earn their college degrees (Nicholas et al., 2015; Pinder-Amaker, 2014; Pyle & Wexler, 2012).

This question was important because dropping out of college prior to completion of a degree will often negatively impact those individuals, and society may be negatively impacted as well. The individuals who drop out are primarily impacted in that college graduates generally have greater potential for being employed, and the jobs and positions they get usually pay more than the jobs held by non-college graduates. Society is impacted in that college dropouts become part of the unskilled labor pool, and an increased non-skilled labor pool will potentially increase the unemployment rates (Dwyer, Hodson, & McCloud. 2012; Fichten et al., 2014). Thus, it was important to determine what helps students with ASD succeed in college and earn their college degrees.

**Sub-Questions**

In addition to the central research question, I used three sub-questions to guide my study. The three sub-questions more clearly defined what I sought to find out in the central question. These questions more closely focused on the nature and purpose of my study (Creswell, 2013).

**Sub question-one.** How do homeschooled individuals with ASD describe their experiences as students in an on-campus college environment? The answer to this question, like the central question, may lead to the implementation of effective interventions (Gelbar et al.,
Results of a study by Baars and Arnold (2014) indicated that a major factor related to successfully completing college is motivation to earn a degree. When students do well in classes and can handle the social dynamics of college life, they are more confident, and that confidence contributes to greater success. When students have difficulties navigating the college environment and struggle with social interactions, they will also often struggle academically (Baars & Arnold, 2014; Pyle & Wexler, 2012). Thus, it was important to ascertain the perceptions students had regarding their on-campus college experiences to determine which, if any, interventions and support systems can be implemented for promoting success.

**Sub-question two.** How do homeschooled individuals with ASD perceive themselves as being prepared to face the challenges of independent living and academia? This question has the potential to effect changes in homeschooling (Ray, 2015a; Yin, 2014). Similar to the previous question, when students struggle academically, they are at an increased risk for dropping out of college, and when students feel prepared, they have greater potential for success (Baars & Arnold, 2014; Gelbar et al., 2015; Pyle & Wexler, 2012). Success in college is also dependent upon the ability to handle the independent lifestyle demanded in college (Krell & Perusse, 2012; Nicholas et al., 2015; Shattuck et al., 2014; Wei, Wagner, Hudson, Yu, & Javitz, 2015; White et al., 2011).

**Sub-question three.** How do homeschooled individuals with ASD describe their encounters/interactions (personal and professional) with classmates, faculty, and other individuals they meet on campus? Understanding how ASD affects the personal, social, and academic experiences will encourage success due to an increased awareness of the issues (Gelbar et al., 2015; Krell & Perusse, 2012; Pugliese & White, 2014; Yin, 2014). One of the greatest
difficulties individuals with ADS have in the on-campus college environment is appropriately handling social situations (Matthews, Ly, & Goldberg, 2015; Grandin, 2011; McMiahom & Henderson, 2015; Nevill & White, 2011). Understanding the personal interactions and encounters will help determine the best interventions and support services for college students with ASD.

Research Plan

According to Creswell (2013), qualitative research is designed to explore social or human problems. In this single case study, the social and human research problem explored was the experiences homeschooled individuals with ASD that have the potential for ensuring success in college as on-campus students. This research built a complex, holistic picture, by collecting data from participants with ASD and people with whom they interact and associate. Specifically, I collected data from parents of the students and, with approval of one student with ASD, one college roommate. I conducted the research in a natural setting, and I generated detailed reports of the views of the participants (Creswell, 2013). Case study designs are appropriate when the researcher does not have any control over the behaviors and events under study, and the issues or topics are contemporary phenomena (Yin, 2014).

This qualitative research study used a single case study design because the participants came from a focused group of participants; I defined the participants by the parameters of being on-campus college students who had been homeschooled. My participants included five on-campus college students with diagnoses of ASD; each of the participants was homeschooled for their high school grades at a minimum. Additional participants were parents of students with ASD and one roommate of those students. Thus, the total number of participants was 13. I used
this methodology to allow for a close and first-hand look at the real-life college experiences of participants selected for the study.

Data collection consisted primarily of documents and interviews of home educated college students with ASD to obtain detailed descriptions of their perceptions and experiences while attending on-campus postsecondary education programs. I also collected data through reflection journals completed during the study by the students with ASD. I reviewed documents to help ensure integrity in the study. I reviewed documents containing confirmation of diagnoses of ASD and class schedules (to get a feel for academic rigor). For the participants who did not have documentation for their diagnoses of ASD, I allowed those participants to self-disclosure as having ASD. Because students with ASD who were homeschooled are placed in an environment markedly different when they attend college as compared to the homeschool environment, determining to what extent they felt prepared to be successful in the on-campus college environment and how that environment impacts or influences academic performance was important. I analyzed the data using categorical aggregation and cross-case analysis (Yin, 2014).

**Delimitations and Limitations**

 Delimitations are “boundaries of research as it is being proposed” (Hancock & Algozzine, 2011, p. 77); they are not necessarily considered weaknesses of the research or the design (Hancock & Algozzine, 2011). However, it is important to identify the delimitations or boundaries and rationale for those boundaries. Specific to this research, my primary delimitation was selection of homeschooled students with ASD who continued to college after completing high school. Those participants were homeschooled for their high school years, at a minimum. I set these criteria because the transition to being an on-campus college student is markedly different for a student who was homeschooled compared to a student who attended a public high
school (Drenovsky & Cohen, 2012; Martin-Chang et al., 2011). In addition, I excluded homeschooled students who attended virtual schools from this study, and I excluded college students who were enrolled in online, hybrid, or other types of college programs; all student participants were taking classes on campus. Other participants I included were adult family members and one college roommate; including those individuals allowed me to get different perspectives on the case. The different perspectives from these other people (parents and roommate) were important because individuals with ASD often have difficulties with communication, especially expressive verbal communication (CDC, 2014; Dente & Coles, 2012; Gobbo & Shmulsky, 2014). Finally, I excluded individuals who had not reached majority age (age 18) from the study to preclude ethical issues related to research related to using minors as participants.

Per Hancock and Algozzine (2011), limitations in case study research “are factors that may affect the results of the study and that are generally beyond the control of the researcher” (p. 77). The limitations to this study include inability to generalize the findings, small sample size, potential research bias due to closeness to the topic, potential for participants with ASD not being able to clearly articulate their thoughts/perspectives, narrow focus of the study design, and a high potential for homogeneity of participants. These limitations are typical of studies of this nature (Creswell, 2013; Patton, 2002; Yin, 2014). As with qualitative research in general, the findings are not generalizable to the general population, and they are also not likely to be generalizable to college students in similar situations or circumstances. The findings are unique to the specific participants used in this study and may not be generalizable to other college students with ASD who were homeschooled.
Researcher bias had the potential to be a major limitation, but awareness of that potential bias was a step in preventing that bias from affecting my research. On the other hand, having a personal awareness of and experiences related to the research topic enabled me to get a closer look and more thoroughly consider the experiences of the participants, counteracting bias, as has been observed by Yin (2014) in similar research.

**Definitions**

Terms pertinent to the study are listed and defined below:

1. *Autism spectrum disorder (ASD)* – A group of developmental disabilities characterized by communication, social and behavioral difficulties. Often, there are no outward visual identifying features displayed by individuals with ASD, but the way they behave, communicate, interact, and learn may be profoundly different from neurotypical individuals. Several conditions comprise ASD including Asperger syndrome, autistic disorder, and pervasive developmental disorder not otherwise specified (PDD-NOS). Individuals with ASD have a very large range of abilities from severely challenged to gifted, and the level of help needed will vary based on severity (CDC, 2015b).

2. *Asperger syndrome (AS)* – Asperger syndrome is one of several ASDs. Individuals with AS are considered to be high functioning, but they still display several characteristics of ASD such as difficulty in social situations (communication); failure to maintain eye contact, use body language, or display facial expressions; and fixated interests and attachment to routines. Additionally, individuals with AS typically have higher intellectual abilities (NIH, 2012).

3. *Neurotypical* – Development considered normal or typical (Goldstein, Naglieri, & Ozonoff, 2009).
4. **Intrinsic motivation** – “Involves people doing an activity because they find it interesting and derive spontaneous satisfaction from the activity itself” (Gagné & Deci, 2005, p. 331).

5. **Extrinsic motivation** – “Being by external influences. It is present when environment, social interactions, or external influences impact one’s impetus for action. A student who is extrinsically motivated participates in activities to please or impress others” (Tucker & Winsor, 2013, p. 39).

6. **Disability** – A functional limitation caused by either an illness or impairment or “the complex interaction between the limitations of the body and/or mind, and society at large” (Barnes, 2003, p. 3).

**Summary**

Chapter One included a discussion related to the background for the research as well as my role in conducting the research. I described my background as a homeschooling parent of a child with ASD along with the potential for how my background would impact this research. Following those sections, I described the problem and purpose statements along with the research questions that I used to guide the study. I defined the problem as the high rate of attrition among college students with ASD due to difficulties with communication. Identifying ways to assist college students with ASD function effectively in the on-campus college environment through the implementation of different interventions, support services, or accommodations will have the potential to increase the success or graduation rates of these students. The same is true for social situations and interactions of homeschooled students; it is important to determine the best supports, services, and accommodations for assisting these students. The purpose of this single case study was to discover and describe the perceptions and...
social experiences of homeschooled students with ASD who attend on-campus college instructional programs. I thoroughly discussed the primary research question and three sub-questions and related those questions to research. I followed the research questions with a description of the significance of the study along with delimitations and limitations pertinent to the study. I described the significance as the potential for best assisting stakeholders involved in any aspect of homeschooling, higher education, and ASD in providing the resources for ensuring college success. Chapter Two delineates the theoretical framework for guiding the research and a comprehensive review of the literature related to the research topic.
CHAPTER TWO: LITERATURE REVIEW

Overview

This chapter introduces the theoretical framework upon which the research was based. The theory I used to guide this study was the disability theory (Barnes, 1991; Oliver, 1990; Oliver & Barnes, 2012) as it pertains to individuals with ASD. As the disability theory (Barnes, 1991; Oliver, 1990; Oliver & Barnes, 2012) was defined and developed relatively recently (Goodley, Hughes, & Davis, 2012; Vallerand et al., 2008; Watson, 2012), I included an extensive discussion of this theory and how it originated. In addition, I reported a short description of how this theory applies to ASD in general as well as a discussion of how the theory applies to this study. After the theoretical framework, I record a comprehensive review of the literature related to the aspects of the research and research questions. Specific aspects or variables I describe are the historical aspects of ASD and homeschooling, trends in homeschooling, homeschooling individuals with disabilities, transition planning and support services, and post-secondary experiences of individuals with ASD.

Theoretical Framework

Joyner, Rouse, and Glatthorn (2013) stated that a theory is “a set of related concepts, assumptions, and generalizations that systematically describe and explain behavior” (p. 57). Establishing a theoretical base for case study research is highly desirable and will help ensure the lessons learned through the research process may be generalized or an “opportunity to shed empirical light about some theoretical concepts or principles” (Yin, 2014, p. 40). Thus, it is important to frame a study on at least one theory or theoretical proposition. Yin (2014) stated that there may be a large range of theories available for guiding a case study, and it is important to be aware of that possibility. Additionally, a theoretical framework might be either descriptive
in that expected circumstances or outcomes are hypothesized, or it may be explanatory in that how and why questions are conjectured (Yin, 2014). In addition to guiding the planning phase of the research, theory or theoretical propositions are important for guiding the analysis of the information obtained during the data collection process of the research (Creswell, 2013; Yin, 2014). Having a solid theoretical basis prior to and during the entire research process grounds the research. The theory upon which I based this study was the disability theory (Barnes, 1991; Oliver, 1990; Oliver & Barnes, 2012).

**Disability Theory**

Disability, according to Sherry (2004), is a term that “refers to the social reactions to impairment, particularly experiences of discrimination, social exclusion and marginalization” (p. 770), and impairment is the medical condition causing the disability (Oliver, 1990; Sherry, 2004). The disability theory was initially developed in 1976 in Britain by Oliver (1990) and Barnes (1991) “as a political tool by disability activists to explain disability in social terms” (Watson, 2012, p. 192). This theory was initially used in training professionals and social workers who worked in the field of disability (Barnes, 2003). The theory was later adapted to academics and refined by both Oliver (1990) and Barnes (1991) separately, and they joined forces to further refine and define the disability theory (Oliver & Barnes, 2012). Even so, the disability theory is relatively new, and its development has lagged “behind that of other transformative arenas” (Goodley et al., 2012; p. 1).

Per Godfrey et al. (2012), an overarching theme of the disability theory (Barnes, 1991; Oliver, 1990; Oliver & Barnes, 2012) is its relation to social interaction. Initially occupying a place in the social sciences, disability theory and disability studies are branching out, and now they encompass not just the social sciences; they also are being applied to the fields of
psychology, medicine, and other disciplines (Barnes, 2003; Goodley et al., 2002; Hughes, Goodley, & Davis, 2012). Furthermore, studies are now applying the disability theory to adult development, learning disabilities, autism, etc. (Barnes, 2007; Mallett & Runswick-Cole, 2012; Price & Patton, 2003).

With the development and implementation of the disability theory, different positions or generalizations have been defined. Specifically, Priestley (1998) identified four major positions: individual-materialist, individual-idealist, social-materialist, and social-idealist. The individual-materialist position holds that “disability is a product of biological determinism or personal tragedy manifested in the material condition of the individual” (Priestley, 1998, p. 79). This view holds that disability is determined by genetics. The second position, individual-idealist, “focuses on cognitive interaction and affective experience” (Priestley, 1998, p. 80). This position deals with how people with disabilities adjust to their particular disability or disabilities in addition to the attitudes of those individuals who do not have disabilities (Priestley, 1990).

From the position of the social-materialist, “disability can be regarded as the material relations of power arising from the development of political economy and/or patriarchy within a specific historical context” (Priestley, 1998, p. 80). To state this concept differently, this position assumes disadvantages are caused more by impaired bodies and minds. Finally, the socialist-idealist position states, “disability is viewed as a social construct – the idealist product of a society developing within a specific cultural context . . . [and] suggests that social labeling and role expectations are the determinant factors in the construction of disability” (Priestley, 1998, p. 81).

Together, the four positions described above are important for clarifying aspects and distinctions found in the literature related to disabilities. One important theme is that attitude
plays a major role in any disability, and the experiences of people with disabilities need to be examined. While examining those experiences, the personal identities of individuals with disabilities need to be recognized and maintained; each person will have a personal and different experience in any given situation compared to another person with a similar disability (Davidson, 2008). Even though different models of the disability theory have many commonalities, differences exist, and those differences need to be recognized and accepted (Priestley, 1998).

Disability Theory and ASD

As the disability theory applies to individuals with ASD, Mallet and Runswick-Cole (2012) stated that ASD is more a “culture” rather than a disability in that individuals with ASD have several unique characteristics or traits that set them apart from their contemporaries, especially in the academic arena. ASD is a developmental and neurological disorder, and people with ASD “share three main areas of difficulty . . . social communication, social interaction and social imagination” (Mallett & Runswick-Cole, 2012, p. 37). Some of the identifying characteristics include poor non-verbal communication, one-sided interaction, intense or extreme interest in particular subjects or topics, lack of empathy, difficulty in forming and maintaining friendships, and unusual postures and behaviors. The fact that ASD prevalence has risen significantly over the past decades, and because individuals with ASD are enrolling in college, familiarity with how the disability theory applies to these students is important for understanding the experiences they have as college students (Mallet & Runswick-Cole, 2012).

Disability as a theoretical model or framework defines disability as a concept that was socially constructed, and it places attributes and limitations on individuals with disabilities, and those attributes and limitations cause greater problems or barriers than the actual disabilities themselves (Oliver, 1990; 2012). The disability theory is an attempt to place more focus on the
limitations placed by society on individuals with disabilities instead of focusing on the actual disabilities or impairments caused by disabilities (Barnes, 2003). Watson (2012) stated that “disability arises as a result of the way that society is organised and that social relations are paramount in constructing the experiences of disabled people” (p. 194). Because many of the difficulties individuals with ASD face in college are due to stereotypes or expectations placed on them by society, identification of those barriers is necessary if they are to be removed for facilitating success in college (Kaul, 2013; Meyer, Hinton, & Derzis, 2015).

The disability theory also attempts to identify and explain unique and specific challenges faced by individuals with ASD experienced in the college setting (Barnes, 2003; Oliver, 1992; 2012). Because college students with ASD have difficulties with social interaction, the obstacles they face in the college setting may become overwhelming, and the difficulties they encounter may result in higher attrition rates (Dubin et al., 2015; Gelbar et al., 2015; Kranzow, 2013; Shattuck et al., 2014). Oftentimes, the challenges are even more complex because individuals with ASD do not have specific physical characteristics identifying them as having a disability, and the people with whom they interact may pass judgment based on perceived norms (Gelbar et al., 2014; 2015; Mallow, 2014; Matthews et al., 2015; Payne & Wood, 2016). Thus, it is important to determine what is occurring in the lives of college students with ASD to foster acceptance by peers and college staff and to help implement supports, accommodations, and services designed to help students with ASD succeed in college (Nevill & White, 2011; Van Hees et al., 2015; White et al., 2016Wiorkowski, 2015).

Accommodations, interventions, and support services, in a way, emphasize the limitations placed on individuals with disabilities by people who do not have disabilities (Barnes, 2003). Because of the limitations and perceived limitations resulting from disabilities, it is vital
for college students to be able to advocate for themselves. Again, because an identifying characteristic of ASD is difficulty with communication and social interactions, many individuals with ASD struggle with self-advocacy, and those struggles can further frustrations and difficulties (Barnhill, 2016; Gelbar et al., 2014; Hansen, 2011; Mallett & Runswick-Cole, 2012).

The disability theory, being part of the framework for this research, is relatively new compared to other theoretical frameworks used in studies. Because the disability theory is relatively new, there is great potential for further development of this theory through research related to the disability theory. This research on determining what influences college success for homeschooled students with ASD has the potential to advance or extend the disability theory. More specifically, I explored the possibility that, when students with disabilities are challenged while also being supported with appropriate interventions and/or accommodations, they are capable of succeeding in areas that were once thought to be unattainable for individuals with disabilities. For example, through my research, I discovered some of the best practices, interventions, and support systems for assisting individuals with ASD succeed in college, the focus was on the abilities of these individuals rather than on the perceived disabilities. Focusing on the abilities of individuals rather than disabilities potentially encourages success among students with disabilities and help to further develop the disability theory. Once abilities become more of the focal point, socially-constructed barriers can be removed, and success may be fostered (Priestley, 1998).

**Related Literature**

Reviewing literature related to a specific research topic enables researchers “to assess the current state of the field, identify a gap in research, and propose a study to address that gap” (Douglas, 2014, p. 140). As research specifically related to the on-campus college experiences
of individuals with ASD who were homeschooled has not been conducted, many of the
subcomponents of the topic have been researched and published. For instance, researchers have
been conducting studies on the college experiences of individuals with disabilities. Likewise, a
great deal of research has been conducted on homeschooled individuals, and that research
encompasses the reasons for homeschooling, socialization, academic performance (including
post-secondary education), homeschooling students with disabilities, etc. Understanding each of
these areas is important for developing a foundation for research related to the identified
literature gap. The following review of literature details an introduction to the historical aspects
of ASD and homeschooling in the United States. Several additional topics related to the
education of individuals with disabilities, homeschooling, transition, and higher education are
also explored and reviewed.

**Historical Aspects of Autism**

Although it is widely accepted that ASD was first discovered or described by Leo Kanner
in the 1940s (Buron & Wolfberg, 2008), the term autism was actually used for the first time in
1908 by a psychiatrist named Eugen Bleuler who used the term to describe a patient he was
treating. That patient had appeared to withdraw into his own world (Mandal, 2014). Around the
time Kanner was describing autism, however, Hans Asperger, who was working separately and
independently from Kanner, also described a different form of ASD, which is termed Asperger
disorder or Asperger syndrome (Buron & Wolfberg, 2008; Goldstein et al., 2009). However,
there were several documented clinical cases of conditions similar to ASD that presented much
earlier than those dates involving individuals who appeared to have met the current diagnostic
criteria for ASD. In the 18th century, there were two noteworthy cases of individuals who
appeared to have ASD. One involved a young boy named Victor who displayed severe
language, communication, and socialization difficulties. Victor was seen by physician Jean Itard, and Victor is commonly referred to as the “wild boy” (Goldstein et al., 2009). The second case was an adult named Hugh Blair who was thought to be mentally retarded; Blair’s language consisted primarily of echolalia (repeating words or phrases heard) and he displayed obsessive and repetitive behaviors that are indicators of ASD (Wolff, 2004). These and other cases, which might now be considered and diagnosed as being ASD, were generally thought to be forms of mental retardation or psychological disorders such as schizophrenia (Buron & Wolfberg, 2008; Goldstein et al., 2009; Wolff, 2004).

Shortly after Kanner and Asperger first described clinical cases of ASD, and after more research related to ASD started to be conducted, it was initially believed that ASD was caused by poor parenting practices or unloving or unaffectionate parents. The focus was on the mother, for the mother was the primary caregiver during infancy and early childhood. Psychologists and psychiatrists (and other mental health practitioners) believed that autism was caused because mothers did not provide the love, nurturing, and affection needed in the early years of life, and the term “refrigerator mothers” was used for mothers who had children diagnosed with autism. Often, during that era, it was recommended that the child with the autism diagnosis be institutionalized (Buron & Wolfberg, 2008; Grandin, 2011; Mandal, 2014). It is now known, from research conducted since that time, that autism is not caused by poor parenting practices, but it is a neurological disorder of multiple possible origins. Some of the accepted causes of autism are genetics, neurological differences, possible metabolism errors, maternal infections during pregnancy, and psychological disorders (Buron & Wolfberg, 2008; Goldstein et al., 2009; Grandin, 2011; Kopetz & Endowed, 2012).
The term autism and the characteristics displayed by individuals with ASD did not start to be familiar in the medical and education professions until the 1970s, and by the 1980s, the work of Asperger was translated into English, and research on autism began to expand. With this better understanding and improved diagnostic criteria gained by research, the incidence and prevalence rates of ASD have steadily increased over the past decades (Mandal, 2014). During the five-year period from 2006 through 2010 there was a 64% increase in ASD prevalence, and it is estimated that the current prevalence of ASD is one in 68 individuals (CDC, 2014). Table 1 displays the trends in the prevalence of ASD over the past several report years. These are the most recent figures available from the CDC, and these figures are based on analyses of medical records and school records at 11 monitoring sites throughout the US (Arehart-Treichel, 2014). However, based on a government survey of parents with children between ages three and 17, as many as 1 in 45 children have been diagnosed with ASD, but the CDC does not include parent surveys in their statistics (Autism Speaks, 2015).

Table 1

Recent Trends in the Prevalence of Autism in the United States

<table>
<thead>
<tr>
<th>Surveillance Year</th>
<th>Prevalence per 1,000 children</th>
<th>1 in X children</th>
</tr>
</thead>
<tbody>
<tr>
<td>2000</td>
<td>6.7</td>
<td>1 in 150</td>
</tr>
<tr>
<td>2002</td>
<td>6.6</td>
<td>1 in 150</td>
</tr>
<tr>
<td>2004</td>
<td>8.0</td>
<td>1 in 125</td>
</tr>
<tr>
<td>2006</td>
<td>9.0</td>
<td>1 in 110</td>
</tr>
<tr>
<td>2008</td>
<td>11.3</td>
<td>1 in 88</td>
</tr>
<tr>
<td>2010</td>
<td>14.7</td>
<td>1 in 68</td>
</tr>
</tbody>
</table>

Considered to be the fastest-growing developmental disability, there are several theories for the marked increase in ASD prevalence. The primary theory for this increase is due to better diagnostic procedures along with a broadening of criteria for diagnoses (King & Bearman, 2009; Neggers, 2014; Rosenberg, 2015). Other factors attributed to the rise in diagnoses include increased awareness, an increase in older parents giving birth (advanced maternal age), environmental factors, mercury in childhood immunizations, genetics, and a few others (Autism Speaks, 2010; Nevison, 2014). Since more is known about ASD, awareness is increased across nearly all segments of society, and that awareness is considered a major factor for the increases in diagnosed cases. Correspondingly, research indicates that prevalence of ASD increases as the age at the time of giving birth of the mother increases (Grether, Anderson, Croen, Smith, & Windham, 2009; Liu, Zerubavel, & Bearman, 2010). A study by Grether et al. (2010) indicated that “a 10-year increase in maternal age was associated with a 38% increase in the odds ratio for autism” (p. 1118).

In recent years, environmental factors have been attributed to the increases in ASD prevalence. Ten environmental compounds comprise a list of agents suspected of contributing to this rise including: “lead, methylmercury, polychlorinated biphenyls, organophosphate pesticides, organochlorine pesticides, endocrine disruptors, automotive exhaust, polycyclic aromatic hydrocarbons, polybrominated diphenyl ethers, and perfluorinated compounds” (Nevison, 2014, p. 74), and that list was based on epidemiological studies that demonstrated a link between ASD and exposure to the compounds. Mercury in childhood vaccinations has been widely studied to determine if there is a link between ASD and mercury. Many studies indicate there is no link; however, a few studies have reported that there may be increased risk of developing ASD in children who receive vaccinations containing mercury (Deisher, Doan,
Koyama, & Bwabye, 2015). Considering the above theories regarding the increases in prevalence, there is no consensus, and it may be years before there is agreement among professionals, if that ever occurs (Arehart-Treichel, 2014; King & Bearman, 2009; Rosenberg, 2015).

Another aspect of ASD worthy of note is the fact that ASD affects significantly more males than it does females. A study by Baron-Cohen et al. (2015) indicated that fewer gender differences exist between males and females diagnosed with ASD related to cognitive, social, and interpersonal behaviors. In addition, research has indicated that females may have some innate protective mechanism for inhibiting the development of ASD (Lai et al., 2011). Another theory regarding the disparity between males and females diagnosed with ASD is that there are biological differences between the brains of males and females, and individuals with ASD are considered to have “extreme male brains” (Krahn & Fenton, 2012).

As the extreme male brain is closely tied to individuals with ASD, it is important that this term is defined. Baron-Cohen (2002) defines the male brain “psychometrically as those individuals in whom systemising is significantly better than empathising, and the female brain is defined as the opposite cognitive profile” (p. 248). He further adds that individuals with ASD display extremes of the male characteristics. Five different brain types have been identified, and those types include: (1) empathizing is more developed than systemizing, (2) systemizing is more developed than empathizing, (3) empathizing and systemizing are equally developed, (4) systemizing is overdeveloped and empathizing is underdeveloped (the extreme male brain), and (5) empathizing is overdeveloped while systemizing is underdeveloped (extreme female brain). To add clarity, empathizing is defined as “the drive to another person’s emotions and thoughts, and to respond to these with appropriate emotion” (Baron-Cohen, 2002, p. 248). Systemizing is
defined as processing information using if-then rules with little regard for the feelings of others. In other words, thinking is more of a process more like what is done by computers and other electronic devices, and these individuals perform better when attention to detail is important and/or when there are firm rules or standards, such as is often the case in math and the sciences (Baron-Cohen, 2002; Teatero & Netley, 2013). Neurological studies over the years have been conducted to evaluate which sections of the brains are used. Studies conducted on individuals with ASD, when compared to neurotypical individuals, demonstrated that individuals with ASD process information in the systemizing epicenters of the brain, and there was impairment in the empathizing epicenters (Baron-Cohen, 2002; Jung et al., 2015). These results were confirmed when participants were evaluated using other measures and methods such as the autism spectrum quotient scores (Teatero & Netley, 2013; Jung et al., 2015).

**Historical and Recent Trends in Education and Homeschooling**

When Europeans and others began settling what is now the United States, all education was done in the home and by parents. Formal schools were nonexistent. The first schools outside the home in the United States were Sunday schools offered by churches; colleges were the only other formal schools initially established, and those colleges were established with Christian foundations. With increasing numbers of settlers coming to America, schools began to be built to serve the growing communities. The primary purpose of those schools was to teach children to read, write, and do arithmetic so that they would be able to read the Bible, write their names and sign documents, and engage in trade or commerce. Over time, schools and education began to grow and expand to include other subjects, and compulsory education laws began to be enacted by local and state governments; home education was still authorized, and it remained the
primary educational method for most families through the mid to late 1800s (Anthony & Benson, 2011; Hanna, 2012).

Eventually, parents began to allow schools and teachers in their communities to take on the responsibility of education, and that also freed up mothers to work outside the home or focus more on keeping the home. When the Constitution was enacted into law, the responsibility for education was left completely to the individual states; the states had the authority to authorize and fund public schools (Gutek, 2011; Hanna, 2012). As time passed, communities and states started to relinquish control of schools to the federal government (Gutek, 2011). Today, the federal government provides funding for education programs throughout the US, and there are many who believe that the federal government is overstepping the bounds of the Constitution (Gutek, 2011; Hanna, 2012; Van Brummelen, 2009).

As interest in schools and formal education began to grow, enrollment in public schools grew and the numbers of schools increased, and by the early 1900s, only a small percentage of children were educated in the home. This was primarily the result of compulsory attendance laws enacted by around 1918. Those who did educate their children at home did so privately or “underground” so as not to be arrested for violating the law. During the latter half of the 20th century, parents who wanted to have control of the education of their children filed lawsuits to legally homeschool their own children. Then, after the Russians took the lead in the race to outer space after launching Sputnik, parents who sent their children to public schools began feeling that the education provided in public schools was not as rigorous as it should be as evidenced by the Russians taking the lead in the “space race.” The result was a rapidly growing popularity for homeschooling (Hanna, 2012; Ray, 2015a).
Today, home education is “a permanently established segment of an increasingly diverse educational landscape in the United States” (Vigilant, Trefethren, & Anderson, 2013, p. 202). Parents home educate for a variety of reasons including: customized curriculum and learning environment; greater accomplishment than is possible in other schools; enhancing the relationships between family members; providing guided social interactions with a more diverse and wider range of individuals; safety concerns; and to adhere to a particular belief, value system, or worldview (Ray, 2015a).

Per the National Center for Education Statistics (NCES), a segment of the U.S. Department of Education, approximately 1.7% of all students between the ages of five and 17 were home educated in 1999. By 2003, that number increased to 2.2%, and it was up to 2.9% in 2007. The figure for 2007 accounted for 1.5 million students (Grady et al., 2010; NCES, n.d.). In 2010, it was estimated that between approximately 1.7 and 2.4 million children were home educated, and that number is estimated to be increasing by 2-8% per year (Ray, 2015a). The most recent figures from the NCES indicated that 3.4% of all children in the US were homeschooled (NCES, 2014). Table 2 provides the most recent statistical and demographic information on homeschooling as maintained by the NCES.

Regarding academic performance, home educated students “typically score 13 to 30 percentile points above public-school students on standardized academic achievement tests” (Ray, 2015a, p. 2). In a study comparing academic achievement based on the Woodcock-Johnson test, students who received structured home education scored significantly higher on all subtests compared to students who attended public schools. The home educated students scored at least one grade level above on all subtests compared to students who attended public schools, and home educated students scored two grade levels above public educated students in the letter
word subtest, and they scored more than three grade levels higher in the word attach subtest (Martin-Chang et al., 2011).

Table 2

Number and Percentage of Homeschooled Students in the United States

<table>
<thead>
<tr>
<th></th>
<th>2007</th>
<th>2012</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Total students&lt;sup&gt;a,b&lt;/sup&gt;</td>
<td>Total/percent homeschooled&lt;sup&gt;b&lt;/sup&gt;</td>
</tr>
<tr>
<td>Total</td>
<td>51,135</td>
<td>1,520/3.0</td>
</tr>
<tr>
<td>Male</td>
<td>26,286</td>
<td>639/2.4</td>
</tr>
<tr>
<td>Female</td>
<td>24,849</td>
<td>881/3.5</td>
</tr>
<tr>
<td>Race/ethnicity&lt;sup&gt;c&lt;/sup&gt;</td>
<td></td>
<td></td>
</tr>
<tr>
<td>White</td>
<td>29,815</td>
<td>1,171/3.9</td>
</tr>
<tr>
<td>Black</td>
<td>7,523</td>
<td>e</td>
</tr>
<tr>
<td>Hispanic</td>
<td>9,589</td>
<td>147/1.5</td>
</tr>
<tr>
<td>Asian/Pacific Is.</td>
<td>1,580</td>
<td>e</td>
</tr>
<tr>
<td>Other</td>
<td>2,629</td>
<td>e</td>
</tr>
<tr>
<td>Educ. level&lt;sup&gt;d&lt;/sup&gt;</td>
<td></td>
<td></td>
</tr>
<tr>
<td>HS diploma or &lt;</td>
<td>14,306</td>
<td>208/1.5</td>
</tr>
<tr>
<td>Some college</td>
<td>14,581</td>
<td>559/3.8</td>
</tr>
<tr>
<td>Bachelor’s degree</td>
<td>11,448</td>
<td>444/3.9</td>
</tr>
<tr>
<td>Grad./Prof. degree</td>
<td>10,800</td>
<td>309/2.9</td>
</tr>
</tbody>
</table>

<sup>Note</sup>. Adapted from Digest of Education Statistics.
<sup>a</sup> All students in public, private, and homeschools
<sup>b</sup> Numbers are in thousands
<sup>c</sup> Race/ethnicity of child/student
<sup>d</sup> Highest education level of parents
<sup>e</sup> Too few to estimate
Source: NCES (2014).

When looking at individuals who pursue post-secondary education, home educated students earned an ACT-Composite average score of 26.5; the overall average ACT-Composite score was 25.0; this reflected a statistically significant higher score for home educated
individuals. The first-year grade point averages (GPA) were 3.37 for home educated students and 3.08 for first-year college students overall. The fourth-year GPAs were 3.46 and 3.16 for home educated and overall, respectively. Finally, college students who were home educated graduated from college at a rate of 66.7%, and the graduation rate for the overall population was 57.5% (Ray, 2010).

**Reasons for Homeschooling**

With regards to education, Murphy (2013) indicated “homeschooling is the most popular form of choice, having moved from the outskirts of the school reform drama to the center stage” (p. 336). Based on the information described in the preceding section, it would seem relatively easy to hypothesize some of the reasons parents elect to homeschool their children rather than sending those children to public or private schools. Over the years, several studies have been conducted to determine the primary reasons parents decide to homeschool, and the results consistently indicated three primary motivations. Those reasons include: the environment at public schools (safety, violence, bullying, drugs, negative peer pressure, etc.), academic instruction does not meet expectations, and religion or moral concerns (Aasen, 2010; Mazama & Lundy, 2015; Morrison, 2014; NCET, 2006). Other reasons cited for electing to homeschool include factors related to the physical and mental health of the child or children, “other special needs, interest in nontraditional approach to education, family time, finances, travel, and distance” (Mazama & Lundy, 2015, p. 162). To more fully describe the homeschool movement, Murphy (2013) purports that “six to twelve percent of all students will have been educated at home at some time in their K-12 educational career” (p. 336).
Homeschool Curriculum Development and Implementation

Methodologies and curriculum for homeschool abound. Parents who desire home education for their children have at their disposal a myriad of methods ranging from more traditional methods (such as classical), to unschooling, to eclectic. Even though there is a common misconception that homeschooling is primarily done by “fundamentalist Christians and religious zealots” (Lively, 2014, p. 347), curriculum and curricular resources are also available from countless sources and reflect a variety of worldviews. Curriculum is also readily available for just about any subject (Anthony & Burroughs, 2012; Arrow & Finch, 2013; Hanna, 2012). The following paragraphs discuss curriculum options available.

Core subjects. Nearly 80% of the states regulate home education to some degree; included in laws related to homeschooling is a requirement to teach (and test) core subjects such as English (including reading, literature, grammar, etc.), arithmetic, science, history, and geography. In light of those requirements, and because basic skills and literacy in these subjects are essential for functioning in the world outside the home, it is important to look at the research done in the area of core curriculum subjects (Anthony & Burroughs, 2012; Hanna, 2012; HLSDA, n.d.).

A myriad of curriculum choices is available for homeschools. A quick internet search revealed more than 1.7 million results. The results were for different publishers along with programs for educating at home (via video courses, curriculum packages composed of material from various publishers, etc.). Several publishers produce curricular and other educational materials strictly for home educators, and some of the material available can be tailored to meet a particular ideology or worldview. Additional curricular resources for homeschools include public libraries, churches (and other places of worship), homeschool support groups and
organizations, museums, science centers, and a host of other options. The subjects can be tailored to meet the needs of individual students and families; students can be challenged in areas of strength and given remediation in areas of difficulty. Finally, curriculum for homeschools may not have hidden agenda (or hidden curriculum) that restricts more in-depth exploration of core subjects (Arrow & Finch, 2013; Davis, 2011; Hanna, 2012; Hernández, González, & Sánchez, 2013).

**Arts and other subjects and materials.** To “round out” the curriculum, art, music, home economics, and other subjects are incorporated as parts of the curriculum. Some firmly believe that these subjects are vital for fostering creativity and intellectual development while creating well-rounded citizens. Per Berrett (2013) “knowledge will need to be combined across disciplines, and juxtaposed in unorthodox ways” (p. 15). Research further indicates arts and other subjects not only encourage and motivate students, they help students succeed in higher education and business through development of problem-solving skills and higher-order thinking. It has even been argued that overemphasis on literacy skills and arithmetic may actually impede the abilities of students by not allowing exploration in other areas. With budget cuts in these areas for public schools, this is one significant area where homeschoolers have a distinct advantage (Berrett, 2013; Chiarandini, Di Gaspero, Gualandi, & Schaerf, 2012; Lucey & Lorsbach, 2012; Silverman & Codi, 2011).

**Service learning.** Socialization and issues related to social skills are often topics discussed in relation to homeschooling. Based on research, this concern is not justified; most homeschooled students have ample opportunities to develop social skills (Drenovsky & Cohen, 2012; Kranzow, 2013). Homeschool curriculum is often comprised of service learning and other experiential learning activities that foster not only excellent social abilities, it encourages a
commitment to the community and helping and serving others (Reason, 2013). Given the flexibility that parents have when homeschooling, this valuable tool is more easily integrated into the school day and overall curriculum (Reason, 2013). When looking at the performance of homeschooled students (which will be discussed more in-depth later), it seems obvious that a lack of socialization and social skills are not detrimental or do not hinder students’ ability to succeed (Drenovsky & Cohen, 2012; Kranzow, 2013; Van Brummelen, 2002).

**Recent Trends and Curriculum Choices/Options**

As stated previously, per the National Center for Education Statistics (NCET), in 1999, approximately 1.7% of all students between ages five and 17 were educated at home; and that number increased to around 2.2% by the year 2003. By the year 2007, that number increased to 2.9%; that amounted to approximately 1.5 million students being homeschooled (NCET, 2014). The most recent figure for homeschooling is from the year 2010 when it was estimated that between approximately 1.7 and 2.4 million children were homeschooled; that number is estimated to be increasing by 2-8% per year (Ray, 2015a). Homeschooling is becoming more widely available through the use of online schools for grades K-12. With the increasing numbers of families electing to homeschool, students with disabilities, the gifted, and students from different ethnic groups are being homeschooled at increasing rates as well. Thus, it is important to acknowledge the growth trends in homeschooling and to carefully review and evaluate curriculum choices as they relate to students (Ray, 2015a).

**Online Education**

Virtual schools are online schools offered through public school systems. Although virtual schools are not technically homeschools in the traditional sense of homeschools, the education takes place in the home and primarily through internet access. Virtual schools are
available in all 50 states, and the number of schools and students is increasing annually (Toppin & Toppin, 2015). Virtual schools are similar to homeschools in that parents monitor (or supervise) the work of their children. It is different in that virtual schools follow the academic calendars of the public school systems, and the curriculum is set by the governing school district. Thus, parents do not have the “voice” in virtual schools they would have in a true homeschool. In other words, the parents do not have the flexibility of choosing the specific curricular materials used. Furthermore, it is important to note that this sort of home education will likely see significant increases over the next several years and decades; many school districts are beginning to require all students have some portion of their education completed in the online format. Part of the reason for this is because of the growth in online post-secondary education; schools want to ensure students are prepared to succeed in online education (LaFrance & Beck, 2014; Toppin & Toppin, 2015).

**Homeschooling Gifted Students**

On the other end of the spectrum is homeschooling academically or intellectually gifted students. It is important to note, however, that some students with disabilities may also be considered gifted, most notably, individuals with Asperger’s syndrome, a form of autism. Like homeschooling students with disabilities, homeschooling gifted children presents curricular challenges. For example, the materials selected need to be challenging for the students without being too difficult for the parents if the students need assistance. However, the curriculum must be such that the students are able to work independently (or get outside help) should the material be too advanced for the parents; this is generally more of a problem in high school rather than in earlier grades. Homeschool support groups and other networks (such as school co-ops and community colleges) have proved valuable resources for supplementing the curriculum. Overall,
homeschool is an excellent option for gifted students, especially since public school budgets cuts result in the elimination of gifted programs (Hurlbutt, 2011; Jolly, Matthews, & Nester, 2013).

Diversity Issues in Homeschooling

Based on available research, demographics of homeschooling families indicate that, in previous decades, homeschooling families were primarily white and middle class (NCES, 2014). Recently, however, there has been a significant increase in homeschooling among other ethnic and socioeconomic groups. This is especially true among African-Americans, and the African-Americans turning to homeschooling are generally those parents who have higher education. One study indicated that 80% of mothers and 60% of fathers who homeschooled had an undergraduate college degree or higher; 29% of the homeschooling mothers and 22.4% of the fathers had a graduate or professional degree (Mazama & Lundy, 2013). One of the primary reasons for the increase in homeschooling among African-Americans is public school curriculum. Specifically, those parents felt the quality of the curriculum was inadequate and they saw public school curriculum as being racially biased. In other words, the “null” curriculum, or practice of omitting certain aspects from the curriculum is, in effect, ignoring or marginalizing culture and history. In addition, parents felt that they could strengthen family bonds through homeschooling (Mazama & Lundy, 2013; Ray, 2015).

Overall, African-Americans homeschool for reasons similar to other families (Anthony & Burroughs, 2012; Mazama & Lundy, 2012; Mazama & Lundy, 2013; Mazama & Lundy, 2015; Ray, 2015b; Sample, 2013). These and other issues, are often overcome through selection of curriculum to meet the desires of the parents. African-Americans, as well as homeschooling parents from any ethnic group or cultural background, have at their disposal the same variety of resources. With such variety, it is relatively easy (after researching the content, etc.) to create a
challenging curriculum and one that fits the ideals of the homeschooling family. Furthermore, availability of international curricular materials is increasing and they are becoming increasingly more popular in both home education and in public schools (Sample, 2013).

**Homeschooling Students with Disabilities**

It is estimated that 10% of all children in the US have special needs or require some sort of special education services, and the prevalence of individuals with ASD is rising (Hallahan, Kauffman, & Pullen, 2012). With the increases in both the prevalence of ASD and home education, more individuals with disabilities are being educated at home, but there has been very little research or even mention of home education related to individuals with disabilities. Part of this lack of research stems from failure of parents to report the fact that they are providing home education to children with special needs. However, the available literature indicates that parents who home educate their children with disabilities generally have more education than the general population as well as parents who home educate children without disabilities (Arora, 2006; Duvall, Delquadri, & Ward, 2004).

The Individuals with Disabilities Education Improvement Act (IDEA) mandates that services be provided for all individuals identified as having disabilities between the ages of three and 21 (IDEA, 2004). Under the provisions of IDEA, individuals with disabilities are entitled to receive special education services (which may consist of speech and language therapy, physical therapy, occupation therapy, etc.) at no cost through the public school system no matter where they receive their education (Hallahan et al., 2012). This provision allows parents to home educate their children with disabilities (Cook, Bennett, Lane, & Manatas, 2013; Hallahan et al., 2012; Hurlbutt, 2011; Plecnik, 2007). Many of these parents do so because they believe that they can tailor the education to meet the needs of their children and still take their children to
public schools for the required and necessary therapies and services. Many students with special needs do better in smaller groups, and home education is an excellent way to provide that opportunity. Other parents choose to home educate because they have a concern for the safety of their child or children with special needs, and that concern can stem from bullying, physical needs, etc. Increased inappropriate or negative behaviors in children with special needs is another reason many parents with special needs choose to home educate. Finally, many private schools are unable to accommodate children with special needs, and some parents believe that private schools offer more challenging academic coursework, so they choose to educate their children at home rather than sending them to a public school (Hanna, 2012; Stoudt, 2012).

On the other side, there are parents who have children with special needs that they send to public schools rather than educating them at home, even though they would like to provide a home education for them. The primary reason for doing this is because they do not understand that IDEA mandates schools provide special services to all children. Other parents do not feel that they are qualified to educate their children with special needs, they feel that the expense of the curriculum they would need to purchase is not within their budget, they view the time commitment for providing a home education as more demanding than they believe they are able to make, or the parents feel that it is more important that their children with special needs have the opportunities to socialize with other children with special needs, and the public school setting provides those opportunities (Ensign, 2000; Hanna, 2012; Stoudt, 2012).

**Social and Cognitive Factors of Autism**

Autism is a life-long condition characterized by impairments in social and cognitive skills in addition to repetitive behaviors and narrow interests (Brunsdon & Happé, 2013; Granader et al., 2014; White, Scarpa, Conner, Maddox, & Bonete, 2015). Lopez (2015) notes that the two
defining characteristics of ASD are “social and communication impairments” (p. 31). Such impairments are concerns as they have been considered to inhibit development of adult daily living skills in individuals with ASD (Duncan & Bishop, 2015; Myers, Davis, Stobbe, & Bjornson, 2015; Smith & Anderson, 2014), resulting in a “poorer quality of life” (White et al., 2015, p.3), which will potentially affect academic performance in college (Valla & Belmonte, 2013).

Social impairments related to ASD can cause challenges. Such impairments place them at an increased risk for difficulties “with social relationships, independent living, education and career development” (Myers et al., 2015). Those impairments appear to increase in adulthood over what was observed in adolescents, and it is theorized that this is because many adults with ASD do not have support systems in place like they did while in school (Myers et al., 2015; White et al., 2015). Such support systems that may no longer be available include speech and language therapies, faculty mentors, personal assistants, etc. Furthermore, difficulties in social situations may result in academic difficulties in higher education due to isolation caused by difficulties with communicating. Research conducted by Gelbar et al. (2014) indicates college students with ASD report they frequently experience loneliness, anxiety, depression, being bullied, difficulty with time management, dislike of and discomfort in crowds or large groups, marginalization, and several other negative experiences in the college setting. Those negative experiences often resulted in academic failure and/or the students withdrawing from college (Duncan & Bishop, 2015; Gelbar et al., 2014; White et al., 2011). However, other research indicates students with high-functioning ASD may be able to better focus on daily tasks and school requirements despite difficulties in social situations (Valla & Belmonte, 2013).

Individuals with ASD who enroll in science, technology, engineering, and mathematics (STEM)
fields are even more likely to persist and succeed despite difficulties related to having ASD (Wei et al., 2014).

Loneliness and anxiety are two of the concerns most commonly reported by college students with ASD (Gelbar et al., 2014; White et al., 2014). “Anxiety is an emotional response with both affective and physiological components” (White et al., 2014, p. 22). Much of that anxiety can be attributed to difficulty with managing emotions and expressing feelings. Other factors include cognitive functioning, severity of ASD, adaptive functioning abilities, and the specific social deficits of each individual with ASD (Dubin et al., 2015; White et al., 2015; White et al., 2014). Likewise, research conducted by McMahon and Henderson (2015) indicates that individuals with ASD are more likely to make errors in processing social information, and that leads to increased anxiety and stress. This can be further exacerbated because of difficulty with recognizing emotions and providing effective and appropriate responses in social situations (Grove, Baillie, Allison, Baron-Cohen, & Hoekstra, 2014). Thus, it appears that loneliness and anxiety can adversely impact individuals with ASD not only in the social realm, but also in cognitive areas.

**Transition Planning/Services**

Commencing in 1975 with federal regulation mandating transition services for students with disabilities, transition planning “has seen a steady strengthening of the intent that youth with disabilities meaningfully participate in their own post-high school transition and that their goals and interests guide the planning process” (Wei et al., 2015, p. 1). The federal regulations pertaining to transition planning are now outlined in IDEA, and transition planning services for students with disabilities, coordinated through the parents and schools, are just one of the provisions of IDEA. These regulations stipulate that transition services be provided to all
students who have individualized education plans (IEPs) not later than their 16th birthday.

Transition planning is a process for helping “prepare the student for transition from school to adult life . . . in a formal document that is individualized to the needs and aspirations of the student for adult living” (Gibb & Dyches, 2007, p. 91). Given the fact that ASD is a lifelong condition that affects social and cognitive abilities, it is vital that individuals with ASD receive transition services. Those transition services need to focus on ways to help individuals with ASD adjust to the social pressures they will face in adulthood. When individuals with ASD plan to go to college, it is especially important that these individuals be prepared to advocate for themselves in the college setting; this is important because they will no longer fall under IDEA (Gibb & Dyches, 2007; Hallahan et al., 2012; Young-Pelton & Doty, 2013).

There are several items that need to be focused on within the transition plans for individuals with ASD who plan to attend college. Some of the items important in transition plans include: measurable post-secondary goals related to independent living (cooking, cleaning, laundry, driving, routine vehicle maintenance, etc.); keyboarding skills; providing a list of counseling services and other resources to assist during difficult periods; locating specialized service providers such as note-takers, as needed; training on using the library and other campus facilities; campus orientation and faculty meetings; and detailing any specific equipment the individual may need (Dente & Coles, 2012; Gibb & Dyches, 2007; Hallahan et al., 2012; Hu, 2013; Krell & Perusse, 2012; Lee & Carter, 2012; Peña & Kocux, 2013; Szidon, Ruppar, & Smith, 2015; Young-Pelton & Doty, 2013; Zager & Alpern, 2010).

Post-Secondary Education for Individuals with Autism

In recent years, there has been an increase in awareness of ASD, including an increased awareness on college campuses (Barnhill, 2016; Gelbar et al., 2015; Shattuck et al., 2014).
Specifically, more students with ASD are enrolling in institutions of higher learning and options available to these individuals are increasing (Hendrickson, Carson, Woods-Groves, Mendenhall, & Scheidecker, 2013). To better understand this phenomenon, the following paragraphs will describe the literature related to the increased college enrollment of individuals with ASD, the experiences of those students, the perceptions of faculty and other students related to interacting with students with ASD, and specific accommodations and support systems offered for students with ASD by colleges.

**Increasing number of college students with autism.** The number of individuals being diagnosed with ASD is increasing, and the number of individuals with ASD enrolling in college is increasing at the same time. It is estimated that the approximately 35% of individuals with ASD continue on to college within six years of graduating from college; this amounts to approximately 17,500 new college students with ASD in the United States (Shattuck et al., 2014). Those increases point to a need for services specifically aimed at individuals with ASD to be provided and available on college campuses. Unfortunately, even though awareness of ASD is increasing on college campuses, there appears to be a significant shortfall in services. One major reason for this shortfall is due to the fact that little research has been conducted on the experiences and needs of college students with ASD, including transitioning to college and the experiences college educators who have students with ASD in their classrooms (Gelbar et al., 2014; Pinder-Amaker, 2014; Walters, 2015; White et al., 2011). This is true even though, per Walters (2015), there is “a near-dizzying amount of media coverage of Autism Spectrum Disorders” (p. 340).

Even though there is a lack of research in this area, there appears to be a trend among many college faculty members to focus more on the condition of ASD and acceptance of certain
stereotypes associated with the condition while ignoring the unique needs and learning styles of these students. Although many college professors are learning more about the condition, the voices of students with ASD are being ignored or overlooked in favor of acceptance of stereotypes typically found in research. This problem is compounded by a lack of training on ASD and integrating students with ASD in the classroom (Walters, 2015). On the other hand, there has been a recent trend for establishing post-secondary institutions designed specifically for individuals with ASD and other disabilities (Hendrickson et al., 2013). Some of those institutions will be discussed further under a separate subheading.

**Experiences of college students with autism.** Few studies have been conducted to look closely at the experiences individuals with ASD have in the college setting. The literature that does exist shows that individuals with ASD struggle with communication and social relationships throughout life, including while in college. On the positive side, the majority of these students perform well academically in college. The major obstacle or difficulty facing college students with ASD relates to communicating with peers and faculty. This difficulty result from the nature of ASD plus the fact that individuals with ASD present themselves physically as typical students; they do not have overt physical characteristics that identify them as having a disability (Barnhill, 2016; Brazier, 2013).

Because of the communication difficulties of college students with ASD, they often struggle to make friends and to maintain close friendships. This has a negative emotional effect on these individuals, and that results in an overall dissatisfaction with college. Per Gelbar et al. (2015), 56% of college students with ASD felt lonely on campus, and only 43% felt they got along with their college roommates. Furthermore, 61% of these students felt isolated on campus. Many of these students perceived that they were being teased or harassed by their peers. The
primary emotions felt by college students with ASD were loneliness, anxiety, depression, and isolation. When individuals with ASD experience these kinds of emotions, some of the characteristics of ASD appear to intensify (ritualistic behaviors, fears, etc.) and that can further increase those negative emotions or feelings (Brazier, 2013; Gelbar et al., 2015; Gelbar et al., 2014; Gulec-Aslan, Ozbey, & Yassibas, 2013; White et al., 2011). Despite these negative experiences and emotions, college students with ASD attain and maintain, on average, higher grade point averages than their peers without ASD (Gelbar et al. 2015; Wei, Yu, Shattuck, McCracken, & Blackorby, 2013).

**Peer perceptions of college students.** Peer perceptions and acceptance are vital for personal, social, and academic development, and, because ASD is characterized by difficulty in social situations, there is an increased likelihood that individuals with ASD will have difficulty adapting to the college environment (Payne & Wood, 2016). Despite this possibility, Matthews et al. (2015) state that little research has been conducted regarding peer perceptions of college students with ASD, therefore little is known about their attitudes. In the general population, even though there is an increasing awareness about ASD, many college students appear to discriminate against their peers with ASD because of challenges related to social interaction, communication, and behavior (Nevill & White, 2011). A possible reason for judgmental and discriminatory attitudes stems from a lack of awareness and knowledge of ASD. To counter those negative and inaccurate perceptions, it is important that programs be developed and implemented for educating college students about the nature and condition of ASD (Grandin, 2011; Matthews et al., 2015; Payne & Wood, 2016). Through these types of programs, college students with ASD may be better accepted by their peers, and that may result in a more favorable atmosphere and positive learning environment (Nevill & White, 2011; Payne & Wood, 2016).
Faculty perceptions of college students. In addition to college students having difficulty interacting with and understanding their peers who have ASD, many college instructors do not understand college students with ASD. Although college faculty tend to be more accepting of students with ASD over students with other disabilities, many do not make accommodations for assisting these students in the classroom. Failure to implement appropriate accommodations results in frustration for the students, and this may lead to poorer academic performance and behavior issues. Accommodations suggested by Gobbo and Shmulsky (2014) include: providing clear, specific, and concrete assignment instructions; reducing the noise level; keeping a more regular schedule; allowing students with ASD to take examinations in an area with fewer or no distractions; and encouraging one-on-one discussions with the students with ASD.

Another issue related to faculty perceptions is related to misinformation or inadequate training among college faculty members. The results of faculty not having adequate training or proper knowledge related to ASD include resistance to implement accommodations for students with ASD, preconceived ideas or notions related to ASD, and difficulty communicating effectively with students with ASD (Gelbar et al., 2014; Gobbo & Shmulsky, 2014; Wei et al., 2014). On the other hand, because of the recent increases in the student population of individuals with ASD, many colleges are beginning to offer training and support for faculty. Some of these programs encompass education on interventions proven effective for assisting individuals with ASD, including positive behavioral support and other similar support systems (Hansen, 2011; Walters, 2015).

Accommodations for students with autism. Given the nature of ASD, research shows that a need exists for specific critical accommodations on college campuses. Recommended
accommodations or academic supports include: separate examinations; extra time allowed to complete examinations; extended deadlines; providing lecture notes or an aide to take notes; coursework accommodations; tutorial services; coursework/curriculum modifications; alternative assignments; and providing or allowing technological devices such as tablets and tape recorders (Gelbar et al., 2014; Hansen, 2011; Pugliese & White, 2014). Additionally, supports outside the classroom should include: counseling services; tutorial; programs to encourage self-efficacy; independent living training and education; financial management training; support groups; and basic life skills training (Hendrickson et al., 2013; Pinder-Amaker, 2014; Pugliese & White, 2014; Shattuck et al., 2014). This is becoming even more important given the anticipated increases in students with ASD enrolling in colleges and universities, and because support systems are not automatically available to these individuals. Those with ASD who attended public schools (and many private and home schools) received support services automatically based on IEPs and transition plans (Smith & Anderson, 2014).

Support Systems and Services in Colleges

Although the prevalence of ASD has increased significantly over the past few decades (CDC, 2015a; CDC 2015b), and the numbers of students with ASD enrolling in higher education programs is increasing, support systems at the post-secondary level have not kept pace with the demand (Nicholas et al., 2015; Van Hees et al., 2015). This is true despite the indicated benefit of such supports, interventions, and programs (Kopetz & Endowed, 2014). Based on research conducted by Wiorkowski (2015), some of the challenges faced by individuals with ASD in post-secondary education include transition, scholastic attainment, and social interaction issues; especially because academic discipline required for success in higher education is more rigorous that what was likely previously experienced by individuals with ASD. On the other hand,
several institutions of higher learning implemented different support systems and programs for their students with disabilities, and the following paragraphs will highlight a few of the support systems demonstrated as being most effective.

To determine optimal support systems for students with ASD, Van Hees et al. (2015) conducted a qualitative study investigating the needs and challenges faced by college students with ASD. Based on the findings of their study, the five most important forms of support for college students with ASD include: personalized approaches; a safe and transparent environment with clear communication and ample planning; academic accommodations; coaching in education, daily living, and student life; and psychological support (Van Hees et al., 2015). Personalized approaches include giving the students with ASD a greater voice in determining what accommodations and support systems are needed (Krell & Perusse, 2012; Pinder-Amaker, 2014; Van Hees et al., 2015; Zager & Alpern, 2010). A safe and transparent environment with clear communication and planning is important for helping alleviate stress and anxiety caused by unforeseen circumstances and unpredictable events or occurrences. This support system will help students plan, and they will be provided mentors or student advocates to whom they can turn when they have questions, concerns, or feel overwhelmed or confused (Van Hees et al., 2015).

Academic accommodations can include, but are not limited to: extra time to complete assignments, examinations, or quizzes; separate location for taking tests so as to reduce or remove distractions or other form of stimuli; alternative assignments in place of group work; additional information or preparation; professor lecture notes; extended deadlines; tutors; note takers; coursework and curriculum modifications; priority registration, and reduced course loads (Barnhill, 2016; Gelbar et al., 2014; Hu, 2013; Van Hees et al., 2015). To better assist college
students with ASD in assimilating, coaching in education, daily life skills, and student life is vital. One important support option is assigning a personal coach or mentor who will help the student make choices (such as choosing a major field of study, deciding where to live, etc.), thus “enhancing study approaches, daily and vocation organization and skills, clarifying ambiguities and providing feedback on difficulties and advice” (Van Hees et al., 2015, p. 1683). This personal coach can be a peer mentor, an employee of the college or university, or a member of the community (Barnhill, 2016; Gelbar et al., 2014).

Because ASD is a life-long condition that affects social and cognitive abilities, psychosocial support is important. Psychosocial support can include the support of parents and other family members, close friends, members of the clergy or ministry, or professional therapists (Gelbar et al., 2014; Van Hees et al., 2015). In addition to the supports mentioned above, college students with ASD need to be provided with ample time and opportunity to engage in leisure activities; this helps with stress management and reducing anxiety. Finally, these individuals need to be encouraged to obtain adequate rest (Van Hees et al., 2015).

Programs and Institutions Specifically Targeting Students with ASD

With increases in ASD, along with more students with ASD enrolling in post-secondary education, many different organizations and institutions of higher learning are reaching out to students with ASD to provide information and resources related to higher education. Unfortunately, however, because most of these programs are relatively new, few have been researched or studied. “Lack of program descriptions and outcome data make it difficult for students and families to identify the [post-secondary] option that best matches the student’s interests, educational goals, and support needs” (Hendrickson et al., 2013, p. 170). In addition, there is a vast array of programs, supports, and services offered/provided, so it seems logical that
a satisfactory college or university can be identified to meet the specific needs and desires of students with ASD (Think College, n.d.). On the other hand, research has been conducted on some programs, and one of those programs developed for college students with ASD is known as UI REACH (for the University of Iowa Realizing Educational and Career Hopes) Program (Hendrickson et al., 2013; Univ. of Iowa, n.d.).

UI REACH is a two-year college program designed to assist adults with ASD transition to college. The program serves students who are between ages 18 and 25 who attend the University of Iowa. Two primary and distinct goals of the program focus on student components and program components. The student components include goals related to (a) independent living, leisure and activity, (b) career and vocation development, (c) academics, literacy, and life-long learning, (d) interpersonal and social relationships and communication, and (e) self-determination, self-advocacy, and leadership. Program components or goals include (a) effectiveness and excellence, (b) longevity and sustainability, (c) evidence-based practices, (d) quality staff members from diverse backgrounds, and (e) continuous improvement. “The overarching goal at UI REACH is to foster an authentic, inclusive living-learning college experience” (Hendrickson et al., 2013, p. 174).

To assist students in the program to reach student-centered goals, several program activities are offered for helping students attain the components identified above. Staff members regularly communicate and collaborate as team members to ensure the program is enhanced and enriched. This is accomplished through weekly and other meetings. A core curriculum is maintained for the UI REACH Program, and the intent is to offer academic enrichment for all core courses while focusing on individuals and selected sub-groups of students. Person-centered advising takes place on a weekly basis to keep abreast of what is going on with the students. The
advising sessions explore many facets of college life including classes, dormitory living, and social activities (Hendrickson et al., 2013).

Based on the findings of their research, Hendrickson et al. (2013) reported that students enrolled in the UI REACH Program were, overall, highly satisfied with the program and the services and supports provided. “Data indicate that the students with ASD ‘agree’ to ‘strongly agree’ with items indicating a positive adjustment to college in the areas of student life, interpersonal relationships, self-advocacy, independent living, and emotional adjustment” (Hendrickson et al., 2013, p. 188). Therefore, it can be concluded that this sort of program is beneficial for helping students with ASD transition to college (Hendrickson et al., 2013).

Even though scholarly literature is not presently available on most programs available for college students with ASD, it is important to provide a sampling of some of the programs available here in the US. The website College Autism Spectrum provides detailed information on several college programs for students with ASD. Those programs are separated into two-year, four-year, secondary support, and summer programs. A sampling of available two- and four-year institutions/programs include: (a) University of Alabama Autism Spectrum Disorders College Transition and Support Program (UA-ACTS), (b) University of Connecticut ASEAD Program (Strategic Education for students with ASD), (c) Students with Autism Transitional Education Program (STEP) at Eastern Illinois University, (d) Eastern Michigan University, (e) University of Minnesota, Morris, (f) Farleigh Dickinson University: COMPASS Program, New Jersey, (g) Bridges to Adelphi Program (Adelphi University, New York), (h) Mercyhurst University, Pennsylvania, (i) George Mason University, Virginia, (j) Virginia Tech – STEPS Program, (k) Bellevue College – Autism Spectrum Navigators Program (Washington state), and
The Best Colleges Online website lists ten colleges with programs for students with ASD. Those colleges include: (a) Drexel University Autism Support Program, Philadelphia, PA, (b) Rutgers Developmental Disabilities Center, NJ, (c) Mercyhurst College AIM Program, PA, (d) Midwestern State University, Wichita Falls, TX, (e) St. Joseph’s University Kinney Center for Autism Education and Support, Philadelphia, PA, (f) Boston University Supported Education Services, MA, (g) University of Alabama College Transition and Support Program, AL, (h) Autism Collaborative Center at Eastern Michigan University, MI, (i) University of Connecticut SEAD Program, CT), and (j) Marshall University Autism Training Center, WV (Best Colleges Online, 2011).

Based on the information above, it is apparent that the availability of programs designed to reach individuals with ASD and help them succeed in college is increasing. However, research is needed to determine the programs and aspects of those programs offering the greatest opportunities for positive academic outcomes for students with ASD (Hendrickson et al., 2013).

**Factors that Impact Motivation and Success**

The three innate psychological needs are autonomy, competence, and relatedness (Deci & Ryan, 2000; Ryan & Deci, 2000). Along with those needs, there are several other aspects of success, including motivation (intrinsic and extrinsic), coping, ego, self-esteem, self-concordance, self-regulation, well-being, and others (Deci & Ryan, 2002) that relate to and impact success, especially in relation to individuals with disabilities. Two of those factors are self-advocacy and relationship issues.
**Self-advocacy.** Self-advocacy is an important predictor of success (Doren & Kang, 2015). Related to the disability theory, self-advocacy is “a term used for the individual or collective voice of disabled people” (Walmsley, 2014, p. 34). Ryan and Griffiths (2015) further defined self-advocacy as being able to act or speak for oneself and deciding what is best and taking responsibility for one’s decisions. The term self-advocacy developed as a result of an attempt to normalize individuals with disabilities and give them rights and benefits they had previously been denied or were limited (Walmsley, 2014). Since its conception, self-advocacy has come to apply to both individuals with disabilities and individuals without disabilities. Self-advocacy involves helping people develop the skills and confidence needed for speaking up for themselves and getting others to listen. It also involves advocating for terms that do not represent individuals with disabilities in a negative light. For example, instead of using the label mentally retarded or handicapped, the term learning disabled or challenged is used and preferred (Walmsley, 2014), and the term individual with autism is preferred over calling someone autistic (Rosqvist, Brownlow, & O’Dell, 2015; Waltz, van den Bosch, Ebben, van Hal, & Schippers, 2015).

Ryan and Griffiths (2015) described different types of self-advocacy: individual, group, and coalition, and they stated that self-determination is a vital element of self-advocacy. Communication, or the ability to express oneself effectively, is one skill necessary for self-advocacy. Ryan and Griffin (2015) described six different components of successful communication: actions, collaboration, context or semiotics, self-regulation strategies, shared knowledge, and vocal communication. They added that, even if an individual with disabilities (such as is often seen in persons with ASD) lack verbal communication skills these six components of successful communication will contribute to achievement of successful
communication. Thus, development of communication skills and self-advocacy skills is important (Roberts, Ju, & Zhang, 2016).

Self-advocacy for individuals with disabilities is vital for development in all stages of life (Chapman & Tilley, 2013; Waltz et al., 2015). Development of self-advocacy skills is especially important for individuals with ASD, and it is vital during transitions between different stages (Carter et al., 2013; Rosqvist, Brownlow, & O’Dell, 2015). Because developing self-advocacy skills is vital, it is also important to understand the best ways to assist individuals with disabilities learn to practice self-advocacy. One of the fundamental ways for promoting self-advocacy is first working to identify goals and then breaking the goals down into small, easy-to-attain steps (Kozacek & Specht, 2014-15). Kramer (2015) described several evidence-based techniques for assisting individuals with disabilities learn to be self-advocates, and those techniques include cognitive-behavioral techniques, universal design for learning, peer and social learning, and experiential learning.

Research conducted by Khalifa (2013) indicated that school leaders are influential in promoting development of self-advocacy, and the skills are further developed when combined with solid school-community relationships and principals promote the unique identities of the students. While leadership is important, Grenwelge and Zhang (2013) demonstrated that leadership training also contributes to development of self-advocacy, and elements of leadership training include mentoring by the facilitators of the training and instruction on and practice in collaboration. Roberts et al. (2016) reported on several interventions and their components identified as promoting self-advocacy. Transition planning, self-directed IEPs, student peer tutoring, customized lessons, self-development programs, and self-advocacy workshops were a few of the interventions that proved effective (Roberts et al., 2016). Finally, Barnard-Brak and
Fearon (2012) demonstrated the importance of participation in their own IEP process for contributing to development of self-advocacy skills among individuals with ASD.

**Relationship issues.** In addition to self-advocacy, relationships play an important role in motivation and success. As stated previously, defining characteristics of ASD include difficulties with communication and in social situations/interactions (Lopez, 2015; Myers et al., 2015; White et al., 2015). In addition to these difficulties, individuals with ASD often display challenging behaviors such as aggression towards other individuals, disruptive behaviors, self-injury, etc. (Carr, 2016). Because of these difficulties and behaviors, individuals with ASD often struggle with interpersonal relationships. However, social relationships are important for positive adjustment, especially during the adolescent and young adult years (Pham & Murray, 2016). Thus, it is important to determine how to encourage the development of relationships by individuals with ASD.

Retherford and Schreiber (2015) postulated that individuals with ASD not only have difficulties with social interactions, they also generally have limited or restricted personal interests; they tend to focus on a few interests, and those interests are in restricted areas or limited in scope, but the depth of interest is great. This narrow range of interests further contributes to limited social interactions. To help counter the social difficulties, many schools and service organizations are providing services and support groups for assisting individuals with ASD in social situations and developing personal relationships, and many of those programs are described above. In addition to these services and interventions, college roommates play a vital role in that, if interpersonal relationships are developed between college students with ASD and their roommates, and the relationships are positive, individuals with ASD are more likely to successfully complete their college studies (Glennon, 2016).
Summary

Chapter Two includes a description of the theoretical framework followed by an outline of the literature related to the disability theory. What is known is that the prevalence of ASD is rising, and homeschooling is becoming more popular, even among families with children with disabilities. The increases in ASD and homeschooling will also result in more homeschooled individuals with ASD continuing on to college. Based on this information, along with the review of literature related to ASD, home education, and other aspects of the proposed research, it is apparent that there is a need for research in each of these areas (Gelbar et al., 2015; Hanna, 2012; Hendrickson et al., 2013; Ray, 2015a; Vigilant et al., 2013). Specifically, there is a gap in the literature related to the college experiences of individuals with ASD who had been homeschooled (Douglas, 2014; Hallahan et al., 2012; Ray, 2015a). Because of the gap, what is unknown is how homeschooled students with ASD will perform in the on-campus college setting. Specifically, there is no research to indicate if college students with ASD who were homeschooled are successful in college. Students from traditional school settings have transition programs and other supports available to them for helping them ease into college life, but it is unknown to what extent those transition programs and supports are made available to and used by families in the homeschooling community. Conducting research in this area may help identify the programs, services, and supports available, and that information could be disseminated to parents of children with ASD, individuals with ASD, educators, institutions, and other stakeholders. Determining which programs, services, and support systems are best is the first step to implementing this sort of program, and implementation has the potential to help students with ASD succeed in college.
CHAPTER THREE: METHODS

Overview

The purpose of this chapter is to provide details related to the procedures, research design, and analysis procedures for the proposed study. Specific details included in this chapter are as follows: a description of the research design, research questions, research setting, participants, procedures for the study, my role as the researcher in relation to the study, data collection methods and procedures, data analysis procedures, trustworthiness information, and ethical consideration directly related to the study. When they attend college, students with ASD who were homeschooled will be placed in an environment markedly different from what they experienced as homeschooled students under the authority of their parents, therefore, it is important to determine if that change in environment affects academic performance.

Design

Qualitative research is designed to explore social or human problems (Creswell, 2013); in this single case study, the potential for success in college among students with ASD who were homeschooled was the social and human problem being explored. Specifically, the problem I explored was the high attrition rates among college students with ASD, and in this study I investigated to determine if homeschooled students with ASD have similarly high attrition rates. Success was defined as passing classes taken and making progress towards earning a college degree (Fichten et al., 2014; Sommers, 2015). This research built a complex, holistic picture by collecting data from participants with ASD and people with whom they interact and associate. Additionally, I conducted the research in a natural setting, and I generated detailed reports of the views of the participants (Creswell, 2013). Case study designs are appropriate when the researcher does not have any control over the behaviors and events under study, and the issues or
topics are contemporary phenomena (Yin, 2014). Thus, I used the single case study research
design even though more than one case was the focus of the study, and that is because the
participants for the study fell within a narrow range, focus, or boundary. Thus, although it
appears there are multiple cases, there is one issue, but there are several embedded units which
were analyzed individually or separately (within each case) and together (across units), and such
rich analysis illuminated specifics related to the outcomes of the study (Baxter & Jack, 2008;
Stake, 1995; Yin, 2014).

During this qualitative research study, I employed a single case study design. Although
the multiple case study design is appropriate for a study designed around two or more similar
cases and allows for more analytic generalizations of the findings, a single case study is
appropriate and may be used as well (Yazan, 2015; Yin, 2014). The single case study design
was appropriate for this study because this design is used when the study is being conducted to
gain insight into a particular phenomenon – the experiences of homeschooled students with ASD
that lead to success in the on-campus college environment (Creswell, 2013; Yazan, 2015; Yin,
2014). Additionally, case study research is appropriate when contemporary issues or events are
being studied, and the “relevant behaviors cannot be manipulated” (Yin, 2014, p. 12).
Furthermore, case study research allows for an in-depth “exploration of a phenomenon within its
context using a variety of data sources . . . [and] allows for multiple facets of the phenomenon to
be revealed and understood” (Baxter & Jack, 2008, p. 544), and such exploration makes case
study research empirically rich and may allow for testing and furthering the disability theory
(Baxter & Jack, 2008; Creswell, 2013; Yin, 2014). This methodology allowed me to get a close
and first-hand look at the real-life college experiences of the participants selected for the study.
The case I used was bounded by certain parameters (Boblin, Ireland, Kirkpatrick, & Robertson,
the boundaries or parameters for this single case study were on-campus college students with ASD who were homeschooled for their high school years, at a minimum.

Because I explored the daily experiences of on-campus college students with ASD who were homeschooled through high school, the single case study approach was appropriate. I used this study to better understand and gain insight into the experiences of the participants, and it was a valid design for this study because this study was designed to determine the perceptions related to preparedness for postsecondary education of college students with ASD who were homeschooled. I used a small sample of individuals who met participant criteria (home educated individuals with ASD participating in an on-campus college program) for the study, and I surveyed and interviewed the participants to identify and explore their perceptions and feelings about their college educational experiences. The aim of this methodology was to get an in-depth look at the lives of the participants in their normal environment (Creswell, 2013; Patton, 2002; Yin, 2014). In addition, the case study allowed me to gained insight into the phenomenon of being a college student with ASD who was previously homeschooled, and the information I obtained may provide valuable information to stakeholders (students, faculty, college staff, home educators, etc.) for facilitating the transition to college (Stake, 1995). Finally, the case study design is appropriate when there is an either unique or extreme phenomenon. Because the target population for the proposed study had not been researched previously, this research is unique (Yin, 2014).

Boundaries must be defined in case study research (Yazan, 2015; Yin, 2014). The boundaries of this study included on-campus college students with ASD who were homeschooled for their high school years. Furthermore, the boundaries are determined by the source or sources used for identifying participants, and in this study, I identified the participants
with the assistance of HSLDA and specific closed groups/pages related to homeschooling individual with disabilities on the social media site Facebook. The exact locations and colleges are not pertinent to the boundaries of this case study.

**Research Questions**

**Central Question**

What are the experiences of individuals with ASD who were homeschooled that lead to success in the on-campus college environment?

**Sub-Questions**

**Sub-question one.** How do homeschooled individuals with ASD describe their experiences as students in an on-campus college environment?

**Sub-question two.** How do homeschooled individuals with ASD perceive themselves as prepared to face the challenges of independent living and academia?

**Sub-question three.** How do homeschooled individuals with ASD describe their encounters/interactions (personal and professional) with classmates, faculty, and other individuals they meet on campus?

**Setting**

The site for this study was based on availability of participants willing to take part in the study. Participants for this study resided or took classes in the following seven states: Arkansas, Indiana, North Carolina, Ohio, Oklahoma, Tennessee, and South Carolina. The primary setting was the college campuses where the participants are enrolled in classes on campus. Participants within a 100-mile radius of my residence were contacted initially, and I visited the participant in North Carolina in person based on her availability and my schedule. For the remaining participants, I contacted them via email, and I interviewed those participants via Skype and/or
over the telephone. I collected the data over the course of three months so I could garner as much of the personal experiences of each participant as possible. My goal was to gather as much of the data as possible in the natural settings of the participants so I could determine themes and identify trends based on common experiences (Creswell, 2013; Yin, 2014). Once I identified the specific settings, I obtained additional information (such as participants as identified by pseudonyms, demographics, setting descriptions, etc.) regarding the sample. As I identified the participants for this study via the HSLDA and social media sources, there was no definitive location for this study, but there were boundaries. The boundaries or parameters for this single case study were on-campus college students with ASD who were homeschooled for their high school years at a minimum.

**Participants**

I selected participants using a purposeful sampling procedure to “purposefully inform an understanding” (Creswell, 2013, p. 156). Purposeful sampling helps to ensure the selected participants or cases are information-rich (Patton, 2002). Yin (2014) described cases as the main subjects of a study and participants as all individuals who participate in a study. For this research, the individuals with ASD composed the case as they were the primary focus of the study. These individuals are also considered participants along with the parents and one roommate; however, the parents and roommate are not considered to be cases. I identified some of the potential participants through coordination with the Home School Legal Defense Association (HSLDA), Special Needs Coordinator and Legal Advisor. HSLDA is a nonprofit homeschooling advocacy organization established to defend and advance home education. With more than 84,000 member families, this organization offers the greatest potential for identification of participants for the study (HSLDA, n.d.). The HSLDA Special Needs
Coordinator and Legal Advisor solicited participants by distributing a letter to 692 families who homeschooled their children with ASD, and that letter explained the study and qualifications for serving as participants in the study. Appendix A includes the letter distributed (via email).

Furthermore, I sent letters and participant recruitment flyers requesting participants to multiple closed groups on the Facebook social media network: Special Needs Homeschooling; Christian Special Needs Homeschoolers, and Homeschooling Special Needs Children, et al. (see Appendices B and C). There are well over 10,000 members in these closed Facebook groups, and I identified participants through contact with administrators of the groups. My using different sources for identifying potential participants further reduced bias in the study, but the participants identified all fit within the boundaries described previously. Potential participants then contacted me directly, and I used the information that I obtained to select qualified participants for the study based on the information I obtained from those who responded. I recruited specific students with ASD using Appendix D and the roommate using Appendix E. Using these participant recruitment methods, I had a total of 22 individuals contact me regarding participating in this study. Of those who responded, one was disqualified due to age (under age 18), three parents were homeschooling students who are still in high school and did not qualify to participate, one student had already graduated from college, two individuals did not respond after the initial contact, and two students did not want to participate but their parents participated.

Creswell (2013) stated, “Do not include more than 4 or 5 case studies in a single study. This number should provide ample opportunity to identify themes as well as conduct cross-case theme analysis” (p. 157). However, to garner a better understanding of the experiences of homeschooled individuals with ASD in the on-campus college environment, the target I had for this study number was 10-15 participants. As the prevalence of ASD in males is 1 in 42, and the
prevalence of ASD in females is 1 in 189 (CDC, 2014), I anticipated that there would be more male participants with ASD for this study as discussed in Chapter Two; I ended up with four male students and one female student with ASD who served as participants (plus parents and one male roommate), and that sample is consistent with what I should have expected.

**Procedures**

Yin (2014) stressed the importance of outlining specific and detailed procedures prior to commencing research; those procedures need to be followed, but it is important for researchers to be flexible and anticipate changes. Based on those recommendations, I used the following procedures for this study. After I completed and defended my research proposal, the proposal was submitted to the Institutional Review Board (IRB) at Liberty University. After I received approval for conducting the study from the IRB (see Appendix F), I contacted the HSLDA Special Needs Coordinator to identify potential participants. A letter describing the study and its purpose (see Appendix A) was disseminated by the Special Needs Coordinator and Legal Advisor via email to solicit participants. Specifically, the letter asked for participants who had medical diagnoses of ASD, were currently attending college classes on campus, and were homeschooled at least for the high school grades. Appendices D and E were distributed to college students with ASD and the roommate after they were identified.

The reason for using participants who were homeschooled for their high school years at a minimum was because the transition experiences into college are vastly different for individuals who were homeschooled compared to individuals who attended public or private high schools (Drenovsky & Cohen, 2012; Kranzow, 2013; Ray, 2010). Likewise, the transition experiences are different for individuals with disabilities compared to neurotypical students (Dente & Coles, 2012; Hansen, 2011; Peña & Kocux, 2013; Wei et al., 2015; Wiorkowski, 2015). As I was not
able to identify the minimum number of participants via HSLDA, I contacted the offices providing disability services to on-campus students to solicit participants for the study; those participants would either have medical diagnoses of ASD, or they would be self-identified as having ASD. Additionally, I used social media resources (i.e., Facebook’s Homeschooling Students with Special Needs group) to identify participants (see Appendix B).

To reduce expenses and logistics issues, I planned to use only participants who live within a 200-mile radius of my residence. This limitation was put in place to facilitate collection of data. However, as I was unable to identify enough participants within that distance, all individuals who contacted me to serve as participants (who also met the qualification criteria) were included without regard to proximity. Participants came primarily from the eastern half of the United States (see list above), but I slightly modified my procedures to facilitate the research and data collection. Modifications and accommodations to data collection included using Skype, telephone, and other electronic forms of communication.

After I identified participants with ASD, I disseminated a standard consent form (see Appendix G) to those individuals to give them an opportunity to participate in this study. I also asked family members and the roommate to participate using a different standard consent form that specifically identified the individual with ASD (see Appendix H). Demographic information was obtained using questionnaires (see Appendices I-K). Included in the demographic questionnaires for students with ASD and their parents (see Appendices I and J) were questions related gender, ethnicity, etc. The questionnaire for parents (see Appendix J) included a question regarding income. These questions were included because such questions are important for ensuring heterogeneity of participants, but, since all qualified
volunteers were used as participants for my study, this information did not have an impact on the study.

Questions I asked during interviews of students with ASD are included in Appendix L, questions asked during interviews with parents are included in Appendix M, and questions for the roommate are included in Appendix N. I asked parents to participate so that they could provide background information regarding their child or children; I sought roommates as participants to provide a different perspective regarding the day-to-day interactions and experiences of the participants with ASD. Further, including the roommate in the study allowed me to incorporate a viewpoint from an individual who had not previously been closely associated with individuals with ASD, and information obtained through roommate supported paradigms that I may not have found if I limited participants to those who are closely related. However, it is important to note that having just one roommate in the study does not necessarily mean the paradigm is confirmed.

Once I had the properly completed and returned consent forms, I distributed demographic questionnaires to all the participants. I also sent letters to the identified participants requesting documents I needed for the study. I collected those documents via electronic means. After I collected the desired documents, I scheduled semi-formal interviews. I conduct three interviews in person, but I used other means (e.g., Skype or telephone) for the remainder as distance precluded in-person interviews. I audio and/or video recorded all interviews; I used a point-of-view camera for video recording the face-to-face interviews because the low profile of this recording device makes it more discrete and less intimidating. I used my smart phone to audio record the interviews (as a back-up measure). I asked the students with ASD to maintain reflection journals (either on paper or electronically), and I gave those participants specific
guidance as to what to include in those reflection journals (see Appendix O). I scheduled six follow-up interviews with various participants, and I recorded those follow-up interviews.

The Researcher’s Role

As the researcher for this study, at the time I conducted my research, I was a full-time online graduate student in the School of Education at Liberty University, a home educator, and a housewife/homemaker. I also worked part-time as a curriculum/course developer and editor for a large private on-line K-12 school, and I worked as a professional freelance academic writer, researcher, editor, and proofreader. Upon graduation from high school, I continued my education by attending a state university in California with the intention of becoming a high school math teacher. For financial reasons, just prior to my final student teaching, I enlisted in the U.S. Navy where I served 20 years on active duty. During my time in the military, I was married, bore two children (a son and a daughter), and my son was diagnosed with ASD. I retired from active duty when my son was four years old.

After experiencing difficulties with two different schools related to services for our son, I began to educate both children at home, and I continue to do so. Presently, our children are ages 16 (son) and 15 (daughter) and in 12th and 11th grades, respectively. In addition, both children are currently taking classes for dual credit, and my husband and I anticipate that our children will earn their Associate’s Degree at the same time they graduate from high school. Both children aspire to obtain further higher education; our son wants to be an aerospace engineer, and our daughter wants to be a veterinarian or nurse. While homeschooling our children, I earned a Master’s in Public Health (Nutrition) degree and an Education Specialist (Curriculum and Instruction) degree from Liberty University. My family and I are active in our local homeschool group and church.
Having a Christian worldview, I accept others and embrace differences, which includes making efforts to understand the unique traits of individuals with ASD; my worldview helped ensure integrity throughout the process of conducting the study. Additionally, I understand the fact that, being a parent of a child with ASD who also homeschools, I am subject to researcher bias. Being aware of this potential bias, I took steps to ensure my role as a researcher was not unduly affected. I made every effort to report the findings in a straightforward manner, and I reported all significant findings, including those findings that seemed contrary to my beliefs when those findings were based on sound empirical evidence.

Considering the methods used for identifying participants, it is important to note whether relationships exist between the participants and me, as the researcher, and between the sources for participants and me. My husband and I have been members of HSLDA for more than eight years. In addition, I am a member of two of the three closed groups on the Facebook social media group that I used for identifying participants, but I do not regularly interact with any of the other members of those groups. I did not see any potential issues related to using those groups/organizations for soliciting participants for this study, I did not personally know any participant or his or her family. There was one parent who responded who knew a friend of mine, but that individual did not qualify for my study due to age. Had I known a potential participant, I would have excluded him or her as a participant in this study to reduce the likelihood of research bias based on preconceived ideas caused by familiarity. Additionally, not using participants I know personally helped ensure that I maintained confidentiality and protected the identities of participants (Creswell, 2013; Yin, 2014).
Data Collection

Varied and rigorous data collection techniques are vital and critical aspects of qualitative inquiry (Creswell, 2013; Patton, 2002; Yin, 2014). This varying of data collection techniques is also known as data triangulation. More specifically, per Yin (2014), data triangulation is “the convergence of data collected from different sources, to determine the consistency of a finding” (p. 241). After I identified the participants via the methods delineated above, I asked them to complete questionnaires. I used those questionnaires to determine which individuals I would ask to serve as participants for this study. Questionnaires are sets of questions in either paper-and-pencil format or computer format and are designed to gather information related to demographic variables. The questions included in questionnaires may be either open-ended questions requiring the respondents to write answers in their own words, or they may be close-ended questions in which respondents select answers from a list of choices (Gall et al., 2015). For the proposed study, I included both types of questions in the questionnaires (see Appendices I-K). I included questions to assess demographic information, determine if the respondents satisfy the requirements to serve as participants for the study, and to get an initial sense of where the potential participants were in their academic careers. Questionnaires were appropriate because they helped to document demographic information, ensure respondents met the criteria to be participants, and provided general background information on and about participants. Information such as gender, ethnic background, and socioeconomic status was used to document the backgrounds of the participants (Gall et al., 2015; Yin, 2014).

I collected the initial data using questionnaires that I distributed via email or in person to the participants who lived near where I live (within about 100 miles). I used the questionnaires to gather background and demographic information such as age, gender, and other factors of all
potential participants. I incorporated three different questionnaires based on the specific role of each participant (college student with ASD, parent/guardian, or roommate); the questionnaires are included in Appendices I (college student with ASD), J (parent/guardian), and K (college roommate). The approximate amount of time needed for completing the questionnaires was approximately 10-15 minutes per respondent. Once I received the completed questionnaires from the potential participants, I reviewed the answers and entered the information in an Excel spreadsheet.

Six on-campus college students with ASD met the criteria to serve as participants for this study, but one declined to serve as a participant. The remaining participants (for making up to 13 participants I had for the study) included the parents of the students with ASD and one roommate of a student with ASD. I included parents to obtain information regarding the methodology used in homeschooling their children with ASD. I included the roommate (and only after obtaining written permission from the individual with ASD) as a participant to gain a different perspective regarding how they see the participants with ASD as college students.

Selected participants, their parents, and the roommate (as appropriate) completed a more extensive questionnaire so I could gather in-depth information regarding background and experiences. Those questionnaires included questions that enabled the participants to articulate their thoughts and ideas related to their experiences as college students in written format. Specifically, the questions I included on the questionnaires focused on the experiences they had while in college as well as how they feel their home education may have affected or influenced their preparedness for the on-campus college environment, and I provided the students with ASD a copy of the questions I asked prior to the interviews, and I gave those students the opportunity to write answers prior to the interviews. As verbal skills are often an area of difficulty for
individuals with ASD (Buron & Wolfberg, 2008; Gelbar et al., 2014; Shattuck et al., 2014), the benefit of this format (providing the questions in writing and in advance) is that participants with ASD are often better able to express their thoughts and viewpoints in written format.

In addition to using questionnaires for screening potential participants, I used other data collection methods. The data collection I used consisted primarily of documents and interviews of home educated college students with ASD; I used those instruments to evaluate the success of the individual college students with ASD and to obtain detailed descriptions of these students’ perceptions and experiences while attending on-campus post-secondary education programs.

Specific data collection tools or techniques I used for this research included documents/records (medical and school), interviews, and reflection journals. Each of these data collection technique is described in greater detail below. I selected the sequencing because the documents helped ensure the participants met selection criteria while demonstrating if they were succeeding in college. I conducted the interviews concurrently while the reflection journals were being completed by the participants, and the information or data I obtained through these two methods took longer to gather. The relatively longer period it took me to conduct the interviews and for the individuals with ASD to complete their reflection journals allowed me to reflect more intimately with the information I obtained, and I cross-referenced the information contained therein and sought clarifying information from the participants, when necessary.

Documents

Documents are written records, artifacts, and archival materials, and they include items such as photographs, school/class schedules, report cards, medical records and reports, to name a few (Patton, 2002). Documents, overall, have great value in case study research. This value is most evident and explicit in the data collection phase of the study (Yin, 2014). The documents
that I collected for this study included ASD diagnosis paperwork (when available), course/class schedules, grade reports and/or transcripts (both for homeschool classes and college classes). The purpose of the ASD diagnosis paperwork was to ensure that the participants satisfied the criteria for the study of being an individual with ASD, but I accepted parental confirmation (self-report) of the diagnosis if they did not have the paperwork related to diagnosis or did not wish to release those documents. I used class or course schedules to determine the types of courses taken and the rigor of those courses. High school transcripts provided insight into the courses taken by homeschooled students in preparation for college. College course schedules provided evidence of academic rigor and documentation of the typical courses taken together or independently by college students with ASD. Furthermore, I used class schedules to facilitate scheduling interviews with participants. In addition, I sought to obtain any documents pertaining to accommodations and support services provided and received by the college students with ASD. These types of documents allowed me to gather information without the need for personally observing participants. Whenever possible, all documents I collected were primary rather than secondary sources (Creswell, 2013; Yin, 2014). I recorded, in an Excel spreadsheet, the information that I obtained through documents. I listed each participant by pseudonym, and I annotated each of the different fields (diagnosis of ASD, college, major field of study, previous courses and grades, current courses, etc.).

**Interviews**

Interviews involve the collection of detailed data from both verbal and nonverbal communications with participants. During interviews, participants are asked questions, and the interviewer takes notes of what is being said while making note of specific nonverbal cues provided by the participants. I took notes during each of the interviews, and to ensure a more
accurate assessment of interviews, I also video and/or audio recorded the conversations I had with participants. Having recordings of interviews and other conversations helped me accurately transcribe the conversations (Gall et al., 2015; Patton, 2002; Yin, 2014). Yin (2014) stated that interviews are one of the most important data-gathering tools used in case study research. I used this tool to make certain that both transcriptions and the coding of responses were accurate.

After I identified the participants and the participants completed the questionnaires, I conducted semi-structured, private (one-on-one) interviews with each participant. I determined the location(s) for interviews after I identified the participants. When possible and practical, I conducted the interviews in person. I conducted interviews via Skype or telephone when I determined it was not possible to meet with the participant in person such as when the students attended college too far from where I lived and the parents lived in a different region of the United States. The interview questions are provided in Appendices L-N. The questions I asked were different based on the participant: students with ASD (see Appendix L), parents of the students with ASD (see Appendix M), or roommates of the students with ASD (see Appendix N). The interview questions were designed to answer the central research question as well as the three sub-questions. I determined it necessary to ask additional questions during the interviews to clarify statements made by participants and/or to gain a better understanding of what the participants said. Each initial interview lasted between 30 and 60 minutes. I recorded all in-person interviews using a point-of-view camera. For participants who did not live within a 100-mile radius of my residence, or if other factors preclude in-person or face-to-face interviews, I used Skype, telephone, or a similar electronic mechanism for conducting interviews, and I audio recorded those interviews and transcribed them verbatim. Additionally, I audio recorded all interviews; this duplicate recording helped me to ensure accuracy of transcripts in case either of
the recording mechanisms have problems or failures; no such problems were encountered. I took notes during the interviews to ensure accuracy of the transcripts of the interviews. I transcribed all the interviews verbatim; the transcriptions included exact words used by the participants involved in the interviews and important information, such as facial and verbal expressions and mannerisms, related to what transpired during the interviews. I conducted follow-up interviews to allow participants to review transcripts of interviews and to allow them to make any changes or corrections needed or that they desire. Finally, I asked further questions during follow-up interviews for clarification, when necessary.

Reflection Journals

I asked the focus participants, students with ASD, to maintain reflection journals for a period of approximately one month. These were maintained either in writing or electronically. I instructed the participants to describe their experiences at college, and I asked them to make entries at least once each week for the duration of the study. Guidelines were given to students to help them maintain their journals (see Appendix O). Experiences documented included the following: frustrations; positive experiences; strained and/or pleasant social interactions; difficulties with classes; areas where they felt support/services were exceptional, adequate, or poor; and anything else they felt might prove helpful for my understanding them and their experiences. I checked with participants weekly to encourage journaling. The reflection journals were given to me upon completion of the one-month period; some participants made photocopies to provide to me as they desired to keep their journals. Where possible, I collected the reflection journals or photocopies from the participants in person. When I was not able to meet with participants to collect their journals, I provided those participants pre-paid and addressed envelopes in which to mail me the reflection journals. Reflection journals that were
maintained electronically by participants were emailed to me. I used the reflection journals to clarify student experiences and provide a more in-depth picture of the answers to each of the research questions. One month for keeping reflection journals allowed for compiling a general overview of the day-to-day interactions, activities, and experiences of the participant, while being short enough to prevent participants from becoming bored or losing interest in completing their journals. Each participant complied with this data collection procedure.

**Data Analysis**

The primary data analysis strategy I used was cross-case synthesis. Cross-case synthesis is used to compile data from the multiple individuals in a single case study, and I used this data analysis strategy to examine the data of each individual to identify patterns. Identification of patterns through this means allows for stronger synthesis (Yin, 2014). Specifically, I organized the data by participant category (individual with ASD, family member, or roommate). I then entered all the demographic information into an Excel spreadsheet and analyzed the data to obtain statistics on gender, ethnic background, and other pertinent information. This sort of demographic data is important for ensuring maximum variation or heterogeneity of participants (Patton, 2002). Heterogeneity is vital because there has been some criticism of the research related to homeschooled individuals relates to homogeneity of participants (McCracken, 2014), and I wanted to prevent that homogeneity to the maximum extent possible. Transcription data was verified and checked for accuracy; this verification was accomplished by an independent checker who did not know the participants but was knowledgeable of educational research (a fellow doctoral student) and by the individual participants (member checking). I modified all participant identification, and I assigned codes or aliases to each participant. Specific data
analysis procedures included the way data were organized, read, and annotated; categorizing, identifying themes, and interpreting themes in the data; and representing the data.

Organizing Data, Reading, and Memoing

I created files specifically for this study, and the data I collected were stored in those files; those files were organized in various ways. Initially, I put the data in chronological order. As I read the data, I developed a more organized structure because of my more in-depth analysis of the data. I read all documents and documentation (e.g., interview transcripts) carefully and methodically. During the reading, I made notes in the margins to highlight important details. I used different colors to distinguish different emerging or potential themes. I drafted summaries of my notes as well. Within the margins, I wrote notes pertaining to the text, and I annotated my initial or preliminary codes of the data or information I formed based on what I wrote in the margins. I noted relationships among the categories (Creswell, 2013); noting relationships helped me determine emerging themes. This process is known as memoing. As the term is not widely used outside research, the term memoing is defined as the process of the researcher writing “down ideas about evolving theory throughout the process of open, axial, and selective coding” (Creswell, 2013, p. 89).

Coding, Identifying Themes, and Interpreting Data

Coding is used to capture the essence of data. Saldaña (2013) defined a code as “a word or short phrase that symbolically assigns a summative, salient, essence-capturing, and/or evocative attribute for a portion of language-based or visual data” (p. 3). I gathered and compiled data from the documents, interviews, and reflective journals. I formed initial or preliminary codes of the data or information based on what I wrote in the margins, and I noted
potential relationships among the categories. Then I classified and interpreted the coded data so I could better identify themes.

Themes, per Gall et al. (2015), are salient and recurring features found during the coding of case studies. Saldaña (2013) stated that a “theme is an outcome of coding, categorization, or analytic reflection, not something that is, in itself, coded” (p. 14). I used categorical aggregation to establish themes. I initially identified five themes, and I expanded those themes, as appropriate or necessary, based on the data and context. Next, I drafted detailed descriptions, and I listed themes in order the of most frequent occurrence, importance, and relevance. I carefully noted and highlighted for further analysis and possible clarification any discrepancies between what different participants stated. Developing codes was the first step in interpreting data (Creswell, 2013).

Interpretation of data is “abstracting out beyond the codes and themes to the larger meaning of the data” (Creswell, 2013, p. 187). Since the first step in interpretation is developing codes, after I developed codes, I formed themes from those codes. Next, I organized the themes into larger units, and I interpreted those units. I then developed naturalistic generalizations; those generalizations state what I learned through the information I obtained during the data collection process (Creswell, 2013).

**Representing the Data**

Based on my findings and discoveries during and through the interviews, observations, and other data collection procedures, I used different forms to represent the data. Because narratives are written and used to present an in-depth picture of the themes and other findings in case study research, I wrote narratives based on themes I identified during data collection and analysis. Furthermore, I generated figures to point out and highlight the significant themes I
discovered in this single case study. Tables and figures also allow for significant or important aspects of the case to be more prominently displayed (Creswell, 2013).

**Trustworthiness**

Trustworthiness is validation of the data gathering and analysis processes, and it helps to demonstrate that the findings of a qualitative study are dependable or reliable. Researchers can take different steps and implement specific procedures to increase four primary aspects of trustworthiness: credibility, dependability, confirmability, and transferability (Yin, 2014). Each of those aspects of trustworthiness are demonstrated via validation strategies. I used several different validation strategies during this study including triangulation of the data, peer review, clarifying researcher bias, and member checking (Creswell, 2013).

**Credibility**

Credibility is similar to validity used in quantitative research and is defined as “the soundness of the research findings” (Gall et al., 2015, p. 584), and it is dependent on the skills and abilities of the researcher (Paton, 2002). As I recorded and transcribed verbatim all interviews, and I triangulated the data, the credibility of the study was increased. Credibility was also increased in that I used member checking of transcripts, coded data, and resultant themes. Taking these steps reduced the possibility of researcher bias thus contributed to credibility (Creswell, 2013; Yin, 2014).

**Data triangulation.** Triangulation is the process in which “researchers make use of multiple and different sources, methods, investigators, and theories to provide corroborating evidence” (Creswell, 2013, p. 251). This process uses information from other sources to clarify themes or shine a different light on the information. Triangulation increases the validity of the study because different sources, such as other researchers, research, and documentation provide
evidence to substantiate themes or perspectives (Creswell, 2013). After I collected data, I compared and analyzed the information through triangulation of that data. I triangulated the data by comparing the different data sources; this process allowed me to identify themes. Specifically, the data sources included documents, interviews and their transcripts, and reflection journals. For example, I compared the data from questionnaires, interviews, and reflection journals to determine if the information was consistent and if it provided potential evidence of themes. Initially, I analyzed the sources, and based on marginal notes and memoing, I then cross-compared the initial findings to reaching conclusions (Yin, 2014).

**Peer review.** Peer review (or debriefing) “provides an external check of the research process” (Creswell, 2013, p. 251). The peer review validation technique was used to ensure integrity was maintained in the research process through asking tough questions related to methods, meaning, and interpretations of the data (Creswell, 2013). The roles of the peer reviewer included asking tough questions about data collection and analysis, possible assistance with data interpretation, and providing “professional and emotional support by being an empathetic listener” (Rudestam & Newton, 2015). I had a colleague peer review the data I collected and had transcribed to ensure accuracy.

**Clarifying researcher bias.** Clarifying researcher bias and potential researcher bias is important from the outset of the study. It is important that any areas where bias may affect the study are identified as early as possible in the inquiry process. “In this clarification, the researcher comments on the past experiences, biases, prejudices, and orientations that have likely shaped the interpretation and approach to the study” (Creswell, 2013, p. 251). Potential biases related this study could have resulted from the fact that I educated a child with ASD at home and that child aspires to attend college after graduating from high school. This process increased
validity in that I took steps to curb the effects of bias in that known biases were addressed directly (Creswell, 2013). Recognizing my potential biases as the researcher helped reduce potential bias. In addition to recognizing bias, I implemented other means for reducing bias such as member checking as detailed below. Furthermore, I set aside my preconceived ideas related to homeschooling, ASD, and the college environment to the maximum extent possible. To ensure those potential biases were adequately set aside, I employed an individual who did not have any dealings or interactions with the participants to review my findings or results prior to dissemination and publication (Creswell, 2013).

**Member checking.** In the member-checking strategy, participants review the findings to ensure they are credible and accurately reflect their positions and viewpoints. I provided each participant opportunities to review the transcripts of their interviews and my observations, documents obtained pertaining to themselves, and the final analysis; this allowed the participants to provide feedback and clarify information. I made available to the participants all rough drafts throughout the process as well. I asked participants to review the written analysis to ensure that accurate depictions of descriptions and themes were presented and nothing was missing. Specifically, I had the transcripts reviewed by an independent person who was not involved in the research and did not know any of the participants. After the transcripts were reviewed for correctness and accuracy, I sent each participant a copy of the transcripts of their own information, and I asked each participant to review those transcripts and make any changes they felt appropriate or necessary. This process was important because it established credibility and accuracy (Creswell, 2013).
**Dependability**

Dependability, similar to reliability in quantitative research, refers to the ability to conduct research and present the findings in a manner that is believable and demonstrates the credibility of the research and researcher (Creswell, 2013; Yin, 2014). Additionally, dependability demonstrates stableness of data (Houghton, Casey, Shaw, & Murphy, 2013). To ensure dependability during the study and when presenting findings, certain procedures are necessary. For example, I carefully followed all the data collection procedures, and I documented those procedures via disclosure of pertinent information and maintenance of an audit trail. Additionally, I included select quotations of participants in the discussion of the findings, and including those quotations served to give voice to the participants of the study (Creswell, 2013; Houghton et al., 2013; Yin, 2014).

**Confirmability**

Per Houghton et al., (2013), confirmability “refers to the neutrality and accuracy of the data . . . and is closely linked to dependability” (p. 13). Like dependability, I achieved confirmability through maintenance of an audit trail and inclusion of direct quotations of participants. I asked members or participants to review the transcripts and preliminary findings to ensure what I wrote accurately reflected the essence of the experiences of the participants and what they desired to communicate (Creswell, 2013; Yin, 2014).

**Transferability**

Transferability, also known as generalizability (Creswell, 2013), “refers to whether or not particular findings can be transferred to another similar context or situation, while still preserving the meanings and inferences from the completed study” (Houghton et al., 2013). Although transferability is generally not closely associated with qualitative research, it is important for
researchers to document the procedures used to ensure similar research might be conducted to build upon the findings. Transferability is improved not only by providing detailed accounts of procedures used prior to and during the study, but it is improved by providing rich, thick descriptions of the findings (Creswell, 2013; Houghton et al., 2013; Yin, 2014). I documented all the procedures I used, and I included rich, thick descriptions of my findings in this final dissertation manuscript.

**Ethical Considerations**

All research needs to be conducted ethically, and ethics must be a specific consideration when research involves human participants or subjects (Yin, 2014). Special care must be taken to protect participants during all phases of the research, including the period prior to the beginning of the study. One measure to be taken during all stages of the research is the careful protection of all data that may include information that might be used to identify participants. To safeguard data, I stored all information on a removable storage device (memory stick), and the only information I placed on that device was information pertinent to the study. When not in use, I stored that device in a locked cabinet to prevent anyone else from gaining access to the information. I was and am the only person to have access to the cabinet in which the information is stored. Additionally, when I used the device, I was the only person to access the computer. When the information was not being used, I removed the device from the computer and safeguarded it appropriately (stored in a locked cabinet). I maintained that level of care for the duration of the study.

**Prior to the Study and at the Beginning of the Study**

I requested and obtained IRB approval prior to conducting the study, and that included seeking participants for the study. After I had IRB approval (see Appendix F), I contacted the
staff at HSLDA to obtain approval for using contacting and soliciting potential participants. To prevent issues related to the purpose of the study, I informed all participants and HSLDA staff of the purpose of the study. To avert the appearance of coercion or pressuring individuals to complete and sign consent forms, I informed all potential participants that they were under no obligation to sign and there would be no repercussions for not signing or not wanting to participate. Since the participants can be considered a vulnerable population (disabled in that they have been diagnosed with ASD), I intended to contact the offices of disability services where the participants attend college when the students were registered with those offices, and maintain contact with those offices throughout the study. I also planned to have a representative from the respective office will accompany me on all interviews, observations, and during any possible visits to campus (Creswell, 2013), but this contact was not needed during this study. I used informed consent forms (see Appendix G or Appendix H, depending on the participant) to inform participants about the nature of the research and allowed potential participants the opportunity to either agree to or decline participation.

**During Data Collection**

The research site(s) and participants need to be respected, and the normal routine must be disrupted as little as possible. To prevent issues related to this ethical concern, it is important to build trust within the families and campus communities by practicing honesty and integrity in all endeavors, and it is important to pay attention to and listen intently to others. Participants must not be deceived, and they must not feel they are being deceived. I avoided deception by asking direct questions (rather than misleading or leading questions), sharing results/findings without divulging personal or identifying information, and being sensitive to the participants and their feelings. In addition, the participants were given the feeling that they are somehow rewarded for
their participation. I did this by stressing the importance of the research, and letting them know how vital participant input is to my research. When possible, I visited with the participants in person. This helped me to understand the participants on a deeper level (Creswell, 2013). In addition, I offered each participant gift cards ($10.00 for participating, and an additional $10.00 to the students who maintained reflection journals). Not all the participants accepted the gift cards I offered. One participant asked me to give her gift card to another participant who might need extra income.

**During Data Analysis**

“Going native,” or siding/becoming too familiar with the participants, is an ethical issue that can be avoided by gathering and reporting on multiple perspectives (Creswell, 2013). More specifically, the term going native is used to describe the tendency for a researcher to focus on what they believe will happen in a study rather than being open-minded about what is happening and the outcome. Focusing on both the positive and the negative aspects helped prevent ethical concerns in the research. I avoided researcher bias (or apparent bias) by reporting the findings or details from multiple perspectives, including reporting findings that did not align with my worldview, philosophical assumptions, and personal paradigms. In addition to limiting bias, the privacy of participants is often a major ethical concern, especially when analyzing the data. I used pseudonyms for participants, and I used composite profiles (profiles that include information from different participants) to preclude identification of participants. Finally, I carefully safeguarded all data containing identifying information per the requirements of the IRB (Creswell, 2013).
During Data Reporting

To prevent misinformation from being reported, I completed all data reports accurately, honesty, and with the highest possible ethical standards. I avoided plagiarism; I properly cited and referenced all sources I used in this study. Because participants could be unduly harmed if identifying and sensitive information is included in the report, as in the data analysis stage, I used pseudonyms and composite stories to the maximum extent possible. I compiled all reports using clear, concise, appropriate, and straightforward language to reach the largest audience that may have an interest in the study results (Creswell, 2013).

Upon Completion and After Publication of the Study

Prior to final publication of the study, I provided copies of the final report to all participants and other stakeholders (parents, roommates, university staff, etc.). This helped ensure that all stakeholders were comfortable with what may be published, and it confirmed that the information is accurate and accurately reflected the perceptions of the participants. In the future, I may have the final report translated into different languages to facilitate reading by those individuals interested in reading this study who have language barriers preventing or inhibiting the understanding of the information. Translation into other languages will also help ensure the widest possible audience is reached. If I submit the final manuscript for publication in a professional journal, I will only approach one journal for publication. To document proof of compliance with ethical issues, I will disclose all sources of funding (if offered and accepted); I received no outside funding, nor was I offered any, to conduct this study. Finally, I will destroy all records and transcripts containing identifying information of participants per the guidelines of the IRB (Creswell, 2013). Standard practice at Liberty University calls for researchers to
maintain all files in a locked area for a minimum of three years after publication of findings or the dissertation, and I will maintain my files for the period required.

Summary

Chapter Three described the single case study research design, including the rationale for its use; the single case study design is the research design proposed for this study. I restated the research questions to guide readers, and I followed the questions with descriptions and definitions of the proposed research setting and participants. Although no specific location was used for the study, the general setting was the experiences of the participants and how those experiences may lead to success in college. Furthermore, I detailed and described the procedures for conducting the study, and those procedures include using HSLDA and social media to find participants. Three data collection methods I used were documents, interviews, and reflection journals; questionnaires were used for gathering demographic data, and the demographic data helped ensure heterogeneity of participants. My role as the researcher was described along with a description of how that role pertains to the study. The procedures I used for data collection and analysis procedures were then explained along with data triangulation and why data triangulation is important. Triangulation is an important component of trustworthiness. In addition to triangulation, I explained other aspects of trustworthiness and ethical considerations pertinent to this study, such as maintaining credibility, dependability, confirmability, transferability, and others. I described the ethical considerations I considered prior to, during, and after the study. The overarching intent of the study was to identify factors specifically related to homeschooling individuals with ASD that potentially influence their success as on-campus college students.
CHAPTER FOUR: FINDINGS

Overview

The purpose of this single case study was to discover and describe the perceptions and social experiences of homeschooled students with ASD who attend on-campus college instructional programs. Particularly, attention was given to those experiences with potential for contributing to success in college, with success defined as making progress towards attaining a college degree as evidenced by passing the courses taken (Fichten et al., 2014; Sommers, 2015).

This study was designed to fill a gap in the literature, specifically that I found no research that had been conducted on homeschooled students with ASD who attended on-campus college instructional programs. Existing research suggested that homeschooled students perform well, on average, in college (Drenovsky & Cohen, 2012; Martin-Chang et al., 2011; Ray, 2010). Additionally, existing research indicated that individuals with ASD who had traditional schooling backgrounds struggled socially and academically in college (Gelbar et al., 2014; Nicholas et al., 2015; Rodriguez et al., 2017; Van Hees et al., 201; White et al., 2016). Given the lack of literature on individuals with ASD who were homeschooled and continued to college, I wanted to understand the experiences of on-campus college students with ASD who had been homeschooled. The study was designed to determine if these students are successful in the on-campus college environment, and what it takes to be successful in college. I was also personally interested in conducting this study because I a homeschooled a son who has ASD, and my son wants to enroll in college to work toward becoming an aeronautical engineer.

The single case study approach was selected as most appropriate to address the purpose of the study so I could examine and explore the social and human situation of being an on-campus college student with ASD who had been homeschooled. The single case study approach
was also considered appropriate given that I did not have any control over the behaviors and events in the contemporary problem under investigation (Creswell, 2013; Yin, 2014). The theoretical underpinning for this study was the disability theory (Barnes, 1991; Oliver, 1990; Oliver & Barnes, 2012) related to individuals with ASD. The single case study approach, informed by this theoretical framework, was suited to address the purpose of the study and to guide identification of the most appropriate emergent themes, based on the research questions.

The primary purpose of Chapter Four is to present the findings or results of my study on the on-campus college experiences that lead to success for individuals with ASD who had been homeschooled. In this chapter I initially provide detailed descriptions of each participant. I then present the results of my analyses of the data I collected via demographic questionnaires, individual interviews of all participants, documents, and reflection journals maintained by the participants with ASD. I include tables and figures as visual representations of different data elements and findings. Following, I present the five dominant themes I identified along with a discussion of each theme. My results further include a summary of each of the four research questions (one main question and three sub-questions) I used to guide the study.

**Participants**

The participants in my study included five college students with ASD who had been homeschooled during high school, seven parents of college students with ASD who were homeschooled (by the participant parents), and one college roommate of a participant with ASD, for a total of 13 participants. Pseudonyms were used for all participants in this study. The participants resided in seven different states (Alabama, Indiana, North Carolina, Ohio, Oklahoma, South Carolina, and Tennessee) as depicted in Figure 1. All the parents (and the roommate) lived in the same state where the student with ASD was attending college. Those
participants, and their relationships, are identified in Table 3. There are more parent participants than there are college students with ASD who had been homeschooled because two of the college students with ASD declined to participate. One of those individuals, per the parent, did not wish to participate because, although he had a confirmed medical diagnosis of ASD, he refused to accept the diagnosis. The other student with ASD did not participate because his parents never disclosed his diagnosis of ASD to their child because they did not want their child to know; the student’s mother participated in the study, however.

There were five on-campus college students with ASD who had been homeschooled who served as participants for this study. These students ranged in age from 18 to 22. Three of those students lived with their parents (Cynthia, Dwight, and Edwin), and two of the participants (Adam and Bradley) lived away from home and in the college dormitories. Participants included two sophomores, one junior, and two seniors. The two students who lived in the dorms were

Figure 1. States where participants of this study reside. (Original artwork.)
Adam and Bradley; only Adam agreed to allow his roommate to participate (be interviewed) for this study. Bradley did not wish me to contact his roommate about participating. Each of the five participants maintained reflection journals for four weeks, and they submitted electronic copies of their journals to me at the completion of the study. Table 4 provides a summary of the ages, year in school, and college majors for each of these participants.

Table 3

**Identification of Participants and Relationships (Pseudonyms)**

<table>
<thead>
<tr>
<th>Student with ASD</th>
<th>Parent</th>
<th>Roommate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adam</td>
<td>Alice</td>
<td>Arthur</td>
</tr>
<tr>
<td>Bradley</td>
<td>Barbara</td>
<td></td>
</tr>
<tr>
<td>Cynthia</td>
<td>Catherine</td>
<td></td>
</tr>
<tr>
<td>Dwight</td>
<td>Deborah</td>
<td></td>
</tr>
<tr>
<td>Edwin</td>
<td>Elizabeth</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Felicia</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Georgia</td>
<td></td>
</tr>
</tbody>
</table>

*Note.* All names used are pseudonyms. Pseudonyms were assigned so that each name for a participant “set” begins with the same letter.

Table 5 provides a summary of the parents of the students with ASD. All parent participants in the study stated that they had earned a college degree. Two parents earned associate’s degrees, three earned bachelor’s degrees, and two earned master’s degrees. The parent participants homeschooled their children with ASD between 5 and 13 years, and the parent participants had between 6 and 16 years of total homeschooling experience with their children;
five parents were still homeschooling younger siblings of the college students with ASD at the
time I conducted this study.

Table 4

*Information on Participants with ASD*

<table>
<thead>
<tr>
<th>Student with ASD</th>
<th>Age</th>
<th>Year</th>
<th>Major</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adam</td>
<td>20</td>
<td>Junior</td>
<td>Mechanical Engineering</td>
</tr>
<tr>
<td>Bradley</td>
<td>18</td>
<td>Sophomore</td>
<td>Undeclared(^a)</td>
</tr>
<tr>
<td>Cynthia</td>
<td>21</td>
<td>Senior</td>
<td>Graphic Design</td>
</tr>
<tr>
<td>Dwight</td>
<td>19</td>
<td>Sophomore</td>
<td>Information Systems</td>
</tr>
<tr>
<td>Edwin</td>
<td>22</td>
<td>Senior</td>
<td>Computer Science</td>
</tr>
</tbody>
</table>

*Note.* Based on information from demographics questionnaires and interviews.
All names are pseudonyms.

\(^a\) Although he stated he has not declared a major, this participant indicated that he is working
toward a degree in Computer Software/Programming.

Table 5

*Information on Parent Participants*

<table>
<thead>
<tr>
<th>Parent</th>
<th>Education</th>
<th>Years Homeschooled(^a)</th>
<th>No. of Children</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alice</td>
<td>Bachelor’s Degree</td>
<td>10/15(^b)</td>
<td>3</td>
</tr>
<tr>
<td>Barbara</td>
<td>Bachelor’s Degree</td>
<td>5/6(^b)</td>
<td>2</td>
</tr>
<tr>
<td>Catherine</td>
<td>Associate Degree</td>
<td>6/6(^b)</td>
<td>4</td>
</tr>
<tr>
<td>Deborah</td>
<td>Bachelor’s Degree</td>
<td>9/9</td>
<td>3</td>
</tr>
<tr>
<td>Elizabeth</td>
<td>Master’s Degree</td>
<td>13/16(^b)</td>
<td>2</td>
</tr>
<tr>
<td>Felicia</td>
<td>Master’s Degree</td>
<td>12/15(^b)</td>
<td>4</td>
</tr>
<tr>
<td>Georgia</td>
<td>Associate Degree</td>
<td>7/7</td>
<td>2</td>
</tr>
</tbody>
</table>

*Note.* Based on information obtained from demographics questionnaires.
All names are pseudonyms.

\(^a\) First number is the number of years the student with ASD was homeschooled/Second number is the number of years the parent homeschooled all their children.

\(^b\) Parent is currently homeschooling other children.
Following is a description of each participant in this study. The purpose of these descriptions is to provide a portrait of each participant. The descriptions of participants are grouped based on category (student with ASD, parent, or roommate); students with ASD are described first, then parents, and finally the roommate. Unless otherwise noted, all quotations are from interview transcripts. College majors, grades, GPAs, etc. are based on academic transcripts.

**College Students with ASD**

Five on-campus college students with ASD participated in this study. The participants were taking classes during the Fall 2016 semester during the data collection phase of the study. All these participants were homeschooled during their high school years, the minimum span of homeschooling required for the study. Two participants were homeschooled for all their elementary and high school years. Two participants lived on campus at the time of data collection, and the other three participants lived at home with their parents while taking on-campus classes at a local college.

**Adam.** According to documents, questionnaire answers, and interview responses provided by Adam and his mother, Adam was diagnosed with ASD when he was five years old and in kindergarten. At the time of diagnosis, Adam was being homeschooled along with an older brother; he also has a younger sister. Due to difficulties in communication, Adam went to public school for three years so he could receive intervention services (primarily speech and language therapy). However, after his parents noticed behavior problems, Adam’s parents decided to homeschool him again. Adam resumed his education at home in fourth grade, and he continued homeschooling through high school. During his home education, Adam’s parents used their medical insurance to pay for professional counseling and speech and language therapy. He
received speech and language services until he completed seventh grade, and he continued with counseling services through high school and his first two years of college.

Adam attended a community college for his first two years of higher education, and he lived at home during that time. Adam’s transcripts indicated that he earned an associate’s degree with a GPA of 3.92. Adam transferred to a four-year university in his home state, but the distance was too far for him to commute, so Adam chose to reside in the on-campus dorms. He was in his first year at his present institution. Adam lived in the dorms, and he had one roommate (Arthur).

At college, Adam was majoring in mechanical engineering. His favorite classes were those related to his major (math, engineering, etc.). He did not care for English and history classes. He stated that those types of classes were what gave him the most trouble while at the community college, but they were required for graduation. Based on his current college transcripts, Adam took 16 semester hours (five courses and one lab) during his first semester, and he was registered for 18 semester hours (six classes) for his next semester. Adam stated that he got along well in his classes and with others, including his roommate Arthur. Adam studied with Arthur periodically and helped Arthur with his studies as both were engineering majors and Adam was a year ahead of Arthur. In his free time, Adam liked to run and ride his bicycle, but he did not socialize much; he preferred to focus on his studies. Adam’s GPA for his first semester was 3.81. Adam was the only participant who agreed for me to interview his roommate.

Bradley. The older of two sons in his family, Bradley was diagnosed with ASD during high school, according to interview responses of his mother. Prior to his diagnosis, Bradley attended public schools. During school, Bradley performed well academically, but he struggled
with interpersonal relationships. He said that he was a target for bullying, and many people in his classes avoided him, but he did not mind much since he preferred being alone. However, at the end of fifth grade, Bradley got into a fight with a classmate, and that fight resulted in both him and the other student involved getting expelled. Bradley’s parents elected to homeschool Bradley and Bradley’s younger brother the following school year (sixth grade for Bradley and fifth grade for his brother).

Bradley also did well academically while he was homeschooled, and he enjoyed being able to take classes without having so many other students around. He stated, “Being homeschooled is what helped me start to like learning, and my mother encouraged me to pursue subjects I liked doing.” He indicated that he could learn more about computers at home because his father worked in the information technology field and taught him about computers; his mother encouraged him as well. During that time, Bradley became more focused, but he still struggled with social interactions.

After being diagnosed with ASD, Bradley began seeing a psychologist, and he continued receiving services from his psychologist during college. Bradley started taking college classes when he was 17 years old and still in high school. As he did not have a car or license, Bradley’s mother drove him to campus for classes. To alleviate the burden of transportation, Bradley decided to move into the dorms for his second year of college. In the dorms, Bradley had one roommate, and Bradley opted not to allow me to interview his roommate for this study.

As indicated in his college transcripts, at the time of the study Bradley was registered as having an undeclared major, but he was taking coursework towards a degree in computer software and programming. He had a 4.0 GPA for his first year of classes (10 courses/31 semester hours), and he had a 3.83 GPA for the first semester of his sophomore year (six
Bradley was registered for 18 semester hours (six courses) for the Spring 2017 semester.

**Cynthia.** The only female student participant for this study, Cynthia was the oldest of four children in her family; she had two younger sisters and one younger brother. Medical diagnoses documents, and information provided by her mother during an interview, indicated that Cynthia was diagnosed with ASD at age 11 (the end of fifth grade) while she was attending a private school. Cynthia transferred to a public school for sixth grade to receive the interventions and services stipulated in her IEP, but she struggled socially in that setting. Because of the social difficulties, Cynthia did not want to return to public school for seventh grade. The private school was hesitant to allow Cynthia to return because the school did not have staff trained for helping students with disabilities, so her mother began homeschooling Cynthia while Cynthia’s younger siblings continued in private school. Cynthia’s parents also homeschooled their youngest child, a son, who was diagnosed with ASD at age four.

Documents provided by Cynthia and her mother indicated that, during her junior year of high school, Cynthia took two college courses (six semester hours) at the community college near where she lived. Cynthia then went to the community college full time as a dual enrollment student her senior year of high school, and she earned her high school diploma and completed 33 additional semester hours (11 courses) of college credit. Over the summer, Cynthia took four more courses (12 semester hours, for a total of 51 semester hours) at the community college; she earned an overall GPA of 4.0 in her community college courses. Cynthia then transferred to a four-year university in her county where she was a graphics design major. The first year at the university, Cynthia took 45 semester hours (15 courses) during her fall, spring, and summer semesters. During the Fall 2016 semester Cynthia took 15 semester hours (five courses), and she
Cynthia was registered for her final 12 semester hours (four courses) during the Spring 2017 semester. Cynthia has maintained a 4.0 GPA, and she resided at home with her family. Cynthia considered moving into an apartment and getting a job after she completed her degree in May, but she also thought about continuing her education.

**Dwight.** The youngest of three children, Dwight was diagnosed with ASD when he was two years old after his parents noticed that Dwight was not meeting developmental milestones in the same way they had observed in their two older children, as reported by himself and his mother during interviews. Dwight did not walk until he was approximately 18 months old, and he was non-verbal at the time of diagnosis. After several months of speech and language therapy, Dwight began communicating using sign language. While he was receiving speech and language therapy, Dwight began reading and writing, and he started writing words to communicate shortly after his third birthday. Dwight attended a developmental preschool and transferred to a public school with programs for individuals with disabilities for kindergarten and first grade. Dwight had little difficulty with receptive communication (understanding others’ communication), but he struggled with expressive communication (communicating effectively for himself). During kindergarten, Dwight began communicating verbally, but he still struggled with expressive communication. Toward the end of first grade, Dwight started to succeed with expressive communication, but he still received speech and language therapy three days each week.

Deborah, Dwight’s mother reported that in second grade, Dwight was mainstreamed into a regular classroom, and he continued to receive speech and language therapy at school. Over the next year and a half, Dwight excelled academically, but he still struggled with verbal communication, and his struggles resulted in his classmates teasing him. Dwight’s parents
decided to pull him out of school and homeschool him at the end of third grade (along with their two older children who were finishing eighth and fifth grades). Dwight and his siblings continued homeschool education through high school graduation.

Because Dwight displayed a talent for computers and computer programming, he attended computer classes at a technical center during his last two years of high school (in addition to the more traditional courses he took at home). Upon graduation from high school, Dwight began college classes in pursuit of a degree in Information Systems. He completed 30 semester hours (10 courses) his freshman year, and he completed 18 semester hours (six courses) during the Fall 2016 semester; he was scheduled to take 18 semester hours (six courses) during the Spring 2017 semester. Dwight maintained a 4.0 GPA for the college courses he took up to the time I conducted this study. He still resided at home with his parents; his older sister was married and has one child, and his older brother was a senior (Recruit Officer Training Corps student) at a college in another state.

**Edwin.** Edwin was the older of two children, and he was diagnosed with ASD during his junior year of high school (at age 17), based on documents provided. Edwin was homeschooled from kindergarten through high school graduation. His younger brother was a sophomore in high school and was being homeschooled. Both Edwin and his brother lived at home with both parents; their mother was the primary educator of the homeschool. Edwin did not like to drive; therefore, he did not have a license or automobile. Edwin’s mother drove him to school as well as to his part-time job at a warehouse in the town where he lived.

Edwin preferred to be alone. He indicated that he liked school when the classes were interesting, but he did “not like boring classes like English, composition, and literature.” Edwin started taking classes at a community college during his junior year of high school. He started by
taking one class (three semester hours) the first semester of his junior year, and he did well (4.0 GPA). The next semester, he took two classes (six semester hours), and he received one B and one C; the latter was earned in a composition course. During his senior year, Edwin took five courses at the community college (two classes during the fall semester and three during the spring semester, for a total of 15 semester hours for the school year), and he maintained a 3.0 GPA. After graduating from high school, Edwin began taking classes at a nearby public university, majoring in computer science. Seven courses (24 semester hours) transferred as credit towards his degree program.

As evidenced by his transcripts, during his first three years at the university, Edwin took three or four courses (9 to 12 semester hours) for each semester during the fall and spring, and he took two courses (six semester hours) during the summer semester. His overall GPA up to that point was 2.94 (based on 99 semester hours, including the transfer credits). During the Fall 2016 semester, Edwin took four more courses (12 semester hours), and he was registered for his final three courses during the Spring 2017 semester. Edwin’s GPA through the end of the Fall 2016 semester was 2.78.

During his interview, Edwin stated that he would have a much higher GPA if his GPA had been comprised of only the courses related to his major, but he struggled with the general education courses. He said:

I put as many of those courses off until the last possible moment, and that is why my GPA dropped so much after this last semester. I tend to drift when I do not like the class. I know that these are required courses, but I do not like them, and I really did not want to take them.
Edwin’s last classes included two general education classes and one computer science course. He was on academic probation because he earned a grade of D in two of his courses during the Fall 2016 semester. Edwin stated that he believed he would do well in his final semester and earn his degree in May. After graduation, Edwin planned to try and find a job related to his degree near where he lived, but he had not yet started seeking employment.

Parents

Seven parents of on-campus college students with ASD participated in this study. All parent participants were mothers who homeschooled their own children for a minimum of their high school years. Two of the parents homeschooled their children for all grades from kindergarten through 12th grade. One parent started homeschooling her child in kindergarten but enrolled her son in public school after he was diagnosed with ASD at age five; she resumed homeschooling her son in fourth grade. The remaining parents homeschooled their children with ASD for different lengths of time. Five of the seven parents continued to homeschool their other (younger) children, and two no longer homeschooled as their children graduated from high school. Four of the parent participants continued to provide support for their college students with ASD by allowing those students to reside in their homes while attending college.

Alice. Alice was married and the mother of three children; she homeschooled her son (Adam) for kindergarten and fourth grade through high school. She reported that she holds a bachelor’s degree. Alice sent Adam to public school for first through third grades so he could receive interventions and special services; she continued to homeschool her two other children during that time (Adam’s older brother and younger sister). After Adam was diagnosed with ASD at age five, Alice and her husband, based on recommendations from her doctor and other professionals, decided to send Adam to public school so he could receive special services
through the school system. Their insurance would not cover those services because the services were available through public schools. However, after Adam started having behavior problems and complained about school, Alice decided to homeschool Adam; she had been homeschooling her other two children while Adam was in public school. Alice continued homeschooling Adam until he graduated from high school, and at the time of the study, she was homeschooling Adam’s younger sister, who was a freshman in high school.

**Barbara.** Barbara reported that she holds a bachelor’s degree, and she was married and the mother of two sons. Her oldest son, Bradley, was diagnosed with ASD at age 14. Prior to homeschooling her children, Barbara worked as an office manager, but she resigned her position to homeschool her children “after Bradley started having behavior problems in school as a result of being bullied in school, which peaked in fifth grade.” Although her other son did not have the same problems that Bradley experienced, Barbara and her husband decided it would be best to homeschool both of their children. During her interview, Barbara said:

> We thought it would be better to have both boys home so they could help, support, and encourage each other; they were the best of friends and they are only 11 months apart in age. It was also best this way since I had decided not to work in the office anymore, and I could spend time with both of them. It all worked out for the best, in the long run.

Barbara continued to homeschool her younger son, and he was due to graduate from high school in May 2017. Barbara stated that, once her younger son graduated from high school, she planned to return to the work force as both of her sons would be in college and away from home.

**Catherine.** Catherine was married and the mother of four children and her oldest child, Cynthia, was diagnosed with ASD during fifth grade at age 11. Catherine also had two other daughters and a son. Her son, who was in eighth grade, had also been diagnosed with ASD and
was being homeschooled. Prior to homeschooling Cynthia, all four children attended a private school. However, after Cynthia was diagnosed with ASD, she was no longer able to continue attending the private school because the school “could not provide the services for students with disabilities,” as Catherine stated. Therefore, Cynthia went to a public middle school for sixth grade.

Although Cynthia had performed well academically in the private school, during her interview, Catherine shared:

Cynthia struggled at the public school, and her grades dropped drastically. We [my husband and I] talked to the private school to try and convince them to allow her to continue going to school there, but they would not allow it. My husband and I prayed about it, and we decided to try homeschooling her. It was about this same time that [our son] was diagnosed with having autism too, so we started homeschooling both of them.

Our other daughters continued attending the private school.

Catherine continued homeschooling her son who was in fifth grade at the time. One of her other two daughters was attending 10th grade at a private high school, and the other daughter was in eighth grade at a private school. Catherine intended to homeschool her son through high school. Cynthia lived at home while attending college, and her mother said, “She is a great role model for [our son], and she helps him out with his school work when I get busy doing other things around the house.”

**Deborah.** Deborah reported that she was married and the mother of three children, and she holds a bachelor’s degree. Prior to homeschooling her son with ASD (Dwight), Deborah worked as a school counselor at a high school in her community. She also had a 24-year-old married daughter (the mother of a two-year-old son), and a 22-year-old son who was a senior in
college (who was to be commissioned as an officer in the Army after graduating from college in May of 2017).

When describing the trajectory to homeschooling Dwight, Deborah stated:

I never intended to homeschool any of my children. I was happy working in the schools and counseling teens at the high school. That came to an abrupt halt after Dwight started struggling in school. The schools provided great services for him when he went to the developmental preschool, but I think they jumped the gun, so to speak, by trying to mainstream him. That was in second grade for Dwight. But I saw Dwight’s struggles, and I felt helpless to help him as long as he was in that classroom. So, I left my school counselor job to homeschool Dwight, but I am back at the school working now that Dwight is in college. But he does still live at home.

Deborah intended to continue working as a school counselor as long as she was able.

Deborah commented:

I really enjoy working with teens; this is my favorite age of children. Now that I have the experience of homeschooling and know more about autism, I think I can use that experience to help other students with autism, especially since so many do not have two parents at home to support them. My homeschooling time taught me so much!

Deborah’s comments reflected her commitment to her children and helping them succeed.

Elizabeth. Elizabeth stated that she has a Masters of Social Work (MSW) degree, and she worked as a licensed counselor for two years before she got married and for the first six years of marriage. After Elizabeth had her first son (Edwin), and when he was old enough to start school (age five), she decided to quit her job and homeschool as she was also pregnant with
her second child. Elizabeth homeschooled Edwin from kindergarten through 12th grade, and she continued homeschooling her other child (who was a high school sophomore).

Elizabeth stated that she had difficulty motivating Edwin to do his schoolwork and getting him to focus early on. She said:

Edwin would just get so distracted by the strangest things! He could not tell me why he was getting distracted. He would look off into space or look like he was looking through me. I was confused. I had all this training and experience, but I just could not seem to help my own son. It was so frustrating! He could do the work when I sat right next to him and made him do it, but the moment I left, he would go off and do something completely different. I ended up taking him to a psychiatrist, but that did not seem to do any good. When Edwin was almost finished with high school – that was after six years of seeing a psychiatrist – our new pastor recommended to [my husband] that we might try a different approach. You see, our pastor has a teenage son who was diagnosed with autism when he was six years old, so he saw something in Edwin that neither [my husband] or I recognized. The pastor gave us the name of a neurologist who specialized in autism spectrum disorders. Within two months after the first visit to that doctor, Edwin was diagnosed with having autism. Since that time, I have read many books and research articles about autism, and I learned that all the struggles I had with Edwin are not uncommon when autism is the root cause. I wish I had been trained in autism spectrum disorders when I was working for my social work degree; it could have made a huge difference in where Edwin is today. He struggles with college classes he does not like. He does not want to drive or be independent. He just wants to stay at home and work on computers.
Felicia. Felicia commented that she holds a master’s degree, and she was the mother of four children. At the time of the study, her oldest child, a daughter, was a junior in college, and her second oldest, a son with ASD, was a freshman in college. She also had a son who was a junior in high school and a daughter in eighth grade. Felicia began homeschooling each of her children when they were in kindergarten, and she continued homeschooling the two who had not yet graduated from high school.

Felicia’s oldest son was diagnosed with ASD at age 10, and her younger son was diagnosed with ASD the same year. Neither son received services at public schools, but both had counseling services and speech, physical, and occupational therapies from private providers (paid for by health insurance). The older son, Frank, did not wish to participate in this study as, per Felicia, “He refuses to admit he has autism; he wants everyone to think he is normal.”

Georgia. Georgia reported that she holds an associate’s degree, and she was married and the mother of two children. Georgia’s oldest child is a daughter who was married and had two children of her own. Georgia’s younger child (Grant) is a son who was diagnosed with ASD at age six. Although her son received services through the school system from the time of his diagnosis of ASD until she started homeschooling him in sixth grade, Georgia and her husband never informed their son of his diagnosis. Georgia remarked during her interview:

The developmental pediatrician who diagnosed Grant said it would be better if we did not tell him he had autism, so we never told him. There were a few times when I thought we would tell him, but we never did, and now I do not think we should tell him. He has done well enough, so what is the point of telling him about his being autistic? Thus, since Georgia’s son was not aware of his diagnosis of ASD, I did not approach him to ask him about participating in this study.
Georgia’s son was homeschooled from sixth grade through the end of high school, and her daughter attended public school. Georgia decided to homeschool her son after he had trouble at school. When I interviewed her, Georgia stated:

He was constantly being picked on by some of the bigger boys in his classes, and Grant has always been small for his age, so he could not fight back to defend himself. Those were the times I thought it might be better if we told Grant he is autistic. The bullying continued for two or three years, and I did not want him to have to go through that, so we decided to try homeschool, and it was the best thing for Grant and for the whole family.

Grant continued receiving limited services through the schools for the next two years (sixth and seventh grades), and an IEP was maintained until he graduated from high school. He was the only homeschooled student related to this study (even though he was not a participant) to have a transition plan written for him. To help Grant transition back to a classroom environment, the transition plan included a recommendation that he take classes through an early college program offered to students who struggled in public school classrooms. This program was available to first generation college students and students with social and communications difficulties (as is common in individuals with ASD). Based on transcripts provided by Georgia, Grant participated in this program during his junior and senior years of high school, and he earned 30 college semester hours (10 classes) during that time. He then transitioned to a four-year university, and he was in his junior year and majoring in zoology with a GPA of 3.94.

**College Roommate**

Two of the participants in this study did not live at home. In addition, another student lived away from home, and even though he did not participate in this study, his homeschooling mother did. Only one student with ASD agreed to allow me to invite his roommate to participate
in this study. I did not invite the roommate of the student who did not participate out of respect for the privacy of the student with ASD. That student with ASD did not acknowledge his diagnosis of ASD, and I wanted to respect his viewpoint. If I had attempted to recruit this individual’s roommate to be a participant, I could have diminished my credibility and caused animosity between the student with ASD and his mother (who did participate).

Arthur. Arthur was the sole college roommate participating in this study. He was a 20-year-old college sophomore who was majoring in electrical engineering. Arthur met Adam (the student with ASD) when he moved into the dorms at the beginning of the Fall 2016 semester. Arthur did not know Adam previously. Arthur attended public schools, but he reported in his interview that he knew a few homeschooled students who attended his church in a different part of the state. Before meeting Adam, Arthur did not know anyone who had ASD (to his knowledge). However, Arthur clarified during his interview:

There may have been a couple of people in my high school who have autism based on what I see. Those guys do some of the same strange things Adam does, so it is possible they have autism, too. I don’t know. I think it would be rude to just come out and ask them. I did not really talk with those guys much anyway, but I did see them at school and had classes with them.

Results

The results of this study are presented in this section, and this section includes a description of the themes that emerged during data analysis. I used categorical aggregation to find patterns and themes. During data interpretation, I developed generalizations, and those generalizations are presented in narrative form and accompanied by tables and figures, including some presented earlier in this chapter. There were a few areas where the data did not fit within
the identified themes, and I discuss each of those areas in detail. Following presentation of themes, I provide a narrative answer for each of the research questions (one main research question and three sub-questions) that guided this study. I use quotations from participants to substantiate the identified themes as well as to support answers to the research questions, and, unless otherwise noted, all quotations came from participant interviews.

Theme Development

The primary data analysis strategy used was cross-case synthesis as described in Chapter Three. Keeping my theoretical framework in mind as I analyzed the data, I noted key words and phrases that reappeared and were used by multiple participants, and I checked to see who those words and phrases related to the disability theory and its key concepts. I used my complied lists of those key words and phrases and used the words and lists to designate themes that developed which included: support and encouragement; social struggles; environmental struggles; narrow focus; and concerns about the future.

For the theme support and encouragement, key words included: support, family, assistance, encouragement, motivation, and several related words and synonyms. Key words for the social struggles theme included: bully/bullying, pick on, alone, social isolation, communication, communication problems, literal, anxiety, different interests, stress, etc. Key words and phrases for environmental struggles included: accommodations, modifications, stimulus, stimuli, hypersensitivity, anxiety, slow processing, fidgeting, stressed out, lack or routine, smartpen, counseling, visual deficits, spatial deficits, literal, etc. Related to the theme of narrow focus, key word included: technical, technology, engineering, academic performance, distractibility, distracted, easily distracted, drift, attention, inattention, rigid, rigid mindset, mindset, literal-minded, literal, detail-oriented, etc. Finally, I used the following key words and
phrases to identify data that was captured by the theme of concerns about the future: living at home, struggle, struggle with changes, struggles with transitioning, succeed, successful, after college, no driver’s license, driving, independence, panic, etc. Figure 2 provides an overview of those five themes: importance of support and encouragement, social issues and struggles, environmental struggles, narrow focus of individuals with ASD, and concerns about the future. Each of these themes is discussed separately and related to the theoretical framework.

![Figure 2. Pictorial overview of themes that emerged during the study.](image)

**Support and encouragement.** The primary or dominant theme that emerged during this study related to receiving support and encouragement while taking college classes. This theme emerged in relation to the disability theory in that social perceptions of disabilities affect the forms of support provided to individuals with ASD. Every participant in this study stressed the importance of support and encouragement for success in college. The support was provided by
parents and other family members in the home, church members (including pastors and other church staff), and professional counselors (see Figure 3). This theme reflects the disability theory in that the people who provided the most support to the participants with ASD were more attuned with the nature of ASD and how to best provide support and encouragement. The encouragement aspect promotes a greater sense of intrinsic motivation on the part of the participant with ASD, and the result was success in college.

Figure 3. Aspects of support and encouragement.

Support from family members, most notably the parents, was the dominant factor in this theme. The support started during the homeschooling years and continued during the college years. One specific example is that two of the parent participants, Barbara and Deborah, quit full-time jobs so they could stay at home and homeschool their children with ASD. Those two parents continued to support their children in the same fashion during college. Bradley (Barbara’s son) commented during her interview:
I hated school! I did not like all the classes, and I did not like being around my classmates. I felt like I was wasting time, and I did not want to be there. I hated school! Well, at least fourth and fifth grades I hated school. The teachers didn’t care. They ignored me when I tried to tell them what was happening. . . I would get picked on by the big guys in class. My teacher just let it happen. In fifth grade, four guys jumped me. I tried to fight back. All of us got suspended. I was glad! I hated school!

Barbara stated that bullying was causing Bradley to have behavior problems, and she wanted to get him out of that situation, so she looked into homeschooling and decided to go that route. Barbara remarked:

After Bradley got suspended, I talked to his teacher and the principal, and it seemed like they were blaming all of the problems on Bradley. I could not let him or Benjamin continue in that school. The boys went to the same school and Benjamin saw a lot of what was going on outside on the playground, so I know that it was not just Bradley’s fault. Of course, that meant I would have to leave my job, but I had to do something to help Bradley. We did not know he was autistic then, but I think God was trying to tell us something, and He wanted us to be more involved with the boys and homeschool. . . I went to a homeschool conference and did a lot of research so I could provide them the best education I could give them. We also got involved with a homeschool group in our community, and that group provides social interaction and support for both boys and for me. Homeschooling was a winning decision for all of us.

Deborah is another parent participant who also resigned from her full-time position as a school counselor to homeschool her son Dwight. Again, a primary motive for that decision was because Dwight was bullied in school. Like Barbara, Deborah pulled her other children out of
public school to homeschool them. Dwight commented that his family has been his greatest support system both during his homeschool years and college. He added:

Mom worked hard to make sure I was happy and learning. She let me explore different things. She let me work alone – on different things. I got to learn from my brother and sister, too. They helped me, and they did not pick on me like the kids in school did when I was a kid . . . Mom was my biggest support. So was Dad. He helped me do other things Mom did not do. They both helped me . . . supported me.

Georgia also pulled her son Grant out of public school so she could homeschool him. Grant, too, was a victim of bullying. Although Grant has never been informed of his diagnosis of ASD, Georgia and her husband ensured Grant had support systems in place. Georgia stated:

We gave Grant every possible avenue of support we could when he was growing up and especially when we homeschooled. He lives on campus for college, so we cannot be there all the time, but I think he needs that independence and it is just one way we support him . . . We are available when he calls, and we try to encourage him. We visit him, but not too often. He needs to be independent and fend for himself in the real world, so he needs to start now. This is our way of supporting Grant to become a responsible adult . . . We also encouraged him to start taking college classes while he was still in high school. That way he was able to go to class, earn some credits, and start being independent . . . He is smart, so we knew he could do it. He also does not have a lot of friends, so he needed to step out and try college out while he was still living at home. College is a social place for so many young people, and he had to try and fit in there, especially since he did not fit in at school before . . . We were his friends during those first two years of college, and now he is living with a roommate in the dorms, and he is
doing well there. He has a friend, and no one ever has to know he has autism!

Cynthia attended a private school prior to her diagnosis of ASD, but the school she
attended up to that point did not have staff trained to assist students with disabilities, so Cynthia
went to public school for one year. Cynthia remarked:

That year was a pain! Going to a new school was a pain! That was painful! Good thing
Mom and Dad did not make me go back to that school because it was a pain! I got to be
homeschooled. That was not a pain! It was cool! Then my brother started in
homeschool. That was cool! I mean so cool to have my brother at school with me . . .
Mom let me help her, and I got to do fun classes that I did not get to do in pain school.
That is my name for that school I went to for a year – pain school! I call the homeschool
cool school! Mom still homeschools my bro in the cool school. I get to help Mom
sometimes when I am not in class. He is a lot like me, and he is my best friend. I love
Caleb! I love Mom and Dad! I love [my sisters] too!

During her individual interview, Catherine (Cynthia’s mother) added:

Cynthia did well at the private school, and I think she would have continued to do well
there. Her biggest problem was that she did not have any friends, and she did not talk
much. The teachers thought she would be held back if she did not get the special services
. . . I could not convince them to allow her to continue going to school there, but they
would not allow it . . . Homeschooling Cynthia allowed me to challenge her while giving
her the support she needed. She has also been a great support for me, especially since
[her brother] also has autism. They relate to each other is a special way. I have never
seen siblings have such a close bond, especially with their age difference. It is a blessing,
and I know God planned it out this way just perfectly.
Another example of familial support is the fact that three of five of the students with ASD who participated in this study (along with one student who declined to participate even though his mother participated) were still residing at home at the time this research was conducted. Several comments from participants demonstrate how the opportunity to live at home is a form of support for these students. Cynthia expressed the following:

I went to cool school for six years, I think it was six years. Well, during the last two years, I got to take college classes, and that got me ahead . . . Mom had me take some tests to see where I might do well in college. The tests had stuff like art, engineering, computers, and graphic design. I did not know what graphic design was, so Mom helped me find information about it, and it sounded cool! Just like my cool school! I took one class the first semester, and it was a graphic design class. I loved it! Mom said to not decide yet . . . She said take another class. I took one more class for graphic design. It was cool! Next year I took lots of classes. I had to take some other classes like literature and stuff, but those are good classes too . . . I got to take more classes during the summer. Now I am almost finished . . . I like school. Cool! That is like school! Cool! I might go to college after I finish my degree so I can get a master’s degree. Mom said it would be good to keep taking classes, but she is also saying I might want to try to get a job for a little while . . . She said it might be good to work so I can seek what a graphic design major does. I don’t know. Mom and Dad say it is important to pray about it and they pray with me about it . . . I pray about it.

Catherine said that she felt it was important to support Cynthia as much as possible as she transitions to adulthood and “the working world.” She added that although she only had an associate’s degree, her husband had an excellent job because he had a good college education
and he worked hard. She reflected, “I know the value of education. I think Cynthia is capable of doing well in the working world. She is blessed with the ability to learn, and I want to encourage her to use her God-given blessings.”

Similar examples were evident in the interview transcripts and reflection journal entries. Specifically, Edwin said that his parents’ support was the main reason he was pursuing a college degree.

I do not like to drive, and Mother drives me to school and to work . . . I work at the graveyard shift, and Mother will drop me off at work, and she gets me when I get off. I rest a bit, and she takes me to classes . . . I try to take my classes together . . . No, Mother registers me for classes so she doesn’t have to drive back many times to get me. . . On Tuesday and Thursday class days, I wait at school for lunch because I do not have classes together . . . I mean, in a row.

During his interview, Adam commented, “My parents, especially Mom, are the reason I am where I am today. I think she feels bad that she sent me to public school for a few years, but she did that to help.” He added, “They allowed me to stay at home during community college, and they always listen when I call and tell them my problems – both then and now.”

Similarly, all five students with ASD commented in their reflection journals about the support they got from their families. Adam wrote, “Today was test day, so I called home to talk to and pray with my parents. It helped lift the stress level.” Bradley commented, “Classes were delayed today, and that threw me off. Someone pulled the fire alarm. I called Mom, and she helped me relax and not stress.” Referring to classmates who were being loud during class, one of Cynthia’s entries read, “I can always count on Mom to help me get through some of these times. I just don’t understand people. Why go to school to play?” Both the other students wrote
statements reflecting the sentiment about the importance of familial support. Additionally, during his interview, Adam’s roommate Arthur stated, “I can honestly say that Adam gets his best support from his family. It seems like he calls home at least twice a week.”

Support from church and church staff was also mentioned as being important to most of the participants in this study. In their reflection journals, all the students with ASD mentioned support from their churches. Specifically, Adam wrote, “Pastor Allen called me to pray with me today.” A different day he commented, “It was great having a visit from Pastor Allen this afternoon; he always lifts my spirits, and I look forward to seeing him when he has a chance to come to campus.” Bradley penned the following comment: “Reverend Brown’s prayer on the church webcast lifted my spirits, so I called him. He listened. He prayed with me over the phone. A good day.” Similarly, Cynthia’s reflection journal had several entries about the support and encouragement she received from members of her church. For one entry, Cynthia wrote, “Mrs. Churchill is such an encouragement. What a cool woman to come to my house and college to visit with me and pray and stuff.” Likewise, Dwight wrote, “I got a B on my test today. Dad and Pastor Davis talked to me. That helped. They said I was too hard on myself. I guess they’re right. Even so, I will do better next time.” Finally, one of Edwin’s entries stated, “Misery! These classes are misery to me. Why do I need to take them? Good thing I have Pastor Edwards to pray me through this misery.”

Many participants also benefited from professional counseling services (distinguished from counseling they received from clergy and other church staff and members). This form of support was related to parental support, as parents initiated and maintained students’ access to professional counseling. Although Adam was not receiving counseling at the time of the study, he met with a professional counselor during his high school years and for his first two years of
college. Bradley had biweekly sessions with a psychologist, and Edwin had individual and group therapy sessions two to four times a month (depending on his schedule and other circumstances). Finally, group therapy with other individuals with ASD proved to be a beneficial support system for Dwight. Dwight’s mother Deborah stated:

My son is in a large group of Asperger’s boys. Because these boys tend to think alike, they get along and learn from each other. Several of these boys go to college, but none of them have wanted to draw attention to themselves and didn’t tell the colleges they had Asperger’s, so they do not get any support services at college, but the group sessions Dwight attends have been good for him.

This comment also supports the theme of social struggles because of difficulty with expressive communication.

Obtaining counseling services was difficult for some participants. A specific example came from Elizabeth’s comments as she spoke about Edwin:

He has gone to group therapy and individual therapy for seven years. It has actually been easier to find some services for our son now that he is an adult. We were actually told by one of his therapists when he was a teenager to have him arrested because then the judge could order services that we couldn’t afford to pay. One even went so far as to suggest that we relinquish custody to the state so the state would pay for the services! What a messed-up system! He was surrounded by a loving family who was trying everything to help him, but the affordability of mental health care for kids in this country just plain stinks!

The theme of support reflects how disability theory relates to college students with ASD in that societal perceptions have a significant impact on students with disabilities (Barnes, 1991;
Oliver, 1990; Oliver & Barnes, 2012). As the parents had a greater understanding of the unique needs of their children with ASD, they were better prepared and able to support their children while homeschooling and during the transition to college and while in college. Support also provided a basis for both intrinsic and extrinsic motivation for the students with ASD (Ryan & Deci, 2000). Specifically, when the parents made sacrifices to help their children with ASD, they provided encouragement and that allowed their children to become motivated.

Social struggles. Support and encouragement is interrelated with social issues in that support and encouragement are fostered in the social environment. La Guardia et al. (2000) stated that in individuals who have strong attachment relationships (which can include close relationships with family members as well as most any other person), there is an enhanced sense of autonomy and personal fulfillment. Social difficulties was another theme that emerge during data analysis, and difficulties in social situations can negatively impact well-being, autonomy, and personal fulfillment. Social struggles for students with ASD appeared evident from an early age based on the fact that most of the students with ASD in this study (Adam, Bradley, Catherine, and Dwight) had been removed from public schools and homeschooled because of bullying and other social problems. In addition to bullying, other social problems included communication difficulties (both receptive and expressive) and a sense of social isolation. Figure 4 represents these three major forms of social struggles experienced by the participants with ASD.

None of the five participants with ASD in this study had a transition plan. In contrast, Georgia’s son, who did not participate because he was never told of his diagnosis, had a transition plan. The transition plan included, among other things, items such as helping Grant transition to college by having him take college classes on campus while he was still in high
school. Georgia called this an early college program, and it is designed for individuals with disabilities and first-generation college students. Georgia remarked, “They said that getting him in a classroom should help ease him to full-time college student status . . . and it should help with social struggles.”

![Diagram: Social Struggles]

_Social Struggles_  
*Figure 4.* Forms of social struggles experienced by participants with ASD.

Like Georgia’s son, most of the other students took college courses on campus (part time) while they were still in high school. The parents of those students indicated that they believed this route would facilitate the process of taking classes on campus full time. Specifically, Adam, Bradley, Cynthia, Dwight, and Edwin all took college classes while they were still in high school, as did Georgia’s son. Felicia’s son was the only individual with ASD related to this study who did not take college classes while in high school.

The students with ASD and their parents indicated that taking college classes while in high school helped with the transition process, but it did little or nothing to ease communication troubles. Specifically, Elizabeth stated that Edwin “does not like to hang out on campus between
classes, but he has no choice sometimes. I cannot go and pick him up just to take him back to school in an hour or two.” When I asked Edwin (during a follow-up interview) about what he does when he is on campus between classes, he answered, “I go off and try to get away from the crowds. My mother usually packs me a lunch, so I can just go off and sit somewhere and play games on my tablet.” And this expression by Edwin demonstrated that he felt more comfortable being alone rather than socializing with others on campus.

Taking classes while living at home seemed to help some students deal with anxiety caused by communication difficulties. Deborah remarked:

My husband and I have known for a long time that [Dwight] likely wouldn't do well in a dorm just due to his introversion and anxiety. He needs a lot of alone time to recharge. That is a big reason he lives at home and not in the dorms . . . Before Dwight started taking classes, we tried to encourage him to move into the dorms. We visited a couple college campuses, and we toured the local state university and the dorms there. In the end, we decided that it would be best if he commuted from home for the first year or two versus living in a dorm . . . On the other hand, Dwight also belongs to the college’s Quiz Bowl team, and, although I don’t mean to brag, I have to say that he largely carries the team. He has no problem at all answering questions in front of an audience. But if someone he doesn’t know well asks him one on one about anything, and especially something personal . . . that’s when communication becomes difficult for him. Even with his dad and me, he often has trouble expressing his feelings or desires.

One of the reasons several of the participants with ASD were homeschooled was bullying in public schools. Bullying did not appear to be an issue during college for any of the participants. Relatedly, a few participants indicated that they were socially isolated, but social
isolation was something to which they were accustomed and they did not feel distressed by it. Adam commented that he had a great relationship with his roommate in the dorms, but he did not socialize much with others. Adam said, “Arthur is a great friend, and we do a lot of things together, but I do not do things with many other people at school.” However, Adam’s perception of his social relationships, including his friendship with Arthur, appeared to contradict Arthur’s experience relayed during his interview. Arthur’s response to the question, “Describe your interactions with Adam? To what extent do you interact?” was:

Adam is a great guy, and we get along, but we do not do much together. I like to go to the dorm parties, football games, and hang out with some of the other guys in the dorm and the girls from our sister dorm. Arthur would rather spend time in the room studying, reading, playing on the computer, and whatever. Adam went with me once, but he left after, um, maybe 15 or 20 minutes. He stood along the wall and kept looking at his hands. It looked like he was counting something. Maybe his fingers. So, I guess I can say we do not interact a lot. But he does help me with some of my assignments. That dude is smart! I mean really smart!

Furthermore, during his interview, Arthur answered the question “What kinds of social relationships does Adam have, and with whom does he have social relationships?” with:

Oh man! Do you mean here at school? I have never seen him talk with many people on a strictly social basis. He will ask questions about what time something is, and I think he asks questions in class, but I have never seen him just talk to anyone just . . . well . . . being social. Like I said about the party we went to, he just stood there and counted his hands or something . . . he did not talk to anyone once we got there. Outside of school, he seems to socialize great with his family . . . He calls home at least twice a week. He
talks to his parents, I think, mostly. I think he has a brother, but I am not sure if they talk much. Also, I think he talks with, to someone from his church every now and then.

Other than that, Adam is basically just my roommate. I like him, and we have similar majors, but we have different interests. I guess that is part of because he has autism. Kind of like the kids in school who were different that I told you about.

These comments about Adam relate to Oliver’s (1990) and Barnes’ (1991) disability theory and is exemplified by Adam’s attempt to appropriately deal with external and social pressures by leaving the party when he was not comfortable. Arthur’s comments reflect how his views were socially constructed based on his past experiences in observing others with ASD, and he used his past experiences to accept Adam’s behavior as “normal” for someone with ASD. This is, in effect, a stereotype, which is a major component of the disability theory (Barnes, 2003; Meyer et al., 2015; Oliver, 1990).

Likewise, the following comments by Alice, Adam’s mother, can be compared with the disability theory. Alice answered the question “What kinds of social relationships does Adam have? With whom does Adam have social relationships?” by stating:

Adam has issues with communicating, and I think those issues stem from stress, not the actual inability to communicate. When Adam is stressed, he starts to shut down and sounds childish. Spending time just building a rapport about nothing important might ultimately lead to more productive conversation. My husband and I try to do this by directing our conversations to something Adam likes, especially when he seems to be extremely over-stressed. Because of his stress issues, Adam has communication problems that most other people do not understand. We have tried to talk to Adam’s roommate about how he can help Adam communicate, but I don’t know if it has gone
anywhere. . . But, to answer your question . . . I don’t think Adam is very social at school. He calls us at home, and he tells his dad about his days, but I don’t think he has anyone at school he talks to much and does things with. Well, I guess he does talk to his older brother every so often, but I don’t think that is what you mean. So, I guess I just have to say that Adam has few social relationships, and the ones he does have are with family.

Other participants’ comments were consistent in depicting communication struggles as largely the result of stress, and participants attributed much of those struggles with the diagnosis of ASD. Furthermore, stress is often caused or compounded by environmental struggles, which formed the basis of another theme.

**Environmental struggles.** Environmental struggles are closely tied to social struggles as indicated in the disability theory (Barnes, 2007; Oliver & Barnes, 2012). This theme was based on the fact that many of the participants with ASD have hypersensitivity issues, they do not have accommodations or modifications in place, and external stimuli present on college campuses can lead to anxiety. Many of the participants with ASD mentioned, either during interviews or in their reflection journals, struggling with different aspects of the environment on campus (in classrooms, in common areas, etc.). Parent participants commented about different environmental struggles as well. Figure 5 depicts three forms of difficulty with the environment experienced by the individuals with ASD who participated in this study.

One of the defining characteristics of ASD is hypersensitivity to sounds, light, textures, temperatures, etc. (Buron & Wolfberg, 2008; Orefice et al., 2016). Orefice et al. (2016) added that “95% of individuals with ASDs also exhibit aberrant sensory stimuli” (p. 299). When individuals with ASD are exposed to environmental conditions that are beyond their control, they tend to overreact or react in other ways that seem inappropriate to people around them (Gelbar et
al., 2014; Orefice et al., 2016). This is exemplified by how Adam responded to external stimuli when he went to a party with his college roommate, Arthur. Arthur indicated that Adam seemed very uncomfortable in the environment, specifically, when they went to a social event together at which Adam kept to himself and fidgeted.

Another example of a participant struggling with the environment is found in the following comment Catherine made about Cynthia:

She is doing very well at college and is becoming very independent, but her sensory issues and anxiety are something she still struggles with almost daily. It’s pretty clear she’s not going to completely overcome them at this point. She processes more slowly and still often says, “Wait. I’m confused,” even as a young adult. Her struggles mostly stem from her sensory issues. Noises like loud music and someone tapping their pencil on a desk irritate her. She can be plugging along in class, and someone walks by outside playing music, and, even when it would not seem loud or bother me or you, it really sets

**Environmental Struggles**

*Figure 5. Aspects of environmental issues and struggles experienced by participants with ASD.*
her off. She can’t concentrate. She told me about a time in the library when a guy was typing on his laptop, and she said the guy was “pounding on the keys.” Well, she said she had to get out of there. She couldn’t concentrate.

The college campus can be full of that sort of external stimulation. Relatedly, Barbara commented:

Bradley struggled at first when he went to take classes at college. He was used to a quiet routine of homeschooling, and those initial classes stressed him out . . . He has progressed, and he learned not to get so bothered by things he cannot control. To a point. He still gets stressed out sometimes.

Most of the participants with ASD had no accommodations or modifications in college, and the reasons were varied. For example, Deborah indicated that Dwight did not have any accommodations because he did not want to “draw attention to” himself, and he “didn’t tell the college” he had ASD. She added:

[I] inquired about [accommodations] directly, and I was told he would need a second diagnosis, like learning disabled, which he has, and he would have to advocate for himself and tell each professor individually. He will not do that. In my opinion, the colleges should have a system, like an IEP, where it is in his file and he is flagged so that the professor knows without him having to embarrass himself and tell each professor. It isn’t in place. I am not sure what your research is for, but if it is for ways to make colleges easier for Asperger students to achieve, that would be my first suggestion.

Felicia’s son was one student who had accommodations (although he chose not to participate in this study). The most important accommodation her son had was permission to use a smartpen in class. A smartpen is a tool developed to assist students with disabilities in
notetaking and completing other school-related activities (Patti, & Vince Garland, 2015; Rawson, Stahovich, & Mayer, 2016). The smartpen is “a miniature computer with a tiny OLED screen, an infrared camera, sound capabilities, and a ballpoint pen. The pen works like any other, writing in a basic blue ink on regular paper” (Bolkan, 2010, p. 40). The smartpen can function as a calculator, it is capable of recognizing handwriting to some extent, and it can record what the “users say and hear, as well as what the users write, on special digital paper” (Patti & Vince Garland, 2015, p. 239). Regarding her son’s smartpen, in her interview, Felicia commented:

The psychologist who did his testing recommended he use one . . . His school’s disability office had no problem at all approving him using one, and so far, all of his professors have been okay with it. He had no problem learning to use it, although I think he’s still working on making the most of it. Like most young adults, he figures out new technology pretty easily! He says he’s finding it very helpful. His visual/spatial deficits make it challenging for him to look up at a white board then back down at his paper and write notes and repeat, repeat, repeat, throughout a class. The visual/spatial issues also make handwriting a challenge. His psychologist thought it takes him so much effort to do those tasks that he’s likely missing out on some of what is being said. And since working memory is one of his strong points, she felt that if he were freed as much as possible from the struggle of taking notes that he’d be better able to concentrate on what's being said and to use his working memory to its full potential.

The fact that most of the students with ASD had no accommodations in place indicated intrinsic motivation on their part in that they were succeeding in their college classes without the use of accommodations. This motivation enhanced their personal well-being, which resulted in greater autonomy and competence (La Guardia et al., 2000). Furthermore, motivation is related
to the disability theory in that the students who participated appeared to not want to have their disability be a factor or focus; they wanted to avoid the possibility of socially constructed barriers (Gelbar et al., 2014; Matthews et al., 2015; Payne & Wood, 2016).

**Narrow focus.** Many individuals with ASD have focused interests, and having a narrow focus can result in struggles in other areas (Glennon, 2016; Retherford & Schreiber, 2015). Narrow focus, as a theme in this study, describes the participants’ common experience of a limited range of academic interests. All students with ASD in this study had majors in fields related to science or technology, and this restricted focus impacted academic performance, achievement, and distractibility in students with ASD. Figure 6 represents the subcategories of the theme of narrow focus.

![Narrow Focus](image)

**Figure 6.** Aspects of narrow focus.

Table 4 depicts the majors of the five students with ASD who participated in this study. Table 6 includes that same information as well as the majors of the two students who did not participate (as provided by their mothers who participated). As evident from Table 6, the seven
college students with ASD were majoring in science or an area of technology (engineering, computers, etc.). None of the students had majors in the arts, humanities, social sciences, business, religion, etc. although graphic design may be considered by some to be an art. Thus, students had a narrow focus in relation to the majors selected, and it suggested that these individuals prefer fields where social interaction is not as vital for success as it would be for other fields of study (education, ministry, business, administration, etc.). Graduates with degrees corresponding with the majors pursued by these seven students are often able to work independently, and their jobs involve more interaction with objects instead of with people (Alston & Hampton, 2000).

Table 6
College Majors of Students with ASD

<table>
<thead>
<tr>
<th>Student with ASDa</th>
<th>Age</th>
<th>Year</th>
<th>Major</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adam</td>
<td>20</td>
<td>Junior</td>
<td>Mechanical Engineering</td>
</tr>
<tr>
<td>Bradley</td>
<td>18</td>
<td>Sophomore</td>
<td>Undeclaredb</td>
</tr>
<tr>
<td>Cynthia</td>
<td>21</td>
<td>Senior</td>
<td>Graphic Design</td>
</tr>
<tr>
<td>Dwight</td>
<td>19</td>
<td>Sophomore</td>
<td>Information Systems</td>
</tr>
<tr>
<td>Edwin</td>
<td>22</td>
<td>Senior</td>
<td>Computer Science</td>
</tr>
<tr>
<td>Frankc</td>
<td>18</td>
<td>Freshman</td>
<td>Computer Engineering</td>
</tr>
<tr>
<td>Grantc</td>
<td>19</td>
<td>Junior</td>
<td>Zoology</td>
</tr>
</tbody>
</table>

*Note.* Based on information from demographics questionnaires and interviews.

a All names are pseudonyms.

b Although he stated he has not declared a major, he indicated that he is working towards a degree in Computer Software/Programming.

c Student did not participate, but homeschooling parent participated.

Individuals with ASD have several things in common related to academic performance. Specifically, they generally perform well in subjects that interest them, they often get distracted
when learning something outside their preferred subjects, and such distractions may result in below average or substandard performance in the classes outside their range of interests (Grander et al., 2014; Wiorkowski, 2015). Narrow focus was evident in Edwin’s comment: “I tend to drift when I do not like the class.” In part because of his struggles related to being distracted, Edwin earned a 4.0 GPA in the courses directly related to his major, but his overall GPA decreased to 2.78 when incorporating all the courses he has taken, including the required general education courses. In addition, Adam commented, “Classes I don’t like give me trouble. It is hard to keep my attention in those classes.” Even though he stated he has not liked some of the classes outside his major, Adam still earned a 3.91 GPA for his associate degree, and he had a 3.81 GPA for his first semester at his current four-year university.

Likewise, despite having specific interests, other participants learned to overcome distractions and performed well academically. Bradley had a 3.94 GPA after completing 16 college courses. Cynthia has maintained a 4.0 GPA for the duration of her college studies, and she will be starting her last semester prior to earning her bachelor’s degree. Likewise, Dwight has maintained a 4.0 GPA thus far; he has completed 16 college courses. To expound on Dwight’s academic abilities, Deborah stated during her interview:

He pretty much taught himself to read fluently before he was four. In kindergarten, he was tested and was reading at middle school level (the highest level they could test for). His comprehension was also very good . . . We thought he was just a very advanced early reader, a.k.a. a super smart kid . . . He was also advanced in math. Before starting kindergarten, he could add or subtract two three-digit numbers in his head. Not 200 minus 100, but numbers like 987 minus 356 . . . [But] his handwriting has always been terrible. Legible but very messy.
Regarding Bradley, Barbara stated, “he exhibits rigid thinking inconsistently. At times, he’s able to adapt his mindset, and other times he cannot. It’s somewhat correlated with his general level of stress/exhaustion/previous exertion, but not always.” Furthermore, Barbara said, “When Bradley gets into this rigid mindset, he starts pacing, twisting his shirt, and fidgeting . . . or he just does something that is totally off-the-wall.” I asked Barbara to clarify, and she replied by telling me:

An off-the-wall thing he does is he starts talking about something totally off topic but something he likes. Bradley has always been interested in strange subjects like the history of computers. So, he will start spouting off facts about this or that, and I have no clue what he is talking about, but he starts saying things about who invented what or what have you. When he does that, I know he is stressed. I am amazed at what he knows, and I cannot say if he is right, but I think he is . . . Where did he learn all those things? Why is it so important to him? It is like a big puzzle, but I have to accept him as being smart and different.

Based on these data, it is apparent that academic performance, distractibility, and preference for technical majors are interrelated, but the narrow focus common in all these factors did not inhibit success. However, these factors within the theme of narrow focus demonstrate that the participants did not let others’ perceptions form a barrier to their success (Barnes, 1991; Oliver, 1990). The unique ways the students with ASD respond leads their parents to be especially concerned about what the future holds for their children with ASD, which constituted another theme.

**Concerns about the future.** The final dominant theme, as depicted in Figure 7, relates to concerns about the future. This theme was derived from comments from several participants,
primarily parents, about what they expected in the future. This theme captured the following experiences: (a) all five students with ASD who participated in this study were living or previously lived at home while taking college courses; (b) two of the students with ASD did not have a driver’s license; and (c) although the students with ASD were doing well (on average) in college, some of the parents expressed concern about what their child would do after he or she finished college.

![Diagram of concerns about future]

**Concerns about Future**

*Figure 7. Areas of concern about the future.*

All five students with ASD who participated in this study were currently living at home or they lived at home at some point while taking college courses. However, it is important to also note that two of those five were living in the dorms on campus at the time of this study, and one, Bradley, only lived at home when he was taking college classes for dual (high school and college) credit. Although living at home provides stability for the participants with ASD, and having that social support from their family members encouraged the participants, some parents also identified it as an area of concern. For example, Deborah commented:
Dwight is impacted in a way where he has really struggled with the transition to adulthood and resents seeing how easily his siblings moved forward and do and have things that he isn’t doing. His siblings are adults and have relationships, careers, away at college, etc. It is hard. He wants to be like them, but he also knows that he is different. He never had friends like his sister and brother have . . . He even said he wants to join the service like his brother . . . maybe the Coast Guard so he doesn’t have to go to war. He’s afraid of war. He thinks his brother will be going to war after he is commissioned next May. I want to reassure Dwight, but he gets so focused on the war thing he won’t listen. [My husband] and I are thinking about going to a recruiter and seeing if they would accept him in the service . . . We want him to succeed and be happy . . . a successful adult who can manage for himself . . . How do we push him out without pushing him away?

Two of the seven students related to the study (two were not participants, but their mothers were), did not drive or have driver’s licenses. Regarding Edwin’s lack of a driver’s license, Elizabeth commented:

He just refuses to drive . . . He thinks he can use me to take him everywhere he wants to go . . . He had his permit before it expired, but he got so panicked when he got behind the wheel, I thought he would crash just backing out of the garage. If he won’t drive, how will he survive? He needs to be able to get around. I can’t just be there when he wants to go somewhere. I have my job. I take him to classes, and I go to work. I pick him up. I take him to his night job, and I try to sleep, but I have to get up to pick him up. [My husband] helps when he can, but he travels a lot for his work, so it all falls on me . . . I just have not figured out how to help Edwin.
In contrast, although Bradley did not have a license, it was not a big concern to him or his mother. Bradley said, “I live in a very large city. They have busses. I don’t need a license.” Barbara remarked:

Bradley doesn’t want to drive, and that is not much of a problem since we have a wonderful mass transit system, and the university has its own shuttle service. But Bradley will not be in college forever . . . What happens if he is offered a job somewhere and they don’t have transit available? I guess, if he can, he can just make sure he only applies for jobs in major metropolitan areas where transportation won’t be an issue. Who knows . . . Maybe he will surprise us and get his license.

Most of the parents expressed concern about what the future would hold for their children with ASD. Catherine described her worry about her daughter’s concreteness, stating, “Cynthia is very literal! It has affected her all her life, and I’m afraid it will hurt her in the working world.” Likewise, Felicia commented:

One thing I learned from doing my own research on autism is that these kids are very literal. You have to tell them exactly what you want or they will do something different. I remember one time, my son was with me, and I asked someone if they had a problem getting enough oxygen because their finger nails looked blue. He said, “No, the skin under the nails is blue, not the nails.” I knew it was not the nails, but he had to make sure I knew it was not the nails that were blue. I could give you many more examples, but I think you can see what I mean . . . He has difficult times with figures of speech and expressions you and I think nothing about when we hear them.

These parents’ comments (as well as comments from other parent participants), are substantiated by scholarly research on the literal nature of individuals with ASD (Davidson &
Tamas, 2016). McKenna, Glass, Rajendran, and Corley (2015) found evidence that figurative speech and language causes difficulty for individuals with ASD in that figurative language causes delayed mental processing, which results in slower reading skills and delayed responses and reactions. Quirici (2015) noted that people with autism are often called “geniuses without imagination” (p. 71) because of their reputation for possessing high intelligence while lacking imagination or creativity. This observation was consistent with the findings of Chahboun, Vulchanov, Saldaña, Eshuis, and Vulchanova (2016), who asked both adults and children with ASD to perform different tasks that required them to manipulate objects and respond to different prompts. They found that error rates were higher and reactions times were slower for individuals with ASD, especially when idioms and figurative language were used when in directions and prompts (Chahboun et al., 2016). Saban-Bezalel and Mashal (2015) obtained similar results when they compared how neurotypical adults and adults with a pervasive developmental disorder (PDD, a mild form of ASD) process idioms and irony in written and spoken language. Thus, difficulty with abstract language forms (irony, figures of speech, idioms, etc.) may lead to problems in the workplace and in social situations. This may cause difficulties in the transition from living at home (or being in college) to adult life, especially because ASD is a life-long condition for which there is no cure (Lee & Carter, 2012; Mitchell & Beresford, 2014; Saban-Bezalel & Mashal, 2015).

**Research Question Responses**

The purpose of this study was to determine whether individuals with ASD who were homeschooled are successful in college and what helped them succeed in college. The significance of this research was supported by existing research indicating that individuals with ASD struggle in college and have higher attrition rates than neurotypical students and students
with other disabilities (Barnhill, 2016; Gelbar et al., 2015). At the same time, research conducted by authors such as Drenovsky and Cohen (2012), Martin-Chang, et al. (2011), and Ray (2010) demonstrated that homeschooled students perform average to above average in the college setting. The target study population was the overlap of these populations (ASD and homeschooled), and research questions were posed to evaluate experiences of individuals with ASD who were homeschooled and now are on-campus college students. In this section, the central research question and three research sub-questions, which are depicted in Figure 8, are answered in a narrative format and supported by research data.

<table>
<thead>
<tr>
<th><strong>Central question:</strong></th>
<th>What are the experiences of individuals with ASD who were homeschooled that lead to success in the on-campus college environment?</th>
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</thead>
<tbody>
<tr>
<td><strong>Sub-question one:</strong></td>
<td>How do homeschooled individuals with ASD describe their experiences as students in an on-campus college environment?</td>
</tr>
<tr>
<td><strong>Sub-question two:</strong></td>
<td>How do homeschooled individuals with ASD perceive themselves as prepared to face the challenges of independent living and academia?</td>
</tr>
<tr>
<td><strong>Sub-question three:</strong></td>
<td>How do homeschooled individuals with ASD describe their encounters/interactions (personal and professional) with classmates, faculty, and other individuals they meet on campus?</td>
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*Figure 8. Research questions guiding the study.*

**Response to central question.** The central question for my study was: What are the experiences of individuals with ASD who were homeschooled that lead to success in the on-campus college environment? As defined in Chapter One, an on-campus college student is a student who takes classes in classrooms on a college campus. I used the definition of success proposed by Fitches et al. (2014) and Sommers (2015): passing classes and making progress towards earning a college degree. Based on this definition, each of the students with ASD who participated in this study was successful. All the students earned average to above-average
grades overall in their college classes. Only one participant had grades below a C on his or her transcripts, and only two participants had grades below a B in any course.

Based on the analysis of documents, interview transcripts, and reflections journals, the experiences that best helped the students with ASD succeed in college were related to the support they received both during their elementary and high school years as well as their college years. Each parent provided individualized attention and support to his or her child, and they all encouraged their children to succeed. All parent participants described their efforts to be supportive, all student participants mentioned the support they received, and each participant emphasized the fact that support was vital for success in college.

In reviewing the developed themes, I discovered that each of the five themes that emerged from the data contributed to answering this question (support and encouragement; social struggles; environmental struggles; narrow focus; and concerns about the future). The theme of support and encouragement, however, was the most important factor leading to success in college based on the fact that all the participants with ASD stated they had great support from their parents and other individuals close to them (pastors, church members, siblings, counselors, etc.), and there was a high frequency of incidence of references to support. Notably, all participants with ASD emphasized in their reflection journals that their parents were their primary support system, and each of the five participants with ASD discussed the support they received from their pastors and from their Christian faith. Every parent who participated mentioned during their interviews their own efforts to be supportive or other forms of support their children were receiving, such as counseling, support from church leaders and members, support groups, etc. Finally, the roommate who participated observed that Adam had a strong support system from his home and church.
In response to my first interview question, four of the five participants expressed the view that they were successful in college. In other words, four of the participants stated they had successfully passed all their classes and were making progress towards earning their college degrees. Edwin was the only participant with ASD who said he was dissatisfied in college and did not feel successful. Edwin said, “I did good in my major classes, but I do not like boring classes like English, composition, and literature.” He added, “I take the classes I have to. I tend to drift when I do not like the class. I would not register for the classes I don’t like, but Mother registers me for classes.” Edwin also commented, “Mother tries to help me with some of those classes I don’t like; Father, too. If they did not help, I would not pass my classes like those.”

Social struggles did not appear to negatively impact the success in college of any of the participants with ASD. This is a characteristic unique to many individual with ASD, as they are more accustomed to being socially isolated (Baron-Cohen, 2002). For example, Edwin commented that he had several friends in his classes and they helped each other with homework. In contrast, Elizabeth countered:

Edwin likes to think he has a lot of friends, and he even says he has many friends, but he goes to campus for his classes, and he comes straight home after class almost all the time. He does study with classmates in classes, but he never invites them to come over, and I doubt any of those guys invite him over . . . He gets much of his support from [his father] and me. We prepared him for classes as best we could, and he is up to the academic challenges of college. He just has trouble with those social challenges.

Although participants acknowledged experiencing environmental struggles, none of the participants identified ways in which those environmental struggles impacted their success negatively. One parent, Felicia, commented that her son overcame some of the environmental
challenges he faced after he started using a smartpen in classes, which helped her son focus better in classes.

Narrow focus, while a hindrance to participants’ success in some ways, was a major element contributing to success in that all the participants with ASD excelled in classes related to their majors, and most performed exceptionally well overall. At least partly due to narrow focus, the participants with ASD, with the exception of Bradley, decided on their college majors while they were still in high school. Even Bradley narrowed his major down to a few options, but he was undecided about the exact major (either computer software engineering or computer programming). Since they decided on majors early on, most of the participants were able to start taking classes in their majors while still in high school, which also contributed to these students’ success in college.

Although each of the participants with ASD was succeeding in college by passing classes and making progress toward to earning their degrees, several participants expressed concern about what the future would hold. That concern seemed to motivate the participants to look beyond college. Cynthia commented, “I am getting close to graduating . . . I might go to college after I finish my degree so I can get a master’s degree.” Her mother commented:

I know the value of education. I think Cynthia is capable of doing well in the working world. She is blessed with the ability to learn, and I want to encourage her to use her God-given blessings . . . She is doing very well at college and is becoming very independent . . . I have no doubt she will be successful if she gets a job or continues in school.

Overall, the fact that the most of participants with ASD took college classes while being homeschooled in high school, a consequence of narrow focus, was identified as vital for those
students succeeding in college. Moreover, the support students received from multiple sources, including parents, both during the homeschool years and during college was foundational to success in college. The data presented indicated that the participants recognized what it takes to be successful, and they had resources in place to help them attain success in college.

**Sub-question one.** To garner a deeper level of information about what contributes to success, I formulated three sub-questions that were related to the central question. The first sub-question was: How do homeschooled individuals with ASD describe their experiences as students in an on-campus college environment? The themes of social and environmental struggles and narrow focus emerged as most relevant to answering this question.

Social struggles were described by all the participants and confirmed by the parents and the roommate. Specifically, Adam acknowledged, “I do not do things with many other people at school” and “Classes I don’t like give me trouble. It is hard to keep my attention in those classes.” Alice, Adam’s mother, commented, “I don’t think Adam is very social at school. He calls us at home, and he tells his dad about his days, but I don’t think he has anyone at school he talks to much and does things with.” Alice added, “Overall, Adam is having good experiences in college. He is doing well academically, and I don’t think it is important, at least in his case, that he doesn’t socialize much or do things with the guys.” In contrast, Dwight, who is in a group in his community that is geared for men and boys with ASD, described finding social support to ameliorate the isolation experienced by many with ASD. A couple of the adults in that group take classes at the same college Dwight attends, and Dwight mentioned in his interview:

Some of my friends go to school with me, and we see each other at school, and I like seeing them there. I don’t talk to the other people there . . . Just mostly to my friends.

We go to the cafeteria and eat sometimes, and we meet at the library sometimes.
Dwight’s mother commented:

My son is in a large group of Asperger’s boys. Because these boys tend to think alike, they get along and learn from each other. Several of these boys go to college, but none of them have wanted to draw attention to themselves and didn’t tell the colleges they had Asperger’s, so they do not get any support services at college . . . They do get together on campus, and that helps him. It seems to make him happy that there are other boys who think like him.

Georgia discussed her perceptions and beliefs about the college experiences of her son, who did not participate in this study. Regarding his experiences, Georgia offered:

He lives on campus for college, so we cannot be there all the time . . . We are available when he calls, and we try to encourage him . . . He needs to be independent and fend for himself in the real world, so he needs to start now. This is our way of supporting Grant to become a responsible adult . . . He also does not have a lot of friends, so he needed to step out and try college out while he was still living at home. College is a social place for so many young people, and he had to try and fit in there, especially since he did not fit in at school before . . . We were his friends during those first two years of college, and now he is living with a roommate in the dorms, and he is doing well there. He has a friend . . . I think he is having good experiences at college.

In addition to social struggles, environmental issues clearly emerged as relevant to answering this question. Even though her son has never been told he has ASD, Georgia said of him during her interview:

Grant gets support from the college because he had a transition plan in place before he moved to campus. Because he struggles with distractions and takes things to the letter –
literally – he gets to take tests in a separate room, and that has helped him. There are other students who get the same sorts of accommodations, so I don’t think Grant thinks much about it. He doesn’t know he has autism. We have always been there to support him since we took him out of school, and we try to support him the same way we did then. It’s like it was just the normal thing to do, and Grant doesn’t even think about it being different from other students at school.

In contrast to the support Grant received, Cynthia expressed concern about environmental struggles during her interview. She said:

I like school (pause) but some of the other things are (pause) like (pause) a pain! I can’t stand some of the noises I hear on campus, and the classrooms are too hot or too cold.

The lights can be too bright (pause) I need to wear my dark sunglasses (pause) I think I need to wear them.

In her interview, Catherine (Cynthia’s mother) commented about some of the environmental struggles Cynthia was having at college. Catherine said, “She is doing very well at college and is becoming very independent, but her sensory issues and anxiety are something she still struggles with almost daily. It’s pretty clear – she’s not going to completely overcome them at this point.” In response to my question about the support systems she believes are lacking in college, Catherine replied:

There really should be some sort of system in place where students like Catherine can get away and not have to deal with noises that bother her or being bothered by lights. Catherine has said so many times that the lights in the classrooms can be so very bright and they give her headaches. Why can’t they do something to a part of the classroom to make it not so bright . . . They are probably worried that the students will go in the darker
part of the room and take a nap or something . . . It seems like they could do something.

But, overall, since she is doing well, I guess it has not been a big problem for her.

Having a narrow focus affected participants differently. Academically, limited interests and a narrow focus did not seem to adversely affect most of the participants, but Edwin explicitly stated that he did not like taking classes in subjects outside his interests, and that negatively impacted his college experience. About classes he did not enjoy, Edwin commented, “Misery! These classes are misery to me. Why do I need to take them?” He added, “Those classes make me want to quit school! I can’t quit school, but sometimes I want to quit. Why do I have to take those classes? Why can’t I take just my computer classes?” These remarks demonstrated that, although the students with ASD were passing their classes, not all the participants enjoyed classes outside their interests.

Sub-question two. The second sub question was: How do homeschooled individuals with ASD perceive themselves as prepared to face the challenges of independent living and academia? The themes of support and encouragement and concerns about the future applied to this question. Data from the transcripts of the interviews, documents, and reflection journals, indicated that all the students with ASD perceived themselves as being ready for college, but they did not necessarily feel ready for independent living/adulthood outside of college and away from their parents’ homes.

The participants’ college transcripts were valuable data supporting the participants’ readiness to face the challenges of academia. All the students had average to well above-average GPAs; two of the students with ASD (Cynthia and Dwight) had 4.0 GPAs in their college courses at the time of data collection. Each of the participants with ASD offered experiences of readiness for college. For example, Adam said, “I was prepared. I had classes at home that were
a lot harder than some of the classes I took in college.” Bradley stated, “I was ready for college classes . . . Being homeschooled is what helped me start to like learning, and my mother encouraged me to pursue subjects I liked doing.” Cynthia commented, “During the last two years [of homeschool], I got to take college classes, and that got me ahead . . . I was ready for college.” Dwight stated, “Mom worked hard to make sure I was happy and learning. She let me explore different things. She let me work alone – on different things.” Finally, Edwin asserted, “I don’t do good in some classes, but I was prepared for college. Taking classes I like was good. Mother pushed me to be prepared.” Bradley was the only participant who identified ways in which he did not feel prepared for college. He commented, “I had a hard time with all the activity on campus at first. I wish I had known it would be like that . . . I also wish I had never gone to [public] school.” Despite this, the students with ASD passed all the classes they had taken and were taking at the time of data collection, and two students were one semester away from earning their bachelor’s degrees. Therefore, given that all the participants were successful, this suggests that they were generally well-prepared to face the challenges of academia.

Although participants with ASD were well-prepared for college, some students with ASD and their parents expressed concern about what will happen after college. For example, Alice expressed concern about the fact that Adam did not have a driver’s license and how it could hold him back in the future. She commented, “I know he is prepared for much of what he could face, but I have some doubts. His not having a license can hold him back. I probably should have pushed him more to drive and get his license.” However, Adam expressed the opinion that he could “do well after college. There is a [local] company that needs engineers; I will get a job there.”
Catherine shared her concern as well:

Cynthia does great when challenged, challenged academically that is . . . I think Cynthia is capable of doing well in the working world. She is blessed with the ability to learn, and I want to encourage her to use her God-given blessings. On the other hand, she struggles with sensory issues, and I don’t think I prepared her enough in that area, to deal with those sensory things . . . Also, being a female, or woman, Cynthia will have different challenges in the working world than a man would have. She will probably live at home until she gets married, if she gets married.

In response to my question about what could have been done differently to prepare the students with ASD for college, almost all the students said they did not think anything different could have better prepared them. Dwight remarked:

I think Mom did what she could. Mom worked hard to make sure I was happy and learning. She let me explore different things. She let me work alone - on different things. I got to learn from my brother and sister, too.

Sub-question three. My final sub-question was: How do homeschooled individuals with ASD describe their encounters/interactions (personal and professional) with classmates, faculty, and other individuals they meet on campus? It was to this question that I got the widest range of responses from the participants, including divergent experiences in some participants themselves. For example, Adam commented that he had great relationships with his family and his pastor, and he said of his roommate, “Arthur is a great friend, and we do a lot of things together, but I do not do things with many other people at school.” Adam further added, “I get along with my professors, but I don’t really talk much to my classmates or anybody else . . . Arthur, I study with Arthur. We study calc. [calculus], and some physics, and differential equations.”
Regarding Adam’s experiences, during her interview, Alice expressed the following: “Adam has communication problems that most other people do not understand . . . I don’t think he has anyone at school he talks to much and does things with.” She went on to add that Adam does not have many social relationships outside relationships with family members.

In addition, Arthur commented during his interview:

I have never seen him talk with many people on a strictly social basis. He will ask questions about what time something is, and I think he asks questions in class, but I have never seen him just talk to anyone just . . . well . . . being social . . . I’m not sure what relationships Adam has at school. I think his closest personal and social relationships are all with people who are not at school like his folks, a brother, church people, but nobody here at school. But I will say it again, he does seem to have great folks. Parents. They seem to care, and Adam does talk to them a lot. At least, to me it is a lot.

Thus, it appears that Adam’s perception of his relationships is not consistent with the observations of his mother and his roommate. This is relevant to the themes social struggles and support and encouragement in that the perceptions of other people in Adam’s life indicate he may be struggling in social situations. Furthermore, evidence suggests that the relationships he has were critically important in terms of the support and encouragement he received from his family. This concept is consistent with the finding of La Guardia et al. (2000) that individuals with strong relationships are more likely to be autonomous and self-determined, thus successful.

Dwight and his mother, Deborah, discussed Dwight’s experiences being involved in a group of boys and men who have ASD. Even though Dwight was in that group, and he indicated that he enjoyed being in the group and being with the other group members, he did not interact often with the group members outside the times they formally met. However, Deborah
acknowledged that Dwight is “generally very introverted, and he does not like to be around people he doesn’t know.” Despite Dwight’s anxiety, however, Deborah commented that he “also belongs to the college’s Quiz Bowl team, and . . . he largely carries the team.”

None of the participants mentioned relationships with faculty or staff during interviews, and there were no references to or indications that any of the participants with ASD had much interaction with college staff based on their reflection journals. However, Felicia mentioned that her son spoke with his professors to get permission to use the smartpen in his classes. She did not specify how her son went about obtaining that permission, but she stated, “His school’s disability office had no problem at all approving him using one, and so far, all of his professors have been okay with it.” Thus, the data indicated that relationships with college faculty and staff was not crucial for success in college.

Summary

The purpose of this chapter was to provide the results of the data analysis. Each participant was described in a brief portrait before the themes emerging from the data analysis were presented. Results were discussed in relation to the themes, and a narrative answer to each research question and sub-question was offered using the themes and examples from the data.

In the results section, five themes and sub-themes were discussed. The theme support and encouragement included family, church, and professional counselors. Bullying, social isolation, and communication encapsulated by social struggles. Environmental struggles included factors related to accommodations, hypersensitivity, and the college campus. Accommodations and modifications, hypersensitivity, and academic performance related to the theme of narrow focus. Finally, the theme of having concerns about the future was specifically derived from fears about what will happen after college as well as the fact that some participants
reside at home with their parents, and two of the participants with ASD do not have driver’s licenses.

The final section of this chapter included a description or narrative of the answers to each of the research questions (including one central question and three sub-questions). The questions were answered based on supporting data and the developed themes. I used participant quotes to support the answers. Overall, the results indicated that the participants with ASD are successful in college, and the support participants received over the course of their education emerged as the primary factor driving that success. Chapter Five is the concluding chapter, and it includes a summary of the findings, a discussion of how the findings relate to the theoretical framework for this study, implications for this study, delimitations and limitations of the research, and recommendations for future research.
CHAPTER FIVE: CONCLUSIONS

Overview

The purpose of my research, a single case study, was to discover and describe the perceptions and social experiences of homeschooled students with ASD who attended on-campus college instructional programs (took classes in classrooms on campus). Of particular interest were those experiences with potential for contributing to success in college, with success defined as making progress towards attaining a college degree as evidenced by passing the courses taken (Fichten et al., 2014; Sommers, 2015). This chapter constitutes a conclusion to the dissertation, and it includes a summary of the findings, a discussion of how the findings are related to the theoretical framework for this study, implications for this study, delimitations and limitations of the research and recommendations for future research.

The single case study design was chosen because it is the most appropriate research design when the researcher does not have any control over the behaviors or events being studied (Yin, 2014). The case study design was determined to be the most appropriate method to garner a complete picture of the college experiences of college students with ASD who were homeschooled (Creswell, 2013; Yin, 2014). One central research question and three sub-questions guided this study. The central question was: What are the experiences of individuals with ASD who were homeschooled that lead to success in the on-campus college environment? My sub-questions were: (1) How do homeschooled individuals with ASD describe their experiences as students in an on-campus college environment? (2) How do homeschooled individuals with ASD perceive themselves as prepared to face the challenges of independent living and academia? And (3) How do homeschooled individuals with ASD describe their encounters/interactions (personal and professional) with classmates, faculty, and other
individuals they meet on campus?

This chapter includes a summary of the findings and answers to the research questions, a discussion of how the findings relate to current empirical literature and the theoretical framework, the methodological and practical implications of the research and the findings, the delimitations and limitations associated with the study, and recommendations for future research. Ultimately, in conducting this research, my goal was to provide information for homeschooling parents of children with ASD so they can best prepare their children for success in college, if they choose that route. In addition, I hope that this research will better inform institutions of higher learning about the experiences of students with ASD so as to facilitate success for students with ASD (and other disabilities) by providing support, services, accommodations, and modifications of teaching methods and settings.

**Summary of Findings**

Overall, individuals with ASD attrite from college at higher rates than neurotypical college students (Duncan & Bishop, 2015; Gelbar et al., 2014) even though research indicated that those who do succeed in college have above average grades (Gelbar et al., 2015; Wei et al., 2013). In contrast, homeschooled students perform better on standardized tests, including college entrance exams (Martin-Chang et al., 2011; Ray, 2015a) and they have above-average grades in college and higher graduation rates compared to college students who attended public schools (Ray, 2010). Because of this contrast, I wanted to discover and describe the perceptions and social experiences of homeschooled students with ASD who attend on-campus college instructional programs, particularly those experiences with potential for contributing to success in college, with success defined as making progress towards attaining a college degree as evidenced by passing the courses taken (Fichten et al., 2014; Sommers, 2015).
As I reviewed the data collected through documents, interviews, and reflection journals, five primary themes emerged from that data: support and encouragement, social struggles, environmental issues, narrow focus, and concerns about the future. The first four themes were directly related to success in college, and the fifth theme related to success but did not necessarily contribute or relate to success in college. Additionally, the findings and resultant themes directly and indirectly answered each of the research questions. Below, each theme is summarized separately followed by summaries of each research question.

Support and Encouragement

The dominant theme that emerged from the data was the theme of support and encouragement. Support took varied forms including, parental support and support from other family members, counselors, support groups, and clergy. Parental support commenced early in life and continued during the homeschooling years and was maintained in college. Parental support also manifested as enrolling the child with ASD into a form of early college program. Six of seven parents stated that their children with ASD took college classes while those children were still in high school. Those parents indicated that taking college classes helped the students more easily transition from being homeschooled, which is generally a more isolated form of education than public education, to taking classes with large numbers of other students. All the participants with ASD who took college classes while still in high school commented that it helped them with the change in class style and structure. Furthermore, taking college classes while in high school allowed the parents to better support and encourage their children, as all the students still lived at home at the time. For example, most parent participants stated they helped their children manage the class schedules and helped their children keep track of assignments (and due dates) for the first few classes, at a minimum.
At the time of data collection, four of the seven parents reported that their children with ASD were still living at home, which constituted another form of support for these students. Being allowed to live at home also contributed to stability and facilitated the transition to taking classes on campus. The students who resided in the dorms lived relatively close to their parents’ homes (within 50 miles), and those parents were able to visit their children and offer encouragement and support during times of anxiety or when they needed support. Furthermore, the students who did live on campus regularly communicated with their parents via telephone and/or they met with their parents elsewhere.

Pastoral support was another important factor that contributed to success for the participants with ASD. All five students with ASD who participated in this study mentioned via interviews and reflection journals the benefit from support from their pastors and/or other church staff and church members. Parents and the one roommate who participated also commented about the importance of this mode of support for the students with ASD. Likewise, most of the participants mentioned the fact that they had support from counselors (including psychologists) and support groups. Finally, participants received support from professional counselors and/or support groups. One participant attended bi-weekly counseling sessions with a psychologist, one participant attended group therapy sessions two to four times each month, and one participant was actively involved in a support group for individuals with ASD.

In relation to the theoretical framework, the theme of support and encouragement reflected how disability theory relates to college students with ASD in that societal perceptions have a significant impact on students with disabilities (Barnes, 1991; Oliver, 1990; Oliver & Barnes, 2012). As the parents had a greater understanding of the unique needs of their children with ASD, they were better prepared and able to support their children while homeschooling and
during the transition to college and while in college; because the parents understood their own children and their differences due to ASD, the societal limits typically applied to individuals with ASD and other disabilities were lessened (Barnes, 1991; Oliver, 1990; Oliver & Barnes, 2012). Furthermore, support provided a basis for both intrinsic and extrinsic motivation for the students with ASD. Specifically, when the parents made sacrifices to help their children with ASD, they provided encouragement and that allowed their children to become self-motivated.

Social Struggles

Interrelated with the theme of support and encouragement is the theme of social struggles. Social struggles for students with ASD appeared evident from an early age as evidenced by the fact that most of the students with ASD in this study (Adam, Bradley, Catherine, and Dwight) had been removed from public schools and homeschooled because of bullying and other social problems. In addition to bullying, other social problems demonstrated by the data included communication difficulties (both receptive and expressive) and a sense of social isolation. Each participant with ASD mentioned that he or she generally struggled when they were in social situations and with communication, and the comments from the parents confirmed those difficulties. However, none of the participants expressed the opinion that those difficulties negatively impacted their overall academic performance. Furthermore, the students commented that the support they received, including the transition to taking college classes on campus, was vital for helping with social struggles, but the social struggles still existed.

As difficulties in social situations and impairments related to communication are common among individuals with ASD (Brunsdon & Happé, 2013; Lopez, 2015; Myers et al., 2015; White et al., 2015), this is an important theme. La Guardia et al. (2000) stated that in individuals who have strong attachment relationships (which can include close relationships with
family members as well as most any other person), there is an enhanced sense of autonomy and personal fulfillment, and both autonomy and personal fulfillment.

Finally, none of the participants appeared to have meaningful personal or professional relationships with others on campus except for one participant with ASD who was involved in a support group for men with ASD and participated on a college Quiz Bowl team. This lack of meaning personal or professional relationships reflected the tenets of the disability theory such as the social barriers and unintended intended intolerance of differences prominent in individuals with ASD (Barnes, 1991; Oliver, 1990) while demonstrating a level of motivation that helped these students overcome the difficulties related to their social struggles (Oliver, 1990).

**Environmental Issues**

Related to social struggles is the theme of environmental issues, and those social struggles are tied to the disability theory (Barnes, 2007; Oliver & Barnes, 2012). Environmental issues caused some of the participants to struggle in part because the participants were hypersensitive to certain external stimuli (loud noises, lights, etc.), but those environmental problems were remedied in through actions and behaviors of the participants. For example, one student used a smart pen to facilitate note taking and other written activities for his college classes. Another student was given special accommodations in that he could take tests separately and away from distractions and stressful environmental stimuli. Thus, the environmental issues present on campus impacted the activities and behaviors of the participants, but supports and services offered provided a means to overcome those environmental issues to some extent.

With regards to environmental issues, the fact that most of the students with ASD had no accommodations in place indicated a sense of intrinsic motivation in that they were succeeding in their college classes without the use of accommodations, and this fact concurs with the social
construct of the disability theory that stated that accommodations, support services, and other forms of interventions offered to person with disabilities highlight or emphasize the disability, in this case ASD, rather than the individual (Barnes, 2003). On the other hand, this intrinsic motivation enhanced their personal well-being, which resulted in greater autonomy and competence (La Guardia et al., 2000). Furthermore, intrinsic motivation is related to the disability theory in that the students who participated appeared to not want to have their disability be a factor or focus; they wanted to avoid the possibility of socially constructed barriers such as discrimination, social exclusion, and marginalization (Gelbar et al., 2014; Matthews et al., 2015; Payne & Wood, 2016; Sherry, 2004).

**Narrow Focus**

The theme narrow focus describes the participants’ common experience of a limited range of academic interests. The participants with ASD were majoring in science or an area of technology (engineering, computers, etc.). None of the students majored in the arts, humanities, social sciences, business, religion, etc. Thus, students each had a narrow focus in relation to the majors selected, and it suggested that these individuals prefer fields where social interaction is not as vital for success as it would be for other fields of study (education, ministry, business, administration, etc.). Since all the students with ASD in this study had majors in fields related to science or technology, and their restricted focus positively impacted academic performance and achievement, this theme described that a narrow focus better enabled the students to work independently and succeed in college.

Individuals with ASD have several things in common as it pertains to academic performance, and they generally perform well in subjects that interest them. On the other hand, they often get distracted when challenged to learn something outside their preferred subjects, and
those distractions may result in below average or substandard performance in class (Grander et al., 2014; Wiorkowski, 2015). This was demonstrated by the below average grades in courses that were not related to his major by one participant (Dwight). Furthermore, another participant (Edwin) specifically stated that he struggled with distractions, and distractions inhibited his ability to maintain focus.

Based on these data, it is apparent that academic performance, distractibility, and preference for technical majors are interrelated, but the narrow focus common in all these factors did not inhibit success. However, these factors within the theme of narrow focus demonstrate that the participants did not let others’ perceptions form a barrier to their success (Barnes, 1991; Oliver, 1990). The unique ways the students with ASD responded demonstrated intrinsic motivation and that these students made choices based on their preferences and interests, (Browder et al., 2001). On the other hand, the narrow focus of the participants with ASD led their parents to be especially concerned about what the future holds for their children with ASD, which constituted another theme.

**Concerns About the Future**

The theme of concerns about the future was developed based on comments from several participants, most notably the parents, expressing concern that the students with ASD might not be ready for independent living after completing college; no participant expressed concern about being prepared for the challenges of academia. The participants with ASD did have meaningful experiences that contributed to success in college, but those experiences were not necessarily important for preparing the students for independent living. Thus, although the students described themselves as prepared for college, the fact that most of the participants with ASD were still living at home at the time of data collection, suggests that they may or may not have
been prepared for independent living.

All five students with ASD who participated in this study were living at home at the time of the study or they lived at home at some point while taking college courses. Two participants lived in the dorms at the time of the study, and the other three lived at home with their parents. Living at home provided stability for the participants with ASD, and having that social support from their family members encouraged motivation (La Guardia et al., 2000), but some parents identified still living at home as an area of concern. This theme related to the disability theory. Social barriers are often the greatest deterrents to success for individuals with ASD. Perceptions from others were one such social barrier, and the parents of the students with ASD were concerned that their children might not succeed after college, in part because of those students having ASD. However, as most of the participants with ASD did not seek out accommodations at college, this may indicate that the students with ASD may be prepared for the future. While not necessarily demonstrating self-advocacy as it relates to ASD, these students were self-determined, and being self-determined is important for success (Field et al., 2003).

**Research Questions**

For this study, I used one central question and three sub-question. The central question focused on the purpose of the research, and the research sub-questions allowed for the clarification and deepening of the answer to the central question. The following paragraphs summarize the findings in relation to those questions.

**Central research question.** The central research question was: What are the experiences of individuals with ASD who were homeschooled that lead to success in the on-campus college environment? There were several factors relevant to answering this question. First, all participants indicated that the support and encouragement they received from their parents,
primarily, as well as from other family members, church members (including church staff), and counseling professionals was the most important factor that contributed to success in college. The support took many forms, and preexisted the students’ enrollment in college classes. For example, five of the parent participants reported that they started homeschooling their children with ASD because of problems their children were having in school. The most common problem mentioned was bullying, and the second most common problem was the child’s behavior issues while attending public school. For several participants, the problems encountered in the public school setting formed the impetus for homeschooling, and homeschooling precipitated the support systems that led to success in college.

Pastoral support was another important factor that contributed to success for the participants with ASD. All five students with ASD who participated in this study mentioned via interviews and reflection journals the benefit from support from their pastors and/or other church staff and church members. Parents and the one roommate who participated also commented about the importance of this mode of support for the students with ASD. Likewise, most of the participants mentioned the fact that they had support from counselors (including psychologists) and support groups.

Social difficulties and communication impairments are common among individuals with ASD (Brunsdon & Happé, 2013; Lopez, 2015; Myers et al., 2015; White et al., 2015). However, even though each participant mentioned generally struggling in social situations and with communication, none of the participants expressed the opinion that those difficulties negatively impacted their overall academic performance. Environmental issues, on the other hand, caused some of the participants to struggle, but those environmental problems were remedied in various ways. For example, one student was using a smart pen to facilitate note taking and other written
activities for his college classes. Another student was given accommodations in classes; he was allowed to take tests in a different room and away from distractions and stressful environmental stimuli. These all relate, at least partially, to the fact that the participants had a solid support system in place that included their parents and other supportive figures and environmental accommodations.

The support the students received during the elementary and high school years was the primary factor related to success in college. In addition, other factors contributed to success. One factor was that parents encouraged and allowed their children with ASD to take college classes while they were still taking homeschool high school classes. The relatively slow transition from the more isolated environment as a homeschool student to the more fast-paced and independent environment of a college campus fostered success. The students with ASD took one or two college classes while they were still in homeschool high school, and that provided a more gradual change than they would have experienced if they had made the change from being homeschooled to being a full-time college student taking classes on campus.

Parental encouragement of their children with ASD to explore non-traditional areas while being homeschooled also contributed to success in college. For example, one participant indicated that his father taught him about computers, allowing him to learn more about and technology than he would have been able to do in a more traditional school setting. Another participant stated that because he was allowed the freedom to explore different subjects and areas, he began to enjoy school, which directly contributed to his success in college. Finally, several participants mentioned the contribution of strong faith and religious/Christian upbringing to their college success.
**Sub-question one.** My first sub-question was: How do homeschooled individuals with ASD describe their experiences as students in an on-campus college environment? The answer to this question further demonstrated that support and encouragement are vital to success in college. Additionally, the participants, for the most part, described their on-campus college experiences as being good or positive. There was one exception in that one participant was dissatisfied with having to take classes that were not part of his college major. In other words, he did not enjoy any of the required general education courses, and his decreased performance in those classes negatively impacted his overall GPA. That participant’s GPA was just below average, so using definition of success of passing classes and making progress towards earning a college degree (Fitches et al., 2014; Sommers, 2015), his overall experience was considered successful in that he will ultimately graduate; he has one semester remaining before he graduates.

**Sub-question two.** The second sub-question was: How do homeschooled individuals with ASD perceive themselves as prepared to face the challenges of independent living and academia? Several participants, particularly the parents, expressed concern about being prepared for independent living; no participant was concerned about their level of preparation to face the challenges of academia. Thus, although the students described themselves as prepared for college, the fact that most of the participants with ASD were still living at home at the time of data collection, those students may or may not have been prepared for independent living.

**Sub-question three.** How do homeschooled individuals with ASD describe their encounters/interactions (personal and professional) with classmates, faculty, and other individuals they meet on campus? None of the participants appeared to have meaningful personal or professional relationships with others on campus with the exception of the one
participant with ASD who was involved in a support group for men with ASD and participated in
his college Quiz Bowl team. The participants with ASD had other meaningful experiences that
contributed to success in college, but those experiences were not necessarily important for
preparing the students for independent living.

Discussion

Using the disability theory (Barnes, 1991; Oliver, 1990; Oliver & Barnes, 2012) as a
theoretical framework, I conducted this single case study to explore the experiences of
homeschooled individuals with ASD that helped them succeed in the on-campus college
environment. In addition to reviewing the theory foundational to the theoretical framework, I
conducted a thorough review of current empirical literature related to homeschooling, ASD, and
the experiences and performance in college of both homeschooled students and individuals with
ASD and other disabilities. In this section, I discuss how my findings relate to the literature
review (empirical relationship) and theoretical framework (theoretical relationship).

Empirical Relationships

ASD prevalence has increased significantly worldwide (Atladottir et al., 2015; Ramsey,
Kelly-Vance, Allen, Rosol, & Yoerger, 2016) over the past few decades (Mandal, 2014. In
addition, ASD is considered one of the fastest growing developmental disability in the United
States (Arehart-Treichel, 2014; CDC, 2014; Rosenberg, 2015). Because of the recent increases
in ASD prevalence, extant research has been conducted on ASD (Buron & Wolfberg, 2008;
Kopetz & Endowed, 2012). Research suggested that an increasing proportion of individuals with
ASD are enrolling in college (Mitchell & Beresford, 2014; Think College, n.d.; White et al.,
2015), and more researchers are conducting studies on how individuals with ASD perform in
college (i.e., Gelbar et al., 2014; Gelbar et al., 2015). However, although research exists on the
college performance of students with ASD, there is a paucity of literature on students with ASD who had been homeschooled. Given the gap in the literature, the current study makes an empirical contribution to the overall research base. To describe the relationship of this study to the empirical literature, the following questions are addressed under separate sub-headings: How does this study confirm or corroborate previous research? How does this study diverge from or extend previous research? What novel contribution does this study add to the field?

**Confirmation/corroboration of previous research.** Based on the review of literature, this single case study confirmed many findings documented in previous research. For example, given the difficulties individuals with ASD have with communication and in social settings, college students with ASD have difficulty making friends in college and interacting with peers and school staff (Barnhill, 2016; Brazier, 2013; Gelbar et al., 2015; White et al., 2011). The results of this current study supported the findings of previous research in that most of the participants with ASD interacted little, if at all, with classmates or college professors.

Additionally, in part because individuals with ASD do not have any defining physical characteristics that let others know they have a disability (Barnhill, 2016; Brazier, 2013), others can develop negative and inaccurate perceptions of persons with ASD, and those inaccurate beliefs often result in judgmental and discriminatory attitudes towards students with ASD (Grandin, 2011; Matthews et al., 2015; Nevill & White, 2011; Payne & Wood, 2016). In the current study, five of the seven parents of students with ASD reported that their children were bullied when they attended public schools, this was a major reason those parents began homeschooling their children, and this contributed to the theme of support and encouragement. Furthermore, the one roommate who participated described his relationship with the participant with ASD differently than the individual with ASD described that relationship, reflecting the
theme of social struggles. This example corroborates the results of those previous studies (Barnhill, 2016; Brazier, 2013; Matthews et al., 2015; Nevill & White, 2011; Payne & Wood, 2016).

To contextualize the findings of this study in the participants’ lived experience, I included the rationale the participants gave for their homeschooling. In previous studies, there were several reasons parents homeschooled their children, including: the environment in public schools (safety, violence, bullying, etc.), academic instruction in the public schools not meeting the expectations of parents, and moral and religious concerns (Aasen, 2010; Mazama & Lundy, 2015; Morrison, 2014; NCET, 2006). As stated previously, most of the parents who participated in this study indicated that they commenced homeschooling because of their concerns about the public-school environment. Specifically, bullying was mentioned by five parents of students with ASD and four students with ASD.

Another area of information that provided context for the participants’ experiences of homeschooling was the education levels of these parents who homeschool. Arora (2006) and Duvall et al. (2004) reported that, in general, parents who homeschool children with disabilities have higher education levels than the general population. Although the sample size of the current study was small, all the parent participants in my study (seven out of seven) reported that they held at least one post-secondary degree (see Table 5). Two parent participants held at least an associate degree, three held at least a bachelor’s degree, and two held at least a master’s degree. This overall high education level of the parent participants is consistent with previous research (Arora, 2006; Duvall et al., 2004).

Additionally, the current study supports existing research (specifically the themes of social struggles and narrow focus) regarding how interpersonal relationships can be negatively
affected when individuals with ASD have a narrow or limited focus of interests (Retherford & Schreiber, 2015). Carr (2016) stated that relationships between individuals with ASD and others can be challenging because of aggression or disruptive behaviors, but these kinds of behaviors can be reduced when people with ASD have support systems in place. My findings indicated that during college, none of the participants experienced strained relationships that were caused by aggression or disruptive behaviors, potentially due to the strong support systems in the lives of the participants with ASD. However, participants indicated that they struggled in their school years prior to homeschooling, and one participant was expelled from school for disruptive behavior. Data suggested that participants’ relationships no longer suffered from disruptive behavior, which arguably contributed to their success in college, and this finding corroborates prior research results which stated that individuals with ASD who are able to overcome or manage feelings of aggression are more successful than those who are not able to manage their emotions (Carr, 2016; Pham & Murray, 2016; Retherford & Schreiber, 2015). The students’ narrow interests resulted in all the student participants working toward technical college majors. The college majors of participants for this study included engineering (mechanical and computer), information systems, graphic design, computer science, and zoology (see Table 6). This high proportion of technical majors for the participants appears to validate the findings of Wei et al. (2014) who found that college students with ASD are more likely to succeed in college when they are in science, engineering, or technology fields of study.

**Divergence from and extension of previous research.** In addition to corroborating several areas of previous research, there were a few areas in which the current study findings either conflicted with, diverged from, or extended previous research findings. For example, even though colleges are starting to develop programs that target students with ASD, this is not the
norm (College Autism Spectrum, 2015; Hendrickson et al., 2013). The participants in this study attended colleges in five different states (if the students with ASD who did not participate but whose parents participated are also included, a total of seven different states and colleges were represented), but none of the colleges had any support systems or programs that specifically targeted students with ASD even though programs of this nature are becoming much more common. Only one of the seven students with ASD received any support or accommodation from his college; specifically, he was allowed to use a smart pen in classes and to take tests in a separate location. This student was the only student who had a transition plan. However, it is important to reiterate that the participants had other forms of support, and that resulted in the emergence of the theme of support and encouragement.

The fact that only one student had a transition plan prior to entering college diverges from previous research. Even though IDEA mandates that every child age 3-21 who is identified with a disability be offered services through the public-school system without regard to the type of school attended, including homeschools (IDEA, 2014), during high school and after enrolling in college, only one student (the one who had a transition plan) received support services from their school systems. The parents indicated that neither they nor their children sought services in the schools either because their child was diagnosed at an older age, or they felt the services were not as vital as the other forms of support they provided. Several students had counseling that was paid for by their parents or their parents’ medical insurance. Additionally, one student was involved in a local support group, but that support group was not associated with the public schools in the community.

Finally, related to the disability theory (Barnes, 2003; Oliver, 1990; Oliver & Barnes, 2012), self-advocacy is one of the primary predictors of success (Doren & Kang, 2015). Self-
advocacy is “a term used for the individual or collective voice of disabled people” (Walmsley, 2014, p. 34), and it is an avenue by which an individual speaks up for him or herself and takes responsibility for his or her decisions (Ryan & Griffiths, 2015). Chapman and Tilley (2013) and Waltz et al. (2015) indicated that self-advocacy, especially for individuals with disabilities such as ASD, must be developed and used to be most effective. Ways to promote self-advocacy include transition plans (Roberts et al., 2016), but only one of the students with ASD related to this study had a transition plan. Furthermore, several of the participants did not want to seek out accommodations from their colleges; one of the students stated that he did not want to draw attention to himself; and one student (per the parent who participated) refused to accept his diagnosis of ASD. Because he would not admit his diagnosis, that student with ASD was not able to request specific accommodations or interventions from his institution.

**Contribution to the field.** This study primarily contributed to the field on college students with ASD and homeschooling by filling the gap that existed in the literature on the population of college students with ASD who were homeschooled. Specifically, this study demonstrated the importance of having a social and emotional support system in place (Field et al., 2003; Gelbar et al., 2015; Myers et al., 2015; Priestley, 1998). Each of the participants with ASD expressed the view that the support they received from their parents was likely the most important factor in succeeding in college, and the parents confirmed their efforts to support their children. There were several ways parental support was demonstrated. One way was parents’ willingness to quit their jobs outside the home so they could homeschool their children with ASD. In addition, the parents encouraged their children to work hard in their studies and take college classes while the students were still in high school (Gelbar et al., 2015; Krell & Perusse, 2012; Pugliese & White, 2014). Taking college classes during the high school years appeared to
facilitate the transition from homeschool to the environment on a college campus (Drenovsky & Cohen, 2012; Field et al., 2003; Kranzow, 2013; Martin-Chang et al., 2011; Wei et al., 2015).

**Theoretical Relationships**

In addition to having a relationship to the empirical literature, this study also demonstrated a theoretical relationship to the theory constituting the framework: the disability theory (Barnes, 2003; Oliver, 1990; Oliver & Barnes, 2012). The following paragraphs address the question, “How does this study extend or shed new light on theories informing the topic?” The disability theory is discussed, highlighting the specific ways this study extended the theory.

The disability theory (Barnes, 1991; Oliver, 1990; Oliver & Barnes, 2012) provided the foundation for the theoretical framework, and I applied this theory as it relates to the social interaction of students with disabilities. Mallett and Runswick-Cole (2012) applied the disability theory to individuals with ASD, and their research focused on college experiences of students with ASD and the social areas where individuals often struggle: communication, interaction, and imagination. Taking the disability theory even further, Kaul (2013) and Meyer et al. (2015) examined barriers caused by stereotypes and expectations placed on individuals with ASD. This study focused on the experiences of the participants that reduced or eliminated barriers or perceived barriers to success in college.

Given the fact that there are no defining or specific physical traits associated with ASD, social interactions with persons with ASD are often strained because individuals with ASD do not fit the norms of neurotypical students (Gelbar et al., 2015; Mallow, 2014; Payne & Wood, 2016). Data from this study supported the limited social interaction of individuals with ASD documented previous literature. Although one participant did have social interactions via participation in his college’s Quiz Bowl team, the interaction he had was limited to when he was
practicing and participating with other team members. Another participant stated that he interacted with his roommate, whom he considered a friend, and their interactions consisted mostly of studying together. None of the other participants indicated they had much social interaction on campus, amplifying the theme of social struggles. The participant whose roommate participated in an interview commented that the relationships he had with his roommate was not much more than being study partners because he and his roommate had different interests in activities.

Related to the disability theory is the fact that only one student with ASD received any accommodations or interventions at college; the primary support received was from parents. Most of the participants did not want to draw attention to their diagnosis of ASD; they wanted to focus more on their strengths and the fact that they were successfully taking college courses. This disinclination to report their diagnosis to the college disability support and services office potentially supports Barnes’ (2003) observation that when college students with disabilities seek support services (accommodations, interventions, etc.), they are, in a way, emphasizing their own limitations. However, when students resist seeking out the services to which they are entitled, it can be detrimental to academic performance and success. Fortunately, the participants in this study had strong support systems (parents, church, professional counselors, etc.) outside school, and having those support systems seemed to make up for not receiving services on campus, and those support systems helped the students with ASD deal with both social struggles and environmental issues.

**Implications**

Chapter One contains an evaluation of the theoretical, empirical, and practical significance of the study. This section is a discussion of the theoretical, empirical, and practical
implications of my study. For each of these three areas, I include specific recommendations for homeschooling parents, individuals with ASD, institutions of higher learning, and other stakeholders when appropriate.

**Theoretical Implications**

The disability theory (Barnes, 1991; Oliver, 1990; Oliver & Barnes, 2012) constituted the theoretical framework for this study. The disability theory focuses on society-imposed limitations that hinder motivation in individuals with disabilities (Oliver & Barnes, 2012). Although I did not identify any specific attitudes held by individuals within the college setting that were specific factors increasing success in college students with ASD, data suggested that the attitudes of students with ASD towards their coursework and the college environment influenced success. Specifically, nearly all the students with ASD were intrinsically motivated to succeed in their classes. However, two of the participants indicated that they struggled with classes that did not interest them; one student had grades that were barely passing in those classes, and the poor grades he earned significantly lowered his overall GPA.

Because many individuals with ASD have difficulty with expressive verbal communication, which can result in those students being misunderstood, it may be beneficial to offer support groups to these students. Furthermore, college classes could also offer training to faculty, college staff, and students about ASD and some of the most common traits or behaviors displayed by individuals with ASD. The training could be led by parents of students with ASD and other professionals who are knowledgeable about ASD. Such training could help those involved (those receiving the training as well as the students with ASD) better understand ASD, which could result in greater acceptance of individuals with ASD in college and in society in general (Barnes, 2003; Niemiec et al., 2006; Oliver, 1992; 2012; Vansteenkiste et al., 2010).
Empirical Implications

As previously discussed, there is a gap in the literature on homeschooling and individuals with ASD in that the experiences of college students with ASD who were homeschooled had not been studied. The existing literature focused on other population groups (i.e., homeschooled students, just college students with ASD, etc.), and much of that research has been instrumental in effecting changes, such as informing implementation of support programs, at some institutions of higher learning (Barnhill, 2016; Gelbar et al., 2015; Pugliese & White, 2014). One goal I had for this study was to identify the needs of college students with ASD who had been homeschooled.

Data strongly indicated the importance of having a strong support system in place, which appeared vital for success in college. Although all the students with ASD who participated had familial support systems (along with support from churches and counselors), it is unlikely that every student with ASD has a support system. Thus, colleges and universities, parents of individuals with ASD (both those who do and do not homeschool), other homeschooling parents, and other stakeholders need to be made aware of this important need. By bringing attention to the significance of support in facilitating, the information may be used to generate reports, handbooks, and other publications and tools that could be used by parents, educators, and other stakeholders to help individuals with ASD. Specifically, those resources might help students with ASD better assimilate to the postsecondary environment, and encourage staff at colleges and universities to offer support services specifically designed for helping with social and communication skills for students with ASD. Furthermore, since parental support was vital for the success of the students who participated in this study, colleges and universities could reach out to the parents of their students with ASD. When reaching out to the parents, the parents
would be able to provide background information and recommend ways the institutions could best support their children and other students with ASD.

**Practical Implications**

The practical significance for this study lies in its potential to provide information to assist in the transition experiences of homeschooled individuals with ASD. The findings of this study should provide beneficial information for parents who homeschool students with ASD, individuals with ASD, faculty and staff at institutions of higher learning, and other college students. The students with ASD who participated, overall, expressed the fact that they had difficulties in social situations, which is a common characteristic of individuals with ASD. One participant with ASD was involved in a community support group/program for individuals with ASD, and based on the interview, that support group helped the student with social interactions. Thus, a practical application of the results of this study may lie in providing rationale for colleges and universities to offer social support groups for their students who have ASD. On the other hand, as mentioned above, colleges and universities could reach out to the parents of the students of ASD. Additionally, parents of children with ASD could encourage those children to attend colleges closer to home, and going to school close to home would enable the parents to provide support to their own children when the need for additional support arises.

Many college students with ASD struggle in the relatively independent academic world; they often need specific support services for encouraging self-advocacy (Gelbar et al., 2015). However, the students in this study did not seem to struggle with working independently in their college studies, but that does not necessarily mean that this is the case for all students with ASD, especially when considering the previous research that clearly indicates many students with ASD struggle in this area (Gelbar et al., 2015). Thus, it is important to determine effective means for
promoting independence and self-advocacy among college student with ASD who were homeschool graduates.

**Delimitations and Limitations**

Delimitations specific to this research included the selection of homeschooled students with ASD who continued to college after completing high school. I included participants who were homeschooled for their high school years, at a minimum. I excluded homeschooled students who attended virtual or on-line schools and individuals who were under the age of 18. I set these criteria because the transition to being an on-campus college student is markedly different for a student who was homeschooled compared to a student who attended a public high school, hence the need to study this unique population (Drenovsky & Cohen, 2012; Martin-Chang et al., 2011). Further, virtual and online schools are not typically considered traditional homeschools, and there are ethical complications involved in using participants under age 18.

In addition to using college students with ASD who were homeschooled as participants, I also included parents (mothers) of college students with ASD as well as one college roommate of a participant with ASD. Including the mothers and roommate allowed me to gather different perspectives on each situation. Obtaining different perspectives from others pin the lives of students with ASD was important because many individuals with ASD struggle with communication, especially expressive verbal communication (CDC, 2014; Dente & Coles, 2012; Gobbo & Shmulsky, 2014). Getting those different perspectives allowed me to analyze my findings from multiple data sources.

The limitations to this study include inability to generalize the findings, small sample size, potential research bias due to closeness to the topic, potential for participants with ASD to not clearly articulate their thoughts/perspectives, narrow focus of the study design, and a high
potential for homogeneity of participants. These limitations are typical of case studies and other types of qualitative research (Creswell, 2013; Patton, 2002; Yin, 2014). Furthermore, it is possible that only who are successful were drawn to participate in the study (which would make the study findings relevant only to successful students with ASD who were homeschooled), whereas students who are struggling in college may not have wished to participate. The findings of qualitative studies usually are not generalizable to the general population, and that is true for this study: The findings are not generalizable to all college students with ASD who were homeschooled. The findings for this study are unique to the specific participants I used in this study. Furthermore, researcher bias has the potential to be a major limitation, but my awareness of that potential bias helped prevent such bias from affecting this study. On the other hand, having a personal awareness of and experiences related to the research topic may have enabled me to get a closer look at the experiences of the participants than if I had not been personally acquainted with the topic. Per Yin (2014), my awareness of the potential for my experiences to affect the research could effectively counteract bias in that area.

**Recommendations for Future Research**

This study was designed to elucidate the experiences of a specific subset of homeschooled students, college students, and individuals with ASD. This study informs several recommendations I make for future studies. First, another similar study (replication) may be conducted to determine whether the results of this study are similar in other college students with ASD who were homeschooled. This future study could be either a case study (as this research was) or a phenomenological study. Either research design would provide an in-depth picture of and information about the experiences that lead to success in college, but a phenomenological study may be the better options as it would provide data that a case study would not discover. If
a similar study could be conducted where the participants live in close proximity, adding focus groups as a data gathering technique would offer a different perspective as ideas are often generated when individuals are discussing a similar topic (Creswell, 2013; Yin, 2014).

Related specifically to this study, one student with ASD did not seek out services at his college; he expressed the view that seeking such services could result in a social stigma being attributed to him. This view could be explored further in qualitative research. Furthermore, I recommend a follow-up study be conducted in five or more years to determine the life trajectories and perceptions of long-term success of the participants from this study. Thus, conducting a longitudinal study that starts with a different cohort and has IRB approval to maintain contact over the course of several years is another potential future research design related to this study that would add new findings and perspectives.

Another recommendation is to conduct one of several different possible quantitative studies (such as causal comparative). Some of the possibilities include: (a) conducting a study with a similar sample population (college students with ASD) and to obtain quantifiable data on the experiences of these students, (b) comparing a group of college students with ASD who were homeschooled with a group of college students with ASD who attended public and/or private schools, and (c) comparing college to students with ASD who were homeschooled in a traditional manner (parents provided the education) with those who attended virtual schools or on-line schools at home.

Additionally, there are several rich possibilities for qualitative studies that could emerge from the current study. My first recommendation is to conduct research at one or more of the several colleges and universities that have programs in place for students with ASD (as described in Chapter Two). This research would involve canvassing the student populations at the college
or colleges to determine how many (if any) students with ASD had been homeschooled. The research could involve either a case study or phenomenology research design, and the purpose of the research would be to determine to what extent the programs in place are proving to be beneficial and facilitating success in college. Furthermore, a qualitative study can be conducted that looks specifically at the type or types of motivation (intrinsic or extrinsic) in this population.

**Summary**

College students with ASD who were homeschooled comprised the target population of this single case study, and the information they provided was supplemented with further data provided by their homeschooling parents and one college roommate. The most significant finding from this case study was the importance of parental support for the students with ASD. Each of the five participants with ASD had strong support systems that were developed during the homeschooling years, and the support they received was foundational for success in college. I define support related to this case study as the love and care given to students during college, and the support also includes practical forms of support such as allowing the students to reside at home during college, encouraging their children to take college classes, etc. That support also took the form of considering when to provide encouragement as well as when to allow the student to work more independently.

My research demonstrated that when college students with ASD have strong and encouraging support systems in place, primarily from their family (in this study this included parents and one brother), but also from pastors and professional counselors, those students are likely to succeed in their college classes. Support provided by parents during the homeschool years entailed encouraging independence and pursuing academic endeavors, which they cited as being vital to college success. Furthermore, parents’ willingness to leave jobs outside the home
to take on the responsibility of homeschooling as well as to withdraw their child from public school after their child was bullied demonstrated support.

As a parent who homeschooled a son with ASD as well as someone who desires to help individuals with ASD and their families succeed in college and beyond, I conducted this study with the goal of gaining a better understanding of the actions other homeschooling parents take that lead to success in their children’s college experiences. I wanted to apply the findings to my personal situation, but I also wanted to use the information to provide guidance and direction to other homeschooling parents of children with ASD (and other disabilities) and other stakeholders such as counselors and faculty and staff at colleges and universities. The high prevalence of ASD (Arehart-Treichel, 2014; Autism Speaks, 2015; CDC, 2014) and the current trend towards homeschooling (NCES, 2014; Ray, 2015a) underscored the significance of understanding this population. Furthermore, existing research indicates that college students with ASD struggle in college and have higher attrition rates (Duncan & Bishop, 2015; Gelbar et al., 2014; White et al., 2011), so this study was designed to clarify the support systems that have the potential to help homeschooled students with ASD be successful in college. The homeschooled students with ASD in this case study were successful in college, and the common theme related to success for the participants was the importance of support, primarily from parents. Unfortunately, it is likely that all students will not have support systems in place, and finding alternative ways to support those students who are not so fortunate is an important area that needs to be considered so that more students with ASD (or other disabilities) might be able to succeed in college.
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APPENDIX A

Participant Recruitment Letter (HSLDA)

12 October 2016

Dear [HSLDA Member]:

You are receiving this email because we would like to make you aware of an opportunity to participate in a study on the residential college experiences of homeschool graduates with Autism Spectrum Disorder (ASD).

Carol Dolan is a graduate student in the School of Education at Liberty University and a member of HSLDA. Carol is conducting research as part of the requirements for a Doctor of Education degree. The purpose of her research is to discover and describe the perceptions and social experiences of homeschooled students with ASD who attend residential college instructional programs, particularly those experiences with potential for contributing to success in college, with success defined as making progress towards attaining a college degree as evidenced by passing the courses taken.

If your child is 18 years of age or older, is attending college in residence, has a diagnosis of ASD, was homeschooled during his or her high school years, and is willing to participate, you are invited to participate in this study. Should you decide to participate, you will be asked to do the following:

1. Complete a consent form (10-30 minutes to read and sign);
2. Complete a demographic questionnaire (10-30 minutes to complete);
3. Provide documents (such as diagnosis of autism); and
4. Participate in a one-on-one interview (30-45 minutes duration);
5. Provide contact information for your son or daughter so Carol can ask if he or she is willing to participate as well.

It should take approximately one to four weeks for you to complete the procedures listed. Your name and/or other identifying information will be requested as part of your participation, but the information will remain confidential.

If you would like to participate, or are interested in learning more about this study, please contact Carol via email at cldolan@liberty.edu.

Sincerely yours,

Xxxxxx X. Xxxxxxxx
HSLDA Staff Attorney
APPENDIX B

Participant Recruitment Letter (General)

[Insert Date]

Dear ________________:

As a graduate student in the School of Education at Liberty University, I am conducting research as part of the requirements for a Doctor of Education degree. The purpose of my research is to discover and describe the perceptions and social experiences of homeschooled students with ASD who attend residential college instructional programs, particularly those experiences with potential for contributing to success in college, with success defined as making progress towards attaining a college degree as evidenced by passing the courses taken, and I am writing to invite you to participate in my study.

You have been identified as a family who has a child with autism whom you homeschooled, and your child is now old enough to attend college. If your child is 18 years of age or older, is attending college in residence, has a diagnosis of autism, and was homeschooled during his or her high school years, at a minimum, and are willing to participate, you will be asked to complete a consent form, fill out a form and answer demographic questions, provide documents (such as diagnosis of autism), and participate in a one-on-one interview. I would also like you to provide me contact information for your son or daughter so I can ask him or her to participate as well. It should take approximately one to four weeks for you to complete the procedures listed. Your name and/or other identifying information will be requested as part of your participation, but the information will remain confidential.

To participate contact me so I can send you a consent form and to schedule an interview. I can be contacted via email at cldolan@liberty.edu. A consent document will be sent to you after you contact me via email. Once I receive your competed consent form, I will you provide directions for completing the demographic questionnaire, give details regarding the documents I need, and schedule an interview. The consent document contains additional information about my research, please sign the consent document and return it to me via email or regular mail as quickly as possible.

If you choose to participate, you will receive a $10.00 gift card for participating in this study.

Sincerely,

Carol Dolan
Doctoral Degree Candidate
APPENDIX C

Participant Recruitment Announcement (Facebook)

Research Participants Needed

An Investigation into the Homeschooling Experiences of Individuals with Autism That Lead to Success in the Residential College Environment: A Case Study

- Did you homeschool a child who has autism for high school (at a minimum)?
  - Is your child with autism taking residential college cases?
    - OR
  - Are you over the age of 18?
- Do you have autism and were homeschooled for your high school years?
- Are you a residential college student?

If you answered yes to either set of questions, you may be eligible to participate in a research study.

The purpose of this research is to discover and describe the perceptions and social experiences of homeschooled students with ASD who attend residential college instructional programs, particularly those experiences with potential for contributing to success in college. The information I obtain will be used as resource material to best help homeschooling families with children who have autism, and it may be used to help the students with autism succeed in college while informing colleges of how they can help students with autism succeed.

**Adults** (18 years of age and older) are eligible.

Residents of North Carolina, South Carolina, Virginia, West Virginia, Tennessee, Georgia, and Alabama are preferred, but any resident of the United States is eligible.

Please contact Carol Dolan at [insert contact information] or send me a personal message for more information.

Liberty University IRB – 1971 University Blvd., Green Hall 1887, Lynchburg, VA 24515
APPENDIX D

Participant Recruitment Letter (Students with ASD)

[Insert Date]

[Recipient]
[Address 1]
[Address 2]

Dear [Recipient]:

As a graduate student in the School of Education at Liberty University, I am conducting research as part of the requirements for a Doctor of Education degree. The purpose of my research is to discover and describe the perceptions and social experiences of homeschooled students with ASD who attend residential college instructional programs, particularly those experiences with potential for contributing to success in college, with success defined as making progress towards attaining a college degree as evidenced by passing the courses taken, and I am writing to invite you to participate in my study.

If you are 18 years of age or older, are attending college in residence, have a diagnosis of autism, and were homeschooled during your high school years, at a minimum, and are willing to participate, you will be asked to complete a consent form, fill out a form and answer demographic questions, provide documents (such as class schedule, transcripts, diagnosis of autism), complete a reflection journal for a period of approximately one month, and participate in a one-on-one interview. It should take approximately four to six weeks for you to complete the procedures listed. Your name and/or other identifying information will be requested as part of your participation, but the information will remain confidential.

To participate contact me so I can send you a consent form and to schedule an interview. I can be contacted via email at cldolan@liberty.edu. A consent document will be given to you after you contact me via email. Once I receive your competed consent form, I will provide directions on completing the reflection journal, ask for documents, and schedule an interview. The consent document contains additional information about my research, please sign the consent document and return it to me via email or regular mail as quickly as possible.

If you choose to participate, you will receive a $10.00 gift card for completing the interview and providing the needed documents. After completion of the reflection journal, you will be given a second $10.00 gift card.

Sincerely,

Carol Dolan
Doctoral Degree Candidate
APPENDIX E

Participant Recruitment Letter (Roommates of Students with ASD)

[Insert Date]

[Recipient]
[Address 1]
[Address 2]

Dear [Recipient]:

As a graduate student in the School of Education at Liberty University, I am conducting research as part of the requirements for a Doctor of Education degree. The purpose of my research is to discover and describe the perceptions and social experiences of homeschooled students with ASD who attend residential college instructional programs, particularly those experiences with potential for contributing to success in college, with success defined as making progress towards attaining a college degree as evidenced by passing the courses taken, and I am writing to invite you to participate in my study.

Your roommate, [insert name], is 18 years of age or older, is attending college in residence, has a diagnosis of autism, and was homeschooled during your high school years, at a minimum, and is willing to participate in my study. I would also like to ask you to participate in my study provided you are also 18 years of age or older. As part of this study, you will be asked to complete a consent form, fill out a form and answer demographic questions, and participate in a one-on-one interview. It should take approximately one to four weeks for you to complete the procedures listed. Your name and/or other identifying information will be requested as part of your participation, but the information will remain confidential.

To participate contact me so I can send you a consent form and to schedule an interview. I can be contacted via email at cldolan@liberty.edu

A consent document will be sent to you after you contact me via email. Once I receive your competed consent form, I will you provide directions on completing the demographic questionnaire and to schedule an interview. The consent document contains additional information about my research, please sign the consent document and return it to me via email or regular mail as quickly as possible.

If you choose to participate, you will receive a $10.00 gift card for participating.

Sincerely,

Carol Dolan
Doctoral Degree Candidate
APPENDIX F

Institutional Review Board (IRB) Approval Letter

LIBERTY UNIVERSITY
INSTITUTIONAL REVIEW BOARD

October 12, 2016

Carol L. Dolan
IRB Approval 2643.101216: An Investigation into the Homeschooling Experiences of Individuals with Autism That Lead to Success in the Residential College Environment: A Case Study

Dear Carol L. Dolan,

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

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

Sincerely,

G. Michele Baker, MA, CIP
Administrative Chair of Institutional Research
The Graduate School

LIBERTY UNIVERSITY
Liberty University Training Champions for Christ since 1971
APPENDIX G

Stamped Consent Form (Students with ASD)

The Liberty University Institutional Review Board has approved this document for use from 10/12/2016 to 10/11/2017 Protocol # 2643.101216

CONSENT FORM

An Investigation into the Homeschooling Experiences of Individuals with Autism That Lead to Success in the Residential College Environment: A Case Study

Carol L. Dolan
Liberty University
School of Education

You are invited to be in a research study of the residential college experiences of individuals with autism who had been homeschooled during their high school years, at a minimum. You were selected as a possible participant because you are 18 or older, were educated at home through high school, have a diagnosis of autism, and are attending college. I ask that you read this form and ask any questions you may have before agreeing to be in the study.

Carol Dolan, a doctoral candidate in the School of Education at Liberty University, is conducting this study.

Background Information: The purpose of this single case study is to discover and describe the perceptions and social experiences of homeschooled students with ASD who attend residential college instructional programs, particularly those experiences with potential for contributing to success in college, with success defined as making progress towards attaining a college degree as evidenced by passing the courses taken.

Procedures: If you agree to be in this study, I would ask you to do the following things:
1. Answer a brief questionnaire related to demographic information. The questionnaires should take 10-30 minutes to complete.
2. Provide records such as diagnosis of autism, class schedules, etc.
3. Allow me to interview roommates (optional). If you desire to participate, but you do not wish for me to interview any roommates, I will not interview roommates. Please state your preference by checking one of the following boxes:
   □ Yes, you may interview my roommate(s).
   □ No, I do not wish you to interview my roommates.
4. Maintain a reflection journal by completing entries on a weekly basis. The journal entries will include any information you feel is important for helping others understand your experiences as a residential college student.
5. Participate in a private interview to answer questions related to your experiences in college and allow the interview to be recorded (audio and/or video). The interview should last between 30 and 45 minutes, and follow-up interviews may be needed.

Risks and Benefits of being in the Study: The risks involved in this study are minimal. The primary risk is possible discomfort in discussing personal information and feelings. Although this risk is minimal, it is important that you be made aware of the potential risk.

There are benefits to you for participating in this study.
Compensation: Participants will be compensated for participating in this study. You will receive a $10.00 gift card for participating in this study. You will receive a second $10.00 gift card for completing a reflection journal over a one-month period.

Confidentiality: The records of this study will be kept private. In any sort of report I might publish, I will not include any information that will make it possible to identify a subject. Research records will be stored securely and only the researcher will have access to the records. All interviews will be transcribed, and pseudonyms will be assigned to all participants prior to the transcription process. The transcripts are reviewed by an independent checker, and data is analyzed. I may share the data I collect from you for use in future research studies or with other researchers; if I share the data that I collect about you, I will remove any information that could identify you before I share it.

- I will use pseudonyms (not your name) for all participants. All documents will include the pseudonym, and your real name will be removed. I will be the only person to know which pseudonym corresponds to you the participant.
- I will store all electronic data on a removable storage device. That storage device, along with all other documents (audio/video recordings, transcripts, reflection journals, etc.) will be stored in a locked file cabinet, and I will be the only person to have access to the key and contents of the file cabinet. Once I no longer need the data, paper documents will be shredded in a cross-cut shredder and/or burned. Electronic data (information on the removable storage device) will be degaussed.
- Recordings will be maintained in a locked file cabinet; I will be the only person to have access to the key to and contents of the file cabinet. The recordings will be transcribed, and the recordings will be erased after you verify the transcripts for accuracy.
- Other than erasing recordings, all files will be maintained by me for a period of three years after the results of the study are published in my dissertation.

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

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

Contacts and Questions: The researcher conducting this study is Carol Dolan. You may ask any questions you have now. If you have questions later, you are encouraged to contact her at _______. You may also contact the researcher’s faculty advisor, Dr. John Duryea, at _______

If you have any questions or concerns regarding this study and would like to talk to someone other than the researcher, you are encouraged to contact the Institutional Review Board, 1971 University Blvd, Green Hall 1887, Lynchburg, VA 24515 or email at irb@liberty.edu.
Please notify the researcher if you would like a copy of this information to keep for your records.

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

(Note: do not agree to participate unless IRB approval information with current dates has been added to this document.)

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

_________________________________________ Date

Signature

_________________________________________ Date

Signature of Investigator
APPENDIX H

Stamped Consent Form (Parents/Roommates)

The Liberty University Institutional Review Board has approved this document for use from 10/12/2016 to 10/11/2017
Protocol # 2643.101216

CONSENT FORM

An Investigation into the Homeschooling Experiences of Individuals with Autism That Lead to Success in the Residential College Environment: A Case Study

Carol L. Dolan
Liberty University
School of Education

You are invited to be in a research study of the residential college experiences of individuals with autism who had been homeschooled during their high school years, at a minimum. You were selected as a possible participant because your child or roommate was educated at home through high school, has a diagnosis of autism, and is attending college. I ask that you read this form and ask any questions you may have before agreeing to be in the study.

Carol Dolan, a doctoral candidate in the School of Education at Liberty University, is conducting this study.

Background Information: The purpose of this single case study is to discover and describe the perceptions and social experiences of homeschooled students with ASD who attend residential college instructional programs, particularly those experiences with potential for contributing to success in college, with success defined as making progress towards attaining a college degree as evidenced by passing the courses taken.

Procedures: If you agree to be in this study, I would ask you to do the following things:

1. Answer a brief questionnaire related to demographic information. The questionnaire should take between 10 and 30 minutes to complete.
2. Provide records such as diagnosis of autism, class schedules, etc. related to your child with autism (if parent/family member).
3. Participate in a private interview to answer questions related to your perceptions of the experiences in college of your child or roommate, and allow the interview to be recorded (audio and/or video). The interview should last between 30 and 45 minutes, and follow-up interviews may be needed.

Risks and Benefits of being in the Study: The risks involved in this study are minimal. The primary risk is possible discomfort in discussing personal information and feelings. Although this risk is minimal, it is important that you be made aware of this potential risk.

There are no direct benefits to participating in this study.

Compensation: Participants will be compensated for participating in this study. You will receive a $10.00 gift card for participating in this study.

Confidentiality: The records of this study will be kept private. In any sort of report I might publish, I will not include any information that will make it possible to identify a subject. Research records will be stored securely and only the researcher will have access to the records. All interviews will be transcribed, and pseudonyms will be assigned to all participants prior to the transcription process, transcripts are reviewed by an independent checker, and data is
analyzed. I may share the data I collect from you for use in future research studies or with other researchers; if I share the data that I collect about you, I will remove any information that could identify you before I share it.

- I will use pseudonyms (not your name) for all participants. All documents will include the pseudonym, and your real name will be removed. I will be the only person to know which pseudonym corresponds to you the participant.
- I will store all electronic data on a removable storage device. That storage device, along with all other documents (audio/video recordings, transcripts, reflection journals, etc.) will be stored in a locked file cabinet, and I will be the only person to have access to the key and contents of the file cabinet. Once I no longer need the data, paper documents will be shredded in a cross-cut shredder and/or burned. Electronic data (information on the removable storage device) will be degaussed.
- Recordings will be maintained in a locked file cabinet; I will be the only person to have access to the key to and contents of the file cabinet. The recordings will be transcribed, and the recordings will be erased after you verify the transcripts for accuracy.
- Other than erasing recordings, all files will be maintained by me for a period of three years after the results of the study are published in my dissertation.

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

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

**Contacts and Questions:** The researcher conducting this study is Carol Dolan. You may ask any questions you have now. If you have questions later, you are encouraged to contact her at c:[email protected]. You may also contact the researcher’s faculty advisor, Dr. John Duryea, at [email protected].

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

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

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

*(NOTE: DO NOT AGREE TO PARTICIPATE UNLESS IRB APPROVAL INFORMATION WITH CURRENT DATES HAS BEEN ADDED TO THIS DOCUMENT.)*
☐ The researcher has my permission to audio-record and/or video-record me as part of my participation in this study.

Signature  

Date

Signature of Investigator  

Date
APPENDIX I

Demographics and Background Questionnaire for College Students with ASD

1. Gender (circle one): M  F

2. Age _____

3. Ethnicity (circle one or more): Caucasian  Black  Hispanic  Asian/Pacific Islander
   Native American/Alaskan  Other_______

4. Year in college (circle one): Freshman  Sophomore  Junior  Senior  Graduate student
   Other_______

5. Student status (circle one): Full-time on-campus  Hybrid (on-campus and online)  Part time

6. Years homeschooled ________________

7. Parents/guardian education attainment (circle one for each, as appropriate)
   Mother: Did not graduate high school  High School  Some college  Associate’s Degree
   Bachelor’s Degree  Master’s Degree  Doctoral Degree  Other _________
   Father: Did not graduate high school  High School  Some college  Associate’s Degree
   Bachelor’s Degree  Master’s Degree  Doctoral Degree  Other _________

8. Family information:
   Siblings: Brothers _______  Sisters _______
   Other members of household (list) __________________________

9. Year diagnosed with autism (if known) ________________

10. Support services ever received (i.e.: speech therapy, PT, OT, etc.) _________

11. Residence (circle one): Home with parents  Dorms  Off campus  Other _______

12. Roommates (circle): Yes (number _____)  No

13. Would you agree to my interviewing your roommate(s)?  Yes  No
APPENDIX J

Demographics and Background Questionnaire for Parents/Guardians

1. Gender (circle one): M  F

2. Age _____

3. Ethnicity (circle one or more): Caucasian  Black  Hispanic  Asian/Pacific Islander
   Native American/Alaskan  Other (specify) ________

4. Are you the primary home educator? (circle one) Yes  No (If no, skip to question 7.)

5. Number of years you have homeschooled __________

6. Number of children _______  How many were homeschooled? _________

7. Education attainment (circle one for each, as appropriate)
   Did not graduate high school  High School  Some college  Associate’s Degree
   Bachelor’s Degree  Master’s Degree  Doctoral Degree  Other _________

8. Family information:
   Siblings: Brothers ______  Sisters ______
   Other members of household (list) ____________________________

9. Year insert student name was diagnosed with autism (if known) __________

10. Support services insert name of student ever received (i.e.: speech therapy, PT, OT, etc.),
    and duration ______________________________

11. Annual family income (circle one): Below $20,000  $20,000-$50,000  $50,000-$75,000
    $75,000-$100,000  Greater than $100,000  Prefer not to answer
APPENDIX K

Demographics and Background Questionnaire for College Roommates

1. Gender (circle one): M F

2. Age _____

3. Ethnicity (circle one or more): Caucasian Black Hispanic Asian/Pacific Islander Native American/Alaskan Other (specify) ________

4. Year in college (circle one): Freshman Sophomore Junior Senior Graduate student Other________

5. How long have you known insert name? __________

6. How long have you been insert name’s roommate? __________
APPENDIX L

Interview Questions for Students with Autism

1. Describe your personal experiences as a residential college student as it pertains to being a successful student?

2. How well prepared do you believe you were for attending college away from home?

3. What experiences did you have during your high school years that best helped prepare you for success in college? What do you think could have been done to better prepare you for college?

4. What support systems are offered by your college regarding helping students with autism succeed? Which ones, if any, have you used?

5. What kind of support systems do you feel you need or are lacking in college as they pertain to helping students with ASD succeed?

6. What kinds of social relationships do you have? With whom do you have social relationships?

7. Please tell me about any frustrations you may have as they pertain to being successful.

8. What are some of the positive aspects of going to college?

9. Is there anything else you would like to say or add?
APPENDIX M

Interview Questions for Parents/Guardians of Students with Autism

1. How long did you homeschool name of student?

2. How many, if any, other children do/did you homeschool? If you have homeschooled other children, did any others have disabilities? If so, how many children with disabilities did/do you homeschool?

3. Describe the relationships between name of student and other family members?

4. Explain what you did to best prepare name of student for college? What do you think you could have done differently to better prepare him/her for college?

5. There are different support systems available for helping students with disabilities in college. Which, if any, of those support systems are you aware of? Which ones, if any, has he/she used?

6. What kind of support systems do you feel you need or are lacking in college?

7. What kinds of social relationships does he/she have? With whom does he/she have social relationships?

8. Please tell me about any frustrations you have or feel name of student has that may be hindering success.

9. What are some of the positive aspects of going to college? In what ways do you feel homeschooling him/her was best for preparing for this experience?

10. Is there anything else you would like to add?
APPENDIX N

Interview Questions for College Roommates of Students with Autism

1. What is your relationship with name of student other than being his/her roommate?

2. Describe your interactions with name of student? To what extent do you interact?

3. Describe your perception of name of student in regards to being a successful student?

4. Tell me about what you know about name of student and if you knew prior to this interview that he/she has autism? How does that knowledge impact your relationship and opinion of him/her?

5. What kind of struggles do you see name of student facing as a college student? How do those compare with your own struggles or those of other students?

6. What kinds of social relationships does name of student have, and with whom does he/she have social relationships?

7. What are your views regarding the ability of name of student to succeed in college, and do you feel like his/her being homeschooled contributed to that success?

8. Would you like to add/say anything else?
APPENDIX O

Reflection Journal Guidelines/Questions

Please keep a reflection journal of your experiences over the next three to six weeks. You may keep your reflection journal either on paper or electronically. You may make entries as frequently as you like, but please make entries at least one time per week. At a minimum, please include any of the following in your entries:

- Typical daily activities/routine
- Deviations from normal routine/unplanned events
- Experiences that cause stress, anxiety, and/or frustration
- Difficulties with classes
- Encouraging and positive experiences
- Areas where support services provided/offered are exceptional, adequate, or poor
- New friendships or other relationships and encounters
- Strained and/or pleasant social interactions
- Anything else you want to include

Your journals will help me learn about what you are experiencing as a college student, therefore include as much detail as possible. All information you provide will be kept confidential, and I will only summarize what you write, and you will not be identified by name in the study or in relation to any of the comments you make; I will use a pseudonym (not your real name) for you when I reference anything related to your comments.

Feel free to send me your entries as often as you wish (daily, weekly, etc.). I will contact you periodically to see how you are doing. At the end of three to six weeks, I will request you provide me your completed journal. If you intend to keep your journal on paper, you may either scan the journal pages and email them to me, or I will provide you with a pre-paid/addressed envelope so you can mail the journal to me, or I may pick the journals up in person. Please remember, you are not obligated to complete this journal, and you are free to drop out of the study at any time and for any reason. If you do decide either of those, please let me know as soon as possible.

Thank you for helping me with my research, and thank you for helping others succeed.