

SELF-PERCEIVED CAREER DEVELOPMENT NEEDS OF COLLEGE STUDENTS WITH  
AUTISM SPECTRUM DISORDER

A Dissertation

by

MEGAN LEE WALTERS

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MEGAN LEE WALTERS  
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APPROVED BY:

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David A. Koppenhaver, Ph.D.  
Chairperson, Dissertation Committee

---

Margaret G. Werts, Ph.D.  
Member, Dissertation Committee

---

Justin D. Garwood, Ph.D.  
Member, Dissertation Committee

---

Tracy Goodson-Espy, Ed.D.  
Interim Director, Doctoral Program in Educational Leadership

---

Michael McKenzie, Ph.D.  
Dean, Cratis D. Williams School of Graduate Studies

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## **Abstract**

### **SELF-PERCEIVED CAREER DEVELOPMENT NEEDS OF COLLEGE STUDENTS WITH AUTISM SPECTRUM DISORDER**

Megan Walters  
B.S., Appalachian State University  
M.A., Appalachian State University  
Ed.S., Appalachian State University  
Ed.D., Appalachian State University

Dissertation Committee Chairperson: David A. Koppenhaver, Ph.D.

The purpose of this study was to explore the self-perceived career development needs of college students with autism spectrum disorder (ASD), and the approaches those students preferred for career development practitioners to use when supporting them. Although previous studies have examined career development processes of college students with ASD, few have included the perceptions of the students themselves. This study addressed an additional gap in prior studies by seeking students' opinions on the best approaches for career practitioners to use when working with them on issues of career development. Several major findings emerged from the study. Quantitative analysis of student responses identified functional career thoughts in areas of decision-making confusion, and external conflicts, as well as both functional and dysfunctional career thoughts in commitment anxiety. Additionally, qualitative analysis of student responses revealed specific career development needs

in areas of routines and consistency, assistance in coping with the unknown, and managing competing priorities. Three additional themes emerged related to the students' preferred characteristics in career development professionals: direct communication styles, trusting relationships, and familiarity with, and understanding of, ASD.

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**Dedication**

For Emmett Winfree

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## **Chapter One:**

### **Introduction**

Colleges and universities in the United States serve as hubs for academic research, personal growth and development, and vocational or professional exploration. Although vocational or professional exploration can be either an intended or unintended consequence of experiences in the classroom or during co-curricular endeavors, the explicit charge of assisting students with such exploration has been given to college and university career centers (Komives & Woodard, 2003). Career support has existed on campuses of higher education institutions in various ways, but how that support exists continues to change as do the needs of college students and the workforce (Dey & Cruzvergara, 2014). In the early 1900's, for example, colleges offered vocational support for immigrants who sought new work opportunities upon graduation. In the 1920's as the need for teachers grew, so did the need for vocational guidance for teachers. From the 1940's through the 1960's, college campuses saw an influx of students due in large part to the financial support of the G.I. Bill, which helped veterans seek continued education after returning from World War II. That increase in college enrollments called for a new type of career support. The widespread college response to this increased need for career support was job placement centers. Placement centers offered efficiency to the process of getting thousands of new college graduates to work (Dey & Cruzvergara, 2014). During that time, colleges brokered relationships with employers who were seeking to fill increased vacancies in their organizations.

In the late 1970's, college and university career centers began a major shift from what was then known as placement to what is now most commonly referred to as career



development (Dey & Cruzvergara, 2014). This shift was a result of the changing landscape of the world of work. Although employees used to stay in a job or company for the entirety of their careers, the pattern began to change. Because it became more common for people to change jobs, there was a new need for college graduates to learn how to manage a job search on their own. Before the shift, many career centers had well-established relationships with employers, and could, in a sense, place students directly into jobs. The update to a more developmental model was borne of the idea that if students could learn to guide themselves through the process and make career connections on their own, they would be better equipped should a career search happen in their future (Healy, 1976).

The shift to career development from career placement called for a different type of student counseling, as well. Until the change, career counselors were called placement officers (Healy, 1976). Placement officers had pipeline programs with employers which allowed for college graduates to essentially be placed into jobs thanks in part to relationships between college career centers and local or regional employers. Upon the shift, career counselors found themselves guiding students through a process of self-discovery. A successful counseling process began to rely on the counselor and the student engaging in more general and abstract conversations about career plans. A career counselor would ask questions about interests, abilities, and workplace values, encouraging their clients to think about what would need to be true about a workplace for them to be happy and comfortable working there. A successful counseling process also began to depend on the client's willingness to share information about his or her skills, abilities, and values. An individual's skills, abilities, and values are well understood in career counseling to be the basis of the career search process (Komives & Woodard, 2003).

To make progress in their career development, many college students enter meaningful conversations about their career interests, abilities, and values with friends, family, or career professionals. For students who do not approach such conversations easily, the career development process can be more difficult. One population of college students who may have particular difficulties not only with self-awareness but also with social interaction is those who have diagnoses of autism spectrum disorder (ASD) (American Psychiatric Association, 2013). Individuals with ASD can have various social challenges that can interfere with the type of meaningful conversations central to current career counseling practice. Further, individuals with ASD are often less likely to share their interests or emotions, both of which are critical to the career counseling process (American Psychiatric Association, 2013). In my own career counseling work with college students with ASD, I have observed that some of these students have difficulty making eye contact, discussing career interests, or interpreting social cues.

### **Statement of the Problem**

ASD is a group of developmental disabilities that can cause significant social, communication, and behavioral challenges (American Psychiatric Association, 2013; Mynatt, Gibbons, & Hughes, 2014). One in 68 children, or approximately one percent of the population in the United States of America, is currently diagnosed with ASD (Rowe, 2017). This number has increased from one in 150 children in 2000 (Pinder-Amaker, 2014). Some suggest that diagnosis has increased for several reasons including increased awareness and changed diagnostic criteria for ASD (Pinder-Amaker, 2014; Rowe, 2017). The American Psychiatric Association agrees that awareness and changes to diagnostic criteria may contribute to increased diagnosis but argues that the true cause for the increase is unclear. It

may also be possible that the increased diagnosis is a true increase in the frequency of ASD (American Psychiatric Association, 2013).

As the number of individuals with an ASD diagnosis has increased, so has the number of individuals diagnosed with ASD who attend colleges and universities (Briel & Getzel 2014; Cullen, 2015; Pinder-Amaker, 2014). There are no clear statistics on college enrollment for students with ASD (Briel & Getzel 2014; Mynatt, Gibbons, & Hughes 2014). However, it is estimated that they represent 0.7% to 2.0% of the college population (HEATH Resource Center, 2017; Rowe, 2017). An increased population, the expected continuation of such a trend, and the individual differences of such students (Pinder-Amaker, 2014) have prompted many colleges and universities to more intentionally address the needs of the ASD population in and beyond the classroom (Longtin, 2014).

One functional area of colleges and universities that must address the specific needs of the ASD population is career development. Although various institutions around the country have begun developing programs for college students with ASD, there is little research available showing that the self-perceived needs of the student population are being considered during program development (Mynatt, Gibbons, & Hughes, 2014). To address the perceived needs of college students with ASD regarding their career development needs, the current study is designed to address two questions:

1. What are the specific career development needs of college students with ASD?
2. In what ways would college students with ASD like for college career development professionals to help them meet those needs?

## **Methodology**

Sequential Explanatory Design (SED) (Creswell, 2008), a mixed-methods research design, was used to examine the self-perceived career development needs of college students with ASD and their preferences for receiving support in that area. In this study, college students with ASD at a small, private college in central North Carolina completed the Career Thoughts Inventory (CTI) survey, providing quantitative data about their existing thoughts about careers. Upon analysis of these data, interview questions were developed to further explore the participants' career thoughts and to learn about their preferences for being helped with their career development decisions. Students who completed the survey were invited to participate in one-on-one, semi-structured interviews.

## **Significance of Study**

My interest in this study developed through my professional work. As a college career counselor, I noticed differences in coaching sessions with various students. It seemed that some students were eager to discuss their career process, while others were hesitant. Some students had a strong grasp on their interests, abilities, and values, and others had never considered those ideas before. On the surface, these differences were not too concerning. However, I noticed more substantial differences in coaching sessions with some students. I interpreted these differences as difficulty with the career development process. I talked with colleagues in my office about students with whom I had difficulty communicating, who seemed disinterested or unable when asked to discuss their interests, abilities, and values, and who had what I characterized as awkward personal characteristics which made our counseling sessions more difficult for me. My colleagues thought that these characteristics

sounded a lot like those of college students with ASD. Before becoming a career counselor, I had very few interactions with students who had disclosed a diagnosis of ASD.

When I discussed the differences of these students with colleagues at my own institution and others in the state, I detected commonalities in counseling approaches to working with this population. My colleagues and I shared examples with each other of difficulties we had noticed in our coaching sessions, and the approaches we used to combat the difficulties. I, for example, noticed that despite my thoughtful and varied approach to asking questions about students' experiences, those with ASD, or those I assumed had a diagnosis of ASD, frequently did not know how to answer my questions, and when they did, they answered with few words and little elaboration. Many of the other students I worked with had a seemingly easier time discussing their interests, goals, and needs. I began to approach my work with students with ASD differently than with their neurotypical counterparts. I entered these sessions with a very specific and direct to-do list. I shared the to-do list with the students, asked more specific and direct questions, and made a point to ask if the students needed clarification. Students responded well to these changes, but because my approach was not founded in research, nor had I asked the students how they would like to be helped, it did not feel like I was approaching this population in the best possible way. Colleagues agreed that they experienced similar sessions with students, and that they had tried some of the approaches I did. Important to note is that there were many students I worked with who I assumed had a diagnosis of ASD, but they did not disclose to me. I made this assumption because of their difficulty with communication and lack of eye contact. I had learned about these symptoms and characteristics from casual conversations with

colleagues, but I had never been through formal training, nor had I read scholarly resources about ASD.

Acting upon assumptions, especially with a special population, can represent unethical practice. Because few college professionals have been trained to work with students with ASD, they often feel unprepared to support students on the spectrum (Glennon, 2016). In my own experience, I noticed that students who had disclosed their ASD diagnosis to me, or those who I assumed may have had ASD, would return again and again to discuss the same question or concern. This was rare with other students, so I began to wonder how I might improve my approach. My usual methods were not yielding positive career development results with these students. That was frustrating for me personally and would cause bigger issues in our office if negative trends developed in our outcomes for this specific population. Although some counselors have worked with this population in what they described as an acceptable way, I have been discouraged by how little we all know specifically about working with the population. These experiences led me to this study.

This study attempted to discover the self-perceived career development needs of college students with ASD. Learning about these specific needs could prevent career professionals from acting on unfounded and misguided assumptions in the future. To examine the extent to which current best practices of career development processes for college students are effective with students with ASD, this study seeks to determine the specific needs of this population. If these needs are markedly different than those of neurotypical students, changes may be necessary. Although this study does not seek to compare the needs of students with ASD and their neurotypical counterparts, an important step toward such an exploration is to investigate the needs of students with ASD.

Sources dedicated to the college experience for various groups of students exist, including first generation college students, student athletes, students who work, and at-risk student groups (Barr, Desler, & Associates, 2000). Such research has been necessary to determine how college and university faculty and staff could better meet the needs of those groups. For example, Maietta (2016) explored the career development needs of first-generation college students, or students whose parents had not completed their college degree. She discussed common barriers for this population and how career professionals can help students navigate those barriers and create change for future students in this population. Similarly, Murdock, Strear, Jenkins-Guarnieri and Henderson (2016) explored the career identities of college athletes, and how those identities shaped whether they were prepared for a transition to work after college. Although the authors found that attending career workshops did not affect the athletes' preparedness for work, they were able to assert that male athletes who participated in revenue generating sports were particularly at risk of being unprepared. Examples such as these show how studies of the career development needs of various special populations have yielded results leading to development of more refined practices and identification of further research directions. Similar research is necessary to determine whether there are specific practices in career development that should be implemented by professionals who work with college students with ASD. Regardless of outcome, it is necessary to ask such questions about the needs of students with ASD. More specifically, it is important to ask the question directly of the population to examine their lived experiences.

As I presumed before I began a review of the literature, research is plentiful regarding the broad experience of individuals with ASD. I found a variety of sources dedicated to ASD

diagnosis (e.g., Becerra-Culqui, Lynch, Owen-Smith, Spitzer, & Croen, 2018), characteristics of individuals with ASD (e.g., American Psychiatric Association, 2013), and the general college experiences of students with ASD (e.g., Cox et al., 2017). It was during this review that I was able to confirm common characteristics presented by college students with ASD. As I suspected in my professional work as a career coach, some students with ASD have difficulty with both verbal and non-verbal communication. This can manifest in awkward speech patterns, lack of eye contact, and misinterpretation of communication cues (Wing, 1981). Sources which discussed college experiences of individuals with ASD (e.g., Van Hees, Moyson, & Roeyers 2014) offered details on their academic and social experiences suggesting that difficulty with social experiences can have negative effects on students' academic performance. For example, students may have apprehensions about the social implications of asking questions in front of their peers (Able, Sreckovic, Schultz, Garwood, & Sherman, 2015), apprehensions that could prevent them from staying current on classroom discussions, tests, or materials (Zager, Alpern, McKeon, Maxam, & Mulvey, 2013).

To fully understand inequitable systems, Heiser, Prince, and Levy (2017) suggest the importance of gathering first-hand accounts and sharing the stories of populations who may be oppressed, slighted, or discriminated against. Briel and Getzel (2014), for example, authored the only existing study addressing college career development needs from the perspective of students with ASD, conducting interviews of 18 college students with ASD and finding that few students used career development center services at their institution but for a variety of reasons. One student did not see a need since he already knew his post-graduate plans. Another student walked into the center, but because everyone looked busy, did not make an appointment. The author also found that although most of the students had



not made use of career development center services, they had needs that aligned with the supports that a career development center could provide. For example, participants had questions about creating a disclosure plan to tell employers about ASD. Additionally, they sought internships, career exploration, and practice interviewing. First-hand accounts like those offered in this study are essential as career counselors adjust their approaches to providing career development supports tailored to individual student needs. The current study aims to explore additional student voices.

### **Definition of Terms**

The purpose of this section is to provide clarification and understanding of how several key terms are defined in this study. The terms are separated into two categories: terms related to Autism Spectrum Disorder, and those related to career development. *Autism spectrum disorder* (ASD) is a group of developmental disabilities characterized primarily by difficulty in communication and social interaction. Individuals with ASD often speak very directly and have little awareness of the implications their tone, volume, or pitch can have on the interpretation of their words. Similarly, individuals with ASD may have difficulty interpreting social cues, such as non-verbal indications that a conversation is over, that someone is uninterested in their approach, or that someone is joking or being sarcastic. In the college environment, difficulty with communication can cause issues in the classroom, in social situations, and in approaches to career development. *Developmental disabilities* are a group of conditions due to an impairment in physical, learning, language, or behavioral areas. These conditions often emerge around traditional developmental milestone timelines. As children reach various ages, certain behaviors are predicted based on scientific patterns. *Executive functioning* describes a series of mental processing skills necessary for typical

behavior. These skills often fall into one or more of the following categories of ability: understanding and explaining behavior (e.g., the ability to predict the behavior of others); understanding emotions; understanding the perspectives of others; understanding the intentions of others; differentiating fact from fiction; and the ability to sustain joint attention with others. These processing skills help individuals plan, focus, and control behavior. Individuals who have difficulty with executive functioning may have difficulty with managing time, processing and synthesizing information, avoiding distractions, and regulating emotions. *Neurotypical* represents an abbreviation of neurologically typical, a term that identifies individuals who develop without identified neurological disorders such as ASD. In this study, *neurotypical counterparts* refer to college students who do not have a diagnosis of ASD.

Throughout this study, several terms will be used in discussion of the career development process. *Career* refers to a lifelong series of employment experiences which share meaning and transferrable skills, whereas a *job* is one opportunity within a longer career. In this study, *career* refers to the intended vocational outcome for college students. *Career counselor/coach/adviser* is an individual with specialized education who works directly with students or clients in their efforts to explore career options. For this study, *career counselor* refers to professionals who work primarily with college and university students. The terms *coach*, *counselor*, *practitioner*, and *advisor* may be used interchangeably during this study to refer to these professionals. *Career development* is designed to prepare students for evolving workplaces and job markets and for the purposes of this study is defined as the process of gaining and retaining skills in self-assessment, resume and cover letter development, job search strategies, and similar activities. These developed skills

ultimately enable lifelong career planning without the frequent help of a professional career counselor. Career development is the commonplace term for this specific functional area of higher education. *Career placement* is a mid-20<sup>th</sup> century term that was used to describe the process by which college career centers *placed* graduates into jobs. College placement centers used to have pipeline or partnership programs with employers coordinating first job assignments for college graduates. This practice was primarily phased out of career centers in the late 1970's.

### **Organization of the Manuscript**

This chapter has provided important background information relevant to this research topic. The information offers context for the study. Chapter Two examines literature related to individuals with ASD, specifically those who are in college. Literature focused on career development resources and approaches on college campuses is also reviewed. Chapter Two concludes with a review of the theoretical framework for this study. Chapter Three explains the methods used by the researcher in this study, including participant selection, data collection, and data analysis. Chapter Four reports the results of those data collected, both quantitatively and qualitatively. Finally, in Chapter Five I derive conclusions from the results reported in Chapter Four, including implications of the findings, and suggestions for future research.

## **Chapter Two:**

### **Review of the Literature**

In this chapter, the literature related to topics in this study will be reviewed. First, readers will find a broad description of autism spectrum disorder (ASD). The review then addresses a more detailed exploration of the college-aged population of individuals with ASD. Next, concepts of college career counseling will be explored to provide the reader an understanding of the career development process for neurotypical college students. Finally, the possible needs of college students with ASD in career development services are addressed. Literature on each of these topics will be introduced and critiqued for weaknesses and gaps.

#### **An Introduction to Autism Spectrum Disorder**

ASD is a group of developmental disabilities that can cause significant social, communication, and behavioral challenges for individuals with this diagnosis (American Psychiatric Association 2013; Mynatt, Gibbons, & Hughes, 2014). In 1944, Austrian physician Hans Asperger first recognized a group of children who had difficulty making friends and who displayed unusual social patterns. The children he wrote about had atypical speech patterns, and were consumed with special interests (Bissonnette, 2016). His work, and that of another Austrian-born physicist, Leo Kanner, who wrote about children with similar characteristics as those Asperger described, serve as the foundations of research related to ASD (Schreiberman, 1988). Kanner observed and recorded the behavioral patterns and characteristics of 11 children in 1943. His descriptions, and ultimately the criteria he identified for autism, have remained almost unchanged. Those observed behaviors include

difficulty developing typical relationships with people, a lack of adaptability to situations, delay and differences of speech, and repetitive actions.

In 1981, Lorna Wing coined the term *Asperger syndrome* to describe individuals with autism whose characteristics were defined by Asperger but did not match the descriptions found in Kanner's work (Oslund, 2014). Although Wing indicated that Asperger did not provide rigid diagnostic criteria, the characteristics he identified included the following: seemingly being unaware of others' feelings, but especially sensitive to criticism from others; displaying unusual speech patterns or lack of inflection; and exhibiting a tendency toward very specific interests, occasionally to an extreme level. The fourth edition of the *Diagnostic and Statistical Manual of Mental Disorders (DSM-IV)* first included Asperger disorder in 1994. The most recent edition of this manual, *DSM-V*, suggests the use of *ASD* as the most current term to describe the group of complex disorders including, among others; autism, high-functioning autism, Asperger syndrome, and pervasive developmental disorders. The focus on autism as a spectrum of disorders is particularly relevant to the current study because while it suggests that the needs of individuals with ASD may be different than those who are not on the spectrum, it is highly unlikely that a single set of tools or best practices will be uncovered to best suit the needs of all individuals (Burgstahler & Russo-Gleicher, 2015).

### **National Awareness of Autism Spectrum Disorder**

Pinder-Amaker (2014) suggested that an increase in public awareness and knowledge has played a role in increased diagnosis of ASD in recent years. Such increased public awareness can be observed in popular television programming and critically acclaimed motion pictures. *Atypical*, for example, is a currently popular television show on the

television and movie streaming platform Netflix. Further, federal regulations have added to the national conversation about individuals with disabilities, ASD in this case. This section includes references to such popular media, as well as to federal regulations which have ultimately increased national awareness of ASD.

**Federal law addressing individuals with disabilities.** The federal government has contributed to increased awareness of people with disabilities in general by continually highlighting the need for our society to address the educational and vocational needs of individuals with disabilities. This has happened through executive orders and legislation such as the Americans with Disabilities Act (ADA) of 1990, the Individuals with Disabilities Education Improvement Act (IDEA) of 2004, and the New Freedom Initiative of 2001 (Zager, Alpern, McKeon, Maxam, & Mulvey, 2013).

The ADA addresses the need for all individuals with disabilities to be supported in all areas of public life including schools and jobs. Consequently, the ADA has played a large role in issues of college access and success for students with disabilities, particularly in areas of physical accommodations, like ramp access and elevator availability. The ADA also helps students with intellectual and developmental disabilities, because it offers guidelines for classroom accommodations such as access to recording devices, extended test times, and note-taking support. These are accommodations that college students with ASD may seek.

ASD has been the fastest growing disability covered by IDEA (Zager, et al., 2013). The legislation requires that all individuals with disabilities have free and appropriate education. IDEA is effective in supporting students in primary and secondary education, but upon graduation from secondary programs students with ASD must seek support from other sources. To continue receiving educational support after high school graduation, students

must disclose their disability and begin the process of self-advocacy at the college or university level (White et al., 2017; Zager et al., 2013).

The New Freedom Initiative has played an especially important role for students with disabilities who wish to pursue post-secondary education. The initiative calls for complete and appropriate educational opportunities for students with disabilities, including those with ASD. This body of law suggests a sharp turn toward a more inclusive environment for individuals with disabilities, particularly in educational settings. Each of these laws and guidelines have paved the way for individuals with ASD to attend institutions of higher education (Zager, Alpern, McKeon, Maxam, & Mulvey, 2013).

**Autism spectrum disorder and popular media.** In 2010, The National Broadcasting Company (NBC) released a popular family drama, *Parenthood*, that showcased the life of a large family. Max Braverman, a major character in the television show, was diagnosed with autism early in the series. Many episodes in the series focus on Max's difficulty with social interactions, his challenges with public school, and how his family navigates his diagnosis and the results thereafter (Diament, 2010). In October 2015 the popular children's series *Sesame Street* announced a new character, a Muppet named Julia, who has autism. Sesame Workshop's senior vice president of Community and Family Engagement, Dr. Jeanette Betancourt, discussed this project with a reporter from *Al Jazeera* (Hatuqa, 2015) and explained that many organizations and experts in the field were consulted to create a more realistic character. Julia's character introduced a new initiative through which Sesame Street hoped to continue raising awareness of the disorder and to educate children in how to navigate interactions with those who have ASD. On the website, children and their families can find an exchange between the popular character Elmo and his friend

Abby, “Elmo’s daddy told Elmo that Julia has autism. So, she does things a little differently. Sometimes Elmo talks to Julia using fewer words and says the same things a few times” (Kimmelman, 2015, p. 10). This quick exchange helps express one characteristic of children with ASD, while making daily interactions more approachable for children who are not familiar with the disorder.

Netflix, a television and movie content streaming service, developed and released the series *Atypical* in August 2017. The main character in this series, Sam Gardner, is an 18-year-old high school student with autism. In its first two seasons, *Atypical* has chronicled the academic and social experiences of Sam, along with those of his family, co-workers, and classmates. Reviews of the series are plentiful and speak to the accuracy, or lack thereof, of Sam’s depiction of a teenager with autism. Sources claim that the first season of *Atypical* contributed to an understanding of autism which was too narrow. Luterman (2018) wrote, “As an autistic viewer, the coming-of-age story inspired familiar frustrations for me with how the disability is usually represented in popular culture: white, cisgender, straight, intellectually gifted and totally lacking in human empathy” (para. 1). Luterman then described her appreciation of positive depiction changes in season two which were a result of adding writers and actors who have ASD to the show’s crew. In season two, there are more characters with autism who add to the representation on screen. These characters do not have identical mannerisms, speech patterns, personalities, or even career aspirations. This is important for awareness of ASD because it reflects more accurately that not all individuals with ASD display identical, or in some cases even similar, characteristics. *Atypical* introduces the idea of careers in several scenes. In one scene, a group of teens with autism share their career interests. These interests include dentistry, emergency or paramedic work,



and for Sam, fine art. Luteran appreciates this variety, as “usually, autistic adults in folks and TV shows get pigeonholed as programmers, scientists, or math whizzes, as seen in *Adam*, *The Good Doctor*, or, of course, *Rain Man*,” (para. 3). *Atypical* is one of many current popular television series which depicts individuals with autism.

Although popular media is not a scholarly resource, it would be a mistake to ignore the significant attention and increased awareness it has provided about individuals with ASD. Pinder-Amaker’s (2014) suggestion that increases in diagnosis and an increase in awareness of ASD are connected require us to explore such sources of awareness. The popularity of the programs mentioned in this section, as well as the resulting conversations in news outlets and on social media lead to the greater awareness of which Pinder-Amaker speaks.

### **Symptoms of Autism Spectrum Disorder in College Students**

It is important to remember that not every individual experiences ASD in the same way (Zager, Alpern, McKeon, Maxam, & Mulvey, 2013). Some individuals will experience one range of symptoms, and others may experience a completely different set of symptoms. That said, the symptoms explained in this section highlight those that are most commonly experienced by individuals with ASD. Moreover, the characteristics described in this section are common in individuals who are students at colleges and universities. The characteristics of younger individuals with ASD, or of those who have more severe diagnoses can be different.

**Social Interaction.** The most noticeable characteristic of an individual with ASD is difficulty with interpersonal communication, the extent of which should not be underestimated (Bissonnette, 2016; Bogdashina 2005; Dipeolu, Storlie, & Johnson, 2015). Social impairments faced by individuals with ASD are marked by difficulty interpreting

communication cues as well as displaying empathy. This difficulty can manifest in many ways. Many individuals with ASD misinterpret communication of those around them, including teachers, friends, and family (Cai & Richdale, 2015). For some, concerns of misinterpretation have led to lower motivation to develop friendships, difficulty understanding humor, and higher levels of loneliness (Mynatt, Gibbons, & Hughes, 2014; Pinder-Amaker, 2014). Students have shared that although they are aware of communication difficulties and differences, they will sometimes refrain from seeking support to avoid attracting attention to those differences (Cai & Richdale, 2015).

Verbal communication of individuals with ASD is decidedly different than their peers. Not only is communication more difficult, but when individuals with ASD participate in conversations, their speech patterns are often marked by needless repetition and grammatical mistakes (Wing, 1981). Differences in the nonverbal communication patterns of individuals with ASD are also noticeable. For example, facial expressions of individuals with ASD tend to be unclear, except for occasional extreme displays of anger or misery. Additionally, vocal tone may be monotonous or exaggerated. Finally, and perhaps more critical, individuals with ASD often have difficulty interpreting the nonverbal cues of communication partners (Bogdashina, 2005).

For individuals with ASD, the primary function of communication is an information exchange, whereas individuals who do not have a diagnosis of ASD use communication as a method of sharing emotion, seeking out personal information, creating relationships, and more (Bissonnette, 2016). Important to note, however, is that individuals with ASD typically are not intentionally communicating for the sole purpose of exchanging information. Instead, they may wish to engage in friendly relationships, but their strategy of communication is

often perceived as awkward and can keep others disinterested (Zager, Alpern, McKeon, Maxam, & Mulvey, 2013).

**Difficulties in the college classroom.** Although ASD causes social difficulties for individuals, there are fewer related cognitive difficulties identified in the college student population (Cox et al., 2017; Mynatt, Gibbons, & Hughes, 2014). Many students with ASD are well equipped to handle the academic rigor of a college education. Although many students with ASD are cognitively equipped to handle the rigors of higher education, there is no guarantee that they absolutely can or will succeed academically. Despite the cognitive capabilities of college students with ASD, many students on the autism spectrum face academic difficulties due in part to their social challenges. In the classroom, students with ASD often display hesitancy in asking questions in front of their peers (Zager, Alpern, McKeon, Maxam, & Mulvey, 2013). This hesitancy may prevent students from gaining clarification on important subject material, negatively affect faculty evaluations, or diminish participation grades. Additional classroom difficulties can include making blunt comments, contributing to off topic conversations, making poor eye contact, engaging in excessive fidgeting, experiencing difficulties with participation in groups. Although each of these behaviors are rooted in social difficulties, they play strong roles in academic settings. Additionally, social deficiencies can create obstacles to communicating with faculty and other college and university staff, including members of career development centers.

**Executive Functioning.** Research suggests that the social characteristics of individuals with ASD cause difficulty in various aspects of college that require executive functions, the processes that allow individuals to manage their thinking and behavior (American Psychiatric Association, 2013; Dipeolu, Storlie, & Johnson, 2015; Hurlbutt &

Chalmers, 2004; Myles et al., 2007; Mynatt, Gibbons, & Hughes 2014). These behaviors and processes include time management, organizing and planning, initiating tasks, staying focused, regulating emotion, and managing distractions. Dysfunctions in these areas can cause complications for students as they attempt to manage their time, including class and co-curricular schedules. Individuals with executive dysfunction, including many students with ASD, may have difficulty with unpredictability, crowds in places such as hallways and buses, time management, language misunderstandings, and group work (Burgstahler & Russo-Gleicher, 2015). Other difficulties may include structuring written work; pacing of long-term assignments; arriving punctually for classes, activities, or meetings; and maintaining focus. Increased noise levels and conflicting activities, as well as anxiety and agitation can add to the difficulty individuals may face with executive functioning (Zager, Alpern, McKeon, Maxam, & Mulvey, 2013). Executive dysfunction is difficult to overcome, because it causes noticeable setbacks in critical aspects of college life and career decision-making (Welsh & Schmitt-Wilson, 2013).

### **Career Development on College Campuses**

One important support service for students on college campuses, including those students with ASD, is career development. The National Association of Colleges and Employers (NACE) defines acceptable parameters for college career centers, including information about acceptable leadership and management practices and necessary components of career development programs such as application of current research, theories, and knowledge of career development (NACE International, 2002). The standards include the requirement that professionals in career development offices offer effective services to diverse populations, including individuals with disabilities. Further, career

counselors must consider such populations in their efforts to create new policies, procedures, and programs. Additionally, the National Career Development Association (NCDA) has a similar set of competencies for career counselors, which includes familiarity with and provision of career counseling for diverse populations (National Career Development Association, 2015).

College career centers assist students with resumes, cover letters, job and graduate school search strategies, internship opportunities, interview skills and many more practical tasks related to identifying, understanding, and obtaining career opportunities (Komives & Woodard, 2003). A series of thoughtful conversations and personal reflections over two or more one-on-one sessions with a career counselor typically helps students identify their interests, abilities, and values (Krumboltz, Foley, & Cotter, 2013). College students with ASD often experience difficulties with such one-on-one processes, because they require social communication and both goal-driven and future-oriented behaviors (Longtin, 2014).

### **College Programming for Students with Autism Spectrum Disorder**

As the number of individuals with ASD diagnoses has increased, so has the number of individuals diagnosed with ASD who attend and graduate from colleges and universities (Cox et. al., 2017; Cullen, 2015; Pinder-Amaker, 2014). This has prompted many colleges and universities to address more intentionally the needs of the ASD population in and outside of the classroom (Longtin, 2014). Some colleges and universities, such as the University of West Florida (UWF), Eastern Michigan University (EMU), and Rochester Institute of Technology (RIT), are exploring options for offering college support programming specifically for students with ASD (Carlotti, 2014), many of these programs include academic components such as tutoring services and study skills training. Although college

programs for ASD vary in nature, many dedicate resources to career exploration and counseling. The Spectrum Support Program at RIT, for example, offers specific assistance with the job search. The 15-week program focuses on basic career development functions such as resume building, interviewing, and networking (Carlotti, 2014). Although the program at RIT offers supports like those of traditional career centers, it, and others like it, focus specifically on the population, offering more attention and detail that may provide more effective results.

College programs for students with ASD may be attractive to those students and their families, but they pose potential challenges as well. First, such programs can be quite expensive. The programs at UWF, EMU, RIT, the University of Alabama, Marshall University and Rutgers University carry price tags between \$1,400 and \$8,500 per semester in addition to traditional student tuition and fees (Best Colleges Online, 2011; Carlotti, 2014). On campuses which have support programs specifically for students with ASD, it may be easy for career development centers to assume that they need not be knowledgeable about best practices for working with students with ASD. They may assume that since those programs have the sole purpose of working with that population, career centers do not need to serve that population. Among other problems, the flaw in such reasoning is that not all students with ASD will enroll in the specific programs. Many students face barriers to those opportunities such as the increased costs, competitive admission processes, and even the decision of whether to disclose their disability to colleges and universities. Career counselors and other professionals in career development centers must be equipped to work with all students who make use of their services. After all, NACE and NCDA guidelines require them to do so.

To create programming intended to specifically assist the ASD college population, the needs of the population must be better understood. Pinder-Amaker (2014) notes that only recently has literature begun to offer insight into the specific needs of college students with ASD. Importantly, Pinder-Amaker's work builds upon existing information about the characteristics of students with ASD by considering how they progress through the developmental phases typically faced by traditional college-aged individuals. Transitioning to college can be incredibly stressful for neurotypical students, and, as Pinder-Amaker points out, transitions and stress can be particularly difficult for individuals with ASD. In addition, individuals of traditional college age are more likely to experience such comorbidities as anxiety and major psychiatric illnesses.

### **Self-Perceived Career Counseling Needs of College Students with ASD**

Previously mentioned programs offering support to college students with ASD, as well as literature about such programs, do not indicate the process through which best practices are created for supporting these students. Briel and Getzel (2014) interviewed a sample of 15 college students who had self-disclosed an ASD diagnosis about their career planning experiences to seek information which might lead to a creation of best practices. The participants had varying experiences including both volunteerism and part-time and full-time work, and they described assorted sources of information for their career planning including family members, faculty, and personal research. Few reported having used their campus career center, but 14 of them did indicate the need for supports that career centers typically provide. Specifically, those students indicated a desire for information about jobs and internships as well as direct connections with employers.

The potential disparity in expressed needs and actual use of available resources is distressing to career development professionals but consistent with earlier findings by Pinder-Amaker (2014). In Pinder-Amaker's interviews, she found that students with ASD rarely made mention of career development centers as a source for help toward graduation or career success. College career centers must find inviting ways to identify and connect with all populations, in this case, students with ASD. Pinder-Amaker pointed out that students with ASD have difficulty seeking help. She suggested that students with ASD may have concerns about a lack of sensitivity to or knowledge of disabilities among support programs on campus. Such difficulty could be a contributing cause of students with ASD not taking full advantage of the resources available to them.

### **Gaps in the Research**

Very little scholarly research exists about college-bound and college-enrolled students with ASD (White et al., 2017). Of the existing research, a small number of studies have been conducted that center on the career development needs of college students with ASD (Mynatt, Gibbons, & Hughes, 2014). There are even fewer attempts to explore the self-perceived needs of those students (Briel & Getzel 2014). For example, Pinder-Amaker's work (2014) sought to identify needs of college students with disabilities, but it did not focus specifically on the career development process.

Briel and Getzel's (2014) study began this specific exploration of student needs. Their interviews with college students with ASD allowed for greater understanding of those specific students' career needs, as well as how they received support for those needs. Once the self-perceived career development needs of the population are more widely known, appropriate methods may be researched through which to deliver career development



resources to college students with ASD. Informed by the limited body of research, two specific research questions guide this study:

1. What are the specific career development needs of college students with ASD?
2. In what ways would college students with ASD like for college career development professionals to help them meet those needs?

### **Foundations of Critical Theory**

Identifying a lens through which to examine the challenging proposition of identifying the specific needs of college students with ASD and beginning to address them are complex tasks. Critical theory emerges as an option because of its foundation in seeking to create fair systems and processes. Although the access that students with ASD have to college career centers is equal to that of other students, equal does not imply that the access is fair. Anecdotal evidence suggest that one-size-fits-all strategies and approaches may not be the best solutions. In this study, I seek outcomes that will help inform the development of best practices for career development professionals as they increasingly offer services to students with ASD. Exploring the self-perceived career development needs of college students with ASD will help determine whether current career development practices are effective for this population.

Critical theory has roots with the Frankfurt School in Germany during the early 1900's. The Frankfurt School, which was also known as the Institute of Social Research, was a social and political movement sympathetic to communism during the 1930's (Rush, 2004). Horkheimer and other early critical theorists and members of the Frankfurt School were motivated by a criticism of *positivism*. Positivism is a paradigm that idealizes the world as a set of distinct facts and known truths (Glesne, 2011). Critical theorists reject positivism

because it suggests that truth and knowledge are static and they do not account for implications of social interactions or subjective accounts of experience (Guess, 2004). In simple terms, positivism relies solely on scientific evidence, and critical theory demands an understanding of and appreciation for various perspectives observed in qualitative accounts in addition to information collected through quantitative methods. Early critical theorists understood that an evolution of society led to changes in power structures, and ultimately created inequities. Further, they understood that newly created inequities needed to be analyzed and that, ultimately, systems would have to change to address those inequities. Critical theory embraces such evolution and calls for just conditions for the entire society, not only for those who have traditionally held power. In the case of this study, critical theorists might argue that higher education environments have been created primarily for a population of neurotypical students, and that those students hold a disproportionate amount of power. Critical theorists do not suggest that such an imbalance of power exists purposefully. They do, however, suggest that adjustments be made to restore or instill balance of power.

### **Implications of Using Critical Theory for This Study**

Researching the self-perceived needs of college students with ASD through a critical theory perspective will allow for an exploration of the perceived needs of students with ASD. This study does not seek to compare the needs of students with ASD and their neurotypical counterparts. The outcomes of this study do, however, have the potential to serve as a comparative baseline for future studies. Because critical theory focuses on inequities, it requires research to identify potential power differentials in systems. Although typically more difficult to understand than other theoretical approaches, several benefits of a critical

theory approach include allowances for outcomes of “personal satisfaction, intellectual responsibility, emancipatory potential, and ethical obligation,” (Thomas, 1993, p. 68). My professional work as a career counselor led me to research this topic, and each of those four potential outcomes are important to me. I will, of course, experience the personal satisfaction of completing this study and uncovering results. I feel the intellectual responsibility and the ethical obligation to explore the needs of this student population and determine whether my current approaches, and those of my colleagues, are appropriate given the self-perceived needs of college students with ASD this study seeks to discover. Finally, I am eager to reveal the voices of this student population, an outcome which has the potential to make positive change for this student population as well as the college career development profession.

Critical theory studies begin as value-laden projects which direct attention to injustices of culture. Such methods must continue, however, as more than an exercise of criticism. Instead, researchers must identify and assess their biases and judgments. Critical theorists must identify areas of a proposed study about which they have existing judgments and they must name those judgments (Thomas, 1993). Ultimately, the researcher must be able to identify why such a study is important.

Grounding this study in critical theory allowed for an intentional consideration of the gaps between the perceived needs of students with ASD and the career development offerings of institutions of higher education. The reality of the current college student profile is that many students have documented disabilities. Although the college population of students with ASD has not been quantified nationally, almost 11% of college students have a documented disability of some kind (National Center for Educational Statistics, 2008).

Distorted realities of the college landscape assume that career development services are *one-size-fits-all*. This distorted view creates a divide between the needs of students with ASD in their career development process and the current practices of career development centers. Critical theory allows for an exploration of such inequities with a goal of eliminating the injustices.

### **Summary**

The intersection on campuses of higher education of the college student experience and career development centers is pivotal for many students. This is particularly true when one considers the thoughtful and highly personal process through which a career counselor attempts to help students explore ideas for a career path or graduate school plans. The typical way in which this process advances is through a series of one-on-one conversations and larger group workshops. Although these methods tend to serve the neurotypical college population well, the college experience of students with ASD may differ in important ways. The differences these students experience and the varied needs they may have for career support must be considered to determine whether or not the current best practices of college career centers are effective in serving the needs of students with ASD. This study seeks to identify the self-perceived needs of college students with ASD and to suggest implications for career professionals and the scholarly research community.

### **Chapter 3: Methods**

In this chapter, I discuss the theoretical framework, role of the researcher, ethical considerations, study setting, data sources, data collection and analysis, and issues of validity. The following research questions guided this study:

1. What are the self-perceived career development needs of college students with ASD?
2. In what ways would college students with ASD like for college career development professionals to help them meet those needs?

#### **Theoretical Framework**

Critical theory was used to identify the self-perceived career development needs of college students with ASD. A critical theory approach allowed for an analysis of issues of inequity, comparing *what is* about a situation to *what could be* in an ideal reality (Thomas, 1993). In this study, *what is* included current career development practices, as well as the self-perceived needs of college students with ASD. The potential of *what could be* was informed by the self-perceived needs of the population and how they would like for college career development professionals to help them meet those needs. The self-identified needs and preferences for approach to career development of college students with ASD were explored in this study. The intended outcome of the study was to identify these needs and suggest future research or professional practice to provide a more ideal career development process for college students with ASD.

#### **Research Design**

This study used sequential explanatory design (SED), a mixed-methods approach to research. SED is one of the six most frequently used mixed-methods designs (Ivankova, Creswell, & Stick, 2006). Mixed-methods designs involve collecting and analyzing both quantitative and qualitative data. SED, although popular and straight-forward, can present

concerns, however, as researchers tend to struggle in determining which data will be provided the most weight (Ivankova et al., 2006). Though the decision can be made after data are collected, I anticipated that the data collected through one-on-one interviews would offer a more nuanced exploration of this under-researched topic. I held this assumption because many studies of college students with ASD are solely quantitative. Anticipating that the data I collected qualitatively would offer new perspective, I placed greater priority on this second phase.

Another procedural concern of SED is that of integration. Integration refers to the part of the process where quantitative and qualitative methods are incorporated in order to study particular phenomena (Ivankova et al., 2006). In this study, the qualitative and quantitative phases were integrated during the creation of the interview protocol. The design itself, which called for analysis of quantitative data in order to develop content of the qualitative interview process, indicated that the qualitative data would be collected through purposefully crafted interview questions, and might offer more detailed information. This was especially true in this study due to a primary focus on self-perceived needs of the participants. Qualitative data collection through interviews allowed me to ask clarifying questions and further pursue ideas raised by the students in their reflections. A visual representation of the SED process is found in Figure 3.1. This figure shows the phases of the design, the procedure used during each phase, and finally the intended product or outcome for each phase.

I chose a mixed-methods approach to this study to fully document and explore the personal career development experiences and preferences of college students with ASD. Quantitative data were collected through a pre-existing survey instrument called the Career

Thoughts Inventory (Sampson, Peterson, Lenz, Reardon, & Saunders, 1996). Upon analysis of the quantitative data derived from the survey results, questions were developed and asked of students who participated in individual interviews. In this study, interview questions were not determined prior to analysis of quantitative data, because the questions were meant to follow up on patterns, trends, inconsistencies, or questions left unanswered in the quantitative results. The use of a mixed method design can provide a fuller understanding of the research problem than qualitative or quantitative data alone (Creswell, 2008).

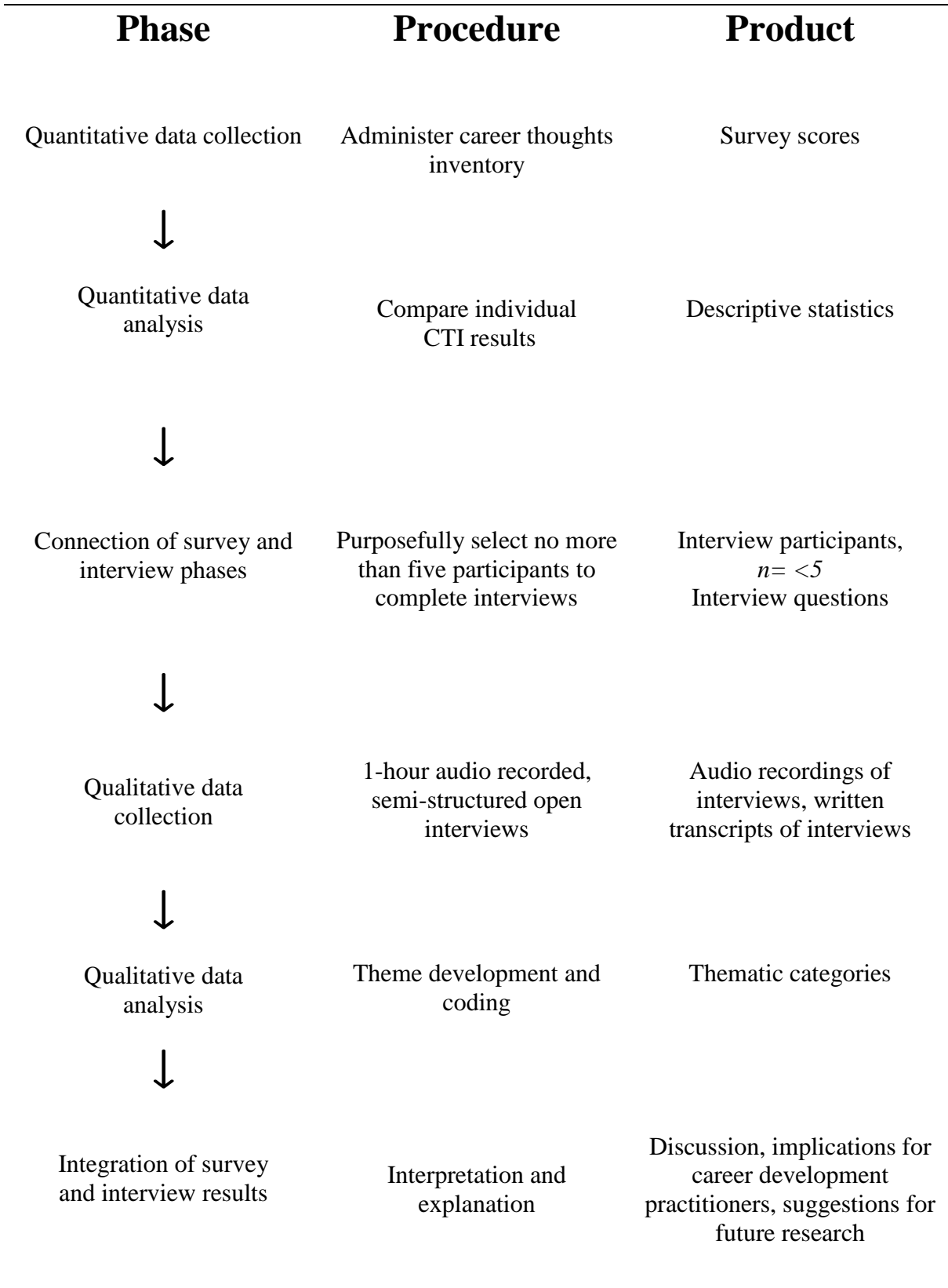
### **Ethical considerations and IRB Protocol**

Lee and Peterson (2011) remind researchers that ethical considerations are central concerns of research on human subjects. This is especially true for social science and educational research (Creswell, 2008). As a professional career counselor, and a researcher of human subjects, I take seriously my ethical responsibility to move through this study with care and caution. As the researcher, I carefully discussed my role with the participants. I spent time describing my interest in the study, my approach to the questions, and my hopes regarding the outcomes. Through consent forms approved by the Institutional Review Board (IRB) at Appalachian State University, I notified students that I, alone, would distribute and score their surveys and would facilitate one-on-one interviews with a select few participants. The consent forms notified the participants that there were no known conflicts of interest, and there was no significant risk of harm.

### **Setting**

The setting of this study was a small, private, liberal arts college in central North Carolina. At the time of participant selection and data collection, the college had a traditional student population of 1,205 students. Students with documented disabilities were

Figure 3.1 Visual representation of sequential explanatory design.





encouraged to connect with the accessibility resources center on their campus, register their disability, and make plans to receive any necessary support and accommodations. This recommendation was supported by literature which suggests that students who wish to receive accommodations from their institutions of higher education must register with their disability support office (White et al., 2017). A total of 210 students at the college had registered with their disability resources center in the 2017-2018 academic year. This represented 17.4% of the student population. Of those 210 students, 24 had disclosed a diagnosis of ASD, which represented 1.9% of the traditional student population. I selected this site for two reasons: (a) this college had a typical percentage of students with ASD; and (b) I was formerly a full-time employee of the institution and had collegial relationships that provide an existing trust relationship between the researcher and the participants.

### **Participants**

Participants for this study were students at the site who had previously disclosed a diagnosis of ASD to the campus office of accessibility and who responded to a solicitation for participants. As aforementioned, the population of the research site's students who had disclosed a diagnosis of ASD as of Fall 2017 was 1.9% (n= 24 students). Participant demographics can be found in Table 3.2. Although there may have been additional students with ASD at the research site during that time, only those who had disclosed an official diagnosis were eligible to participate. This eligibility was determined intentionally. When developing the participant recruitment strategy, my contacts in the accessibility office and I determined that the most efficient and reliable way to reach students with ASD specifically would be to message only those who had completed the official documentation. Otherwise,

all 1,200+ students on campus would have been messaged. This would have run the risk of including students who did not have a diagnosis of ASD.

The population of students with ASD at this site was comparable to nationwide reports of college students who have disclosed a diagnosis of ASD in the range of .7% - 1.9% (HEATH Resource Center, 2017). All eligible students at the site of the study (n = 24) were invited to participate and five students completed the CTI. Each of those five students were invited to participate in one-on-one interviews, and four of them chose to do so. The four students who participated in the full study represented 16.6% of the eligible student population. The paper and pencil version of the CTI which the students completed asked for the demographic information which is shared in table 3.2.

Table 3.2

*Self-reported Demographic Information of Student Participants*

Student	Sex	Age	Ethnicity	Class Year
*Matthew	Male	22	Caucasian	Senior
*Derrick	Male	27	Caucasian	Senior
*Nico	Male	19	Caucasian   Hispanic	Sophomore
^*Anthony	Male	21	Jewish   Caucasian	Junior
*Emily	Female	18	Hispanic   Caucasian	Freshman

\* Names changed for anonymity  
 ^ Did not complete interview

The issue of disclosure poses an obstacle to studying the career development needs of college students with ASD. Though students with ASD are encouraged to disclose their diagnosis to an office of disability services at their college or university, there is no

requirement to do so. If professionals in career development are to understand the needs of students with ASD, there must be deep exploration of such needs. Such exploration can only occur when students have disclosed diagnoses either formally or informally. Disclosure is an important factor in this study because only those who disclosed a diagnosis to their institution were eligible for participation. Further, disclosure came up several times in participant responses, even though there were no questions specifically connected to disclosure.

### **Data Sources**

**Survey instrument.** To collect quantitative data, I distributed the Career Thoughts Inventory (CTI) (Sampson, Peterson, Lenz, Reardon, & Saunders, 1996) to participants. The CTI is a 48-question instrument that seeks to assist high school students, college students, and adults in their career decisions and to improve the quality of services offered by career counselors (Sampson et al., 1996). While completing this inventory, participants responded to negatively written statements on a 4-point Likert type scale indicating level of agreement or disagreement (Saunders, 2015).

Content validity explores the makeup of an instrument, determining how representative it is of all the possible questions (Creswell, 2008). To increase content validity of the CTI, Cognitive Information Processing theory and its content areas were the basis for survey question development (Sampson, Peterson, Lenz, Reardon, & Saunders, 1996). The original CTI included 195 questions. Those original questions were administered to a group of 320 college students ranging from 17-32 years old at Florida State University (FSU). After this initial study, the pool of questions was reduced to 80 items. These 80 questions were kept for further analysis because they were sufficient in variability; had a normal distribution of responses; were free from social desirability; and had acceptable

item scale reliability and content validity. During the study of the 80-question version of the CTI, 196 undergraduate students at FSU completed the survey. The student group, ages 17-25 years, had varied ethnicities and majors. Based on the review of this version of the CTI, a 48-question version was developed. This final version was distributed to 145 undergraduate students at FSU with ages ranging from 17-51 years. This group also had varied ethnicities, majors, and class years. The analysis of each of the three versions of the instruments identified the three construct area scales: decision-making confusion, commitment anxiety, and external conflicts.

According to the authors of the CTI (Sampson et al., 1996) decision-making refers to the “inability to initiate or sustain the decision-making process as a result of disabling emotions and/or a lack of understanding about the decision-making process itself” (p. 4). Decision-making skills were identified as a core component of the career planning process. The decision-making confusion (DMC) survey items measure career thoughts related to choosing an area of study or occupation. The commitment anxiety (CA) statements in the CTI measure the ability to make decisions and the accompanying feelings of anxiety about the outcome of making a choice (Sampson et al., 1996). In this construct area, functional and dysfunctional thoughts are measured by the degree to which respondents feel anxious about their area of study or occupation. External conflicts (EC) refer to participants’ difficulties in balancing their own self-perceptions with those of their significant others. In the CTI, EC statements measure the level to which a person feels supported by the important people in their lives in reference to their area of study and occupation choices (Sampson et al., 1996).

Construct validity refers to the degree to which an instrument measures what it claims to measure. The interpretable factors determined in early studies of this instrument were

areas of decision-making confusion, commitment anxiety, and external conflict (Sampson et al., 1996). The final instrument includes 48 questions. Fourteen questions create the decision-making scale; 10 questions create the commitment anxiety scale; five questions create the external conflict scale; and 19 questions are not assigned to those three constructs. The CTI total score is highly correlated ( $r = .89 - .94$ ) with decision-making confusion. This led Sampson and colleagues to conclude that a general predisposition toward dysfunctional thinking influences commitment anxiety, but external conflicts appear less related to general negative career thoughts.

The CTI is primarily used for three reasons: screening, needs assessment, and learning. As a screening tool, the CTI can help identify participants who may have challenges in making career decisions. Results of the CTI show various levels of dysfunctional career thoughts, making it clear to professionals how much additional assistance respondents may need with their career development. The CTI may also be used as a needs-assessment tool, helping respondents and professionals identify specific areas of dysfunction. The results highlight three problem areas including decision-making difficulties, commitment anxiety, and conflict issues or social pressures (Sampson et al., 1996). Finally, as a learning tool, this instrument and its accompanying workbook can provide a starting point for career development discussions, particularly those that focus on problem areas.

Exploring issues of career development needs of college students with ASD through a critical theory lens led me to selecting the CTI. The CTI instrument is ideal, because it focuses on problem areas and the results can identify areas of concern for this group of students. Research grounded in critical theory seeks to identify inequities in systems and

encourages researchers to identify improvements in those inequitable systems (Bronner, 2011). The short inventory can be completed in 7-15 minutes and scored in 5-8 minutes. This made it ideal in working with college students with ASD given research suggesting that some members of the population may have difficulty with attention span and focus (Zager, Alpern, McKeon, Maxam, & Mulvey, 2013).

Cognitive information processing, which informed the creation of the CTI, suggests that career decision-making and problem-solving requires effective understanding of the following areas; self-knowledge, occupational knowledge, decision-making skills, and executive processing (Sampson et al., 1996; Saunders, 2015). In their review of the literature Sampson et al. specifically highlight self-awareness and executive functioning as areas of difficulty for college students with ASD. Since these competencies and knowledge areas overlap with those necessary for one-on-one career counseling, the results of the CTI allowed for a deeper understanding of potential areas of difficulty for college students with ASD. Using the CTI allowed me, a trained career counselor, to create a series of subsequent interview questions.

**Interviews.** As previously mentioned, the SED calls for analysis of quantitative data, which informs the development of the qualitative portion of this study. The development of interview questions was informed primarily by the CTI construct areas, the literature review, and previous knowledge of career development approaches. Questions about social interactions, communication strategies, and executive functioning were included, as those are common areas of difficulty for college students with ASD noted in the literature (American Psychiatric Association, 2013; Dipeolu, Storlie, & Johnson, 2015; Hurlbutt & Chalmers, 2004; Mynatt, Gibbons, & Hughes 2014).

Interview questions were developed with a goal of collecting more specific, narrative responses about individual career development needs of college students with ASD. The qualitative data gathered through interview questions provided personal accounts from the student participants. Unlike principal investigators in some other studies focused on the needs of college students with ASD, participants in this study were interviewed individually. Direct interaction by way of interviews allowed me to make claims specifically informed by the participants' self-stated needs. The interviews were semi-structured, open, and in-person (Glesne, 2011). The semi-structured nature of these interviews required that I have specific questions planned. The open nature, however, left room to ask in-the-moment questions based on unexpected leads that came up in the interviews. The interviews were one hour in length and were held in the career development center at the study site.

### **Data collection**

**Quantitative data collection.** Quantitative data collection began in November 2017. All students in the 2017-2018 cohort of enrolled students who disclosed a diagnosis of ASD were sent several emails designed by me but sent from the ARC. I was not given access to the full list of this student population in order to protect student confidentiality. The eligible students were solicited in November 2017, January 2018, and April 2018 to participate in this study. The introductory email requested student participation and described the voluntary nature of the study. Interested students were given my contact information and directed to email me directly if interested in participating. I then emailed the students another brief description of my work, a copy of the survey consent form, and a proposed schedule of the study. The consent document informed the prospective participants about the primary purpose of the study, any potential risks, and anticipated benefits and outcomes. After the

initial solicitation email was sent on November 2017, five students indicated interest. Following a series of emails to set up the meetings, two students arrived and completed the survey. A second solicitation email was sent in January 2018. Two students agreed to participate, showed up at our agreed upon location, and completed the survey. In April 2018, all students who initially expressed interest but had not followed through with the survey were contacted again. One additional student completed the survey. In total, five students completed the survey.

Students were instructed to visit the career development center and ask for me, the principal investigator for this study. Upon their arrival at the center, I sat with students individually to review the consent forms and to offer any clarification requested about the study. Once students completed the consent form, they were provided instructions for completing the paper and pen survey instrument. Students completed the survey in a private office in the career development center at the site of the study. Upon completion, I reiterated the voluntary nature of this study and reminded them that they might be contacted to participate in one-on-one interviews.

**Qualitative data collection.** Each of the five students who completed the CTI were invited to participate in one-on-one, semi-structured interviews. Four students agreed to participate. Once they indicated interest in the interviews, students were sent another consent form explaining this second phase of the process. It was at this time that students were informed that the interviews would be recorded and that their names would be changed to ensure anonymity. These interviews were conducted in April 2018 in the same office space that students used to complete the survey.



Though the interviews were semi-structured, I strictly adhered to a one-hour interview. Because college students with ASD may have difficulty with unexpected change and may need a structured schedule to remain comfortable, participants were notified that interviews would last no longer than one hour. To allow participants to feel as comfortable as possible with the interviews, I provided the questions via email three days before their scheduled interviews. When asked if they reviewed the questions in advance of the interview, only one student had done so. Two students who had not reviewed the questions offered apologies, and I quickly attempted to rid them of any feelings of guilt. I explained that the questions were offered as a courtesy, and review was not required.

### **Data Security**

One copy of results from the CTI was stored in a locked drawer in my locked office at the university where I am currently employed. Another copy of the results was kept in a locked safe at my home. Interviews were recorded on a private audio recording device, which was also kept in a locked desk drawer of my locked office at the university. The recordings were transcribed and stored on an encrypted, password protected external hard drive in a locked drawer of a locked office at the university. A second copy of the electronic transcriptions were kept on an encrypted, password protected external hard drive in a locked safe in my home. Upon transcription, all audio recordings were deleted.

### **Data Analysis**

**Quantitative Data Analysis.** The CTI is designed to return easily interpretable results in a total score and scales related to three construct areas: decision-making confusion, commitment anxiety, and external conflict (Sampson, Peterson, Lenz, Reardon, & Saunders, 1996). These allowed for quick descriptive analyses, yielding a mean of total CTI scores, as

well as each of the three construct areas. Upon collection of the first two student surveys, I created an Excel spreadsheet. Then, I assigned numbers to each of the survey answers (0 – 3 for SD – SA respectively) and created four different tabs to analyze each of the three construct areas of the CTI separately: decision-making confusion, commitment anxiety, and external conflict. After two additional students completed the survey in January, I added their results in the Excel sheet. The final participant’s results were added in April.

**Qualitative Data Analysis.** Qualitative analysis required transcription of interviews and coding of those data, all of which I completed on my own. Coding describes the process through which meaning is made of qualitative data (Glesne, 2011). Coding began during the interview process itself. During the first interview I began making notes of answers which seemed consistent with the literature review. Notes addressed topics including tangents, mentions of “my brain,” anxiety, consistency, direct communication, self-awareness, body movements, and speech patterns. During the second interview, and all subsequent interviews, I continued this notetaking process and made additional connections between my notes and the transcriptions. This early analysis can be considered *pre-coding* (Saldana, 2009).

After the interview process, I listened to the interviews and began transcribing them. Most of the transcription was verbatim, although a few sections of text are represented by my own notes. For example, one participant offered a deep explanation of his interest in paleontology and described the categorization process in depth. I represented this portion of the interview with a short note “lots of detailed information about dinosaurs.”

During my first listen to the interview recordings I was particularly interested in the participants’ answers regarding their functional and dysfunctional career thoughts,

specifically around issues of decision-making, commitment anxiety, and external conflict (i.e., constructs serving as the foundation of the CTI). I made notes hoping to identify trends. During a second reading of the transcriptions, I identified codes on index cards, then highlighted connected segments of the transcription in a first impression process described as *initial coding* (Saldana, 2009). Next, I cut out portions of the transcription and collected similar ideas with the corresponding note cards. This first pass identified 26 note card themes. I noted possible codes such as *communication* and *interpretation of social cues*, because those are common areas of difficulty for college students with ASD (Bissonnette, 2016; Dipeolu, Storlie, & Johnson, 2015; Mynatt, Gibbons, & Hughes, 2014; Pinder-Amaker, 2014). I also noted several ideas from the interviews that weren't in the literature: *career planning procrastination*, the idea of *being socialized to hide symptoms of ASD*, and comments suggesting “*that's not how my brain works.*”

Grouping the categories of codes ultimately reduced the number of categories from 27 to six. These six categories emerged as I created a document with two columns, using a *descriptive code* in the right column to summarize the ideas in longer form portions of the interview transcription which were typed in the left column. For portions of the transcribed interviews that could be represented by a short word or phrase of verbatim language from the participants, I used quotations in the right column to represent *in vivo codes* (Saldana, 2009), or verbatim codes. An example of in vivo codes in this analysis is “that's not how my brain works.” That phrase was observed in several interviews. During a second reading of interviews, I repeated the same process of categorizing notecards and examples of interview transcription and looked for any patterns I missed during the first pass. In total, six themes emerged in addition to the three construct areas identified through the CTI.

## **Researcher bias**

While using a lens of critical theory, researchers must identify and assess their biases and judgment. As a researcher with first-hand experience of discomfort in career counseling sessions with students with ASD, I entered this study with bias and judgment. I assumed that the fundamental career development needs of students with ASD were different than their neurotypical counterparts. This assumption was informed by my own professional experience working with students with ASD. I also assumed that participants of my study would be able to identify approaches that career coaches could use to provide individualized support to college students with ASD.

## **Summary**

Sequential explanatory design (SED), a mixed-methods research design, was employed in this study of the self-perceived career development needs of college students with ASD. Through a thoughtful process of gathering quantitative data through the CTI and then conducting in-person interviews with participants, I acquired nuanced information allowing for potentially deeper understanding of the topic than previous studies. SED is a research process during which qualitative and quantitative methods inform one another.

## **Chapter Four:**

### **Results**

The purpose of this study was to explore the self-perceived career development needs of college students with autism spectrum disorder (ASD), and to identify any common themes among their preferences for receiving career support. This chapter will discuss results which were identified through a mixed methods approach using sequential explanatory design (SED). In this design, data collection happened in two consecutive phases. First, quantitative data were collected and analyzed. Then, qualitative data collection methods were designed and executed. The primary research questions were:

1. What are the specific career development needs of college students with ASD?
2. In what ways would college students with ASD like for college career development professionals to help them meet those needs?

Quantitative data were collected by using a pre-existing survey instrument, the Career Thoughts Inventory (CTI) (Sampson et al., 1996), which was used to uncover initial answers to research question one. Because the results of this survey are classified as functional or dysfunctional career thoughts, areas of need can be inferred from the answers. Measures which resulted in dysfunctional thoughts indicated that individuals needed support in those specific areas. Individual participant interviews were then conducted to further elaborate upon answers to research question one and to answer research question two.

#### **Functional and Dysfunctional Career Thoughts of College Students with ASD**

The CTI was used to explore preliminary answers to research question one, gathering participant thoughts about various career development themes: decision making confusion (DMC), commitment anxiety (CA), and external conflicts (EC). Specifically, the CTI

measures dysfunctional career thoughts in each of the three construct areas. For each of the 48 items on the survey, students were asked to indicate the degree to which they agreed with the items; strongly disagree (SD), disagree (D), agree (A), strongly agree (SA). To allow for data analysis, numbers 0 – 3 were assigned to each answer: SD = 0, D = 1, A = 2, SA = 3. Any mean over 2.0 indicated that three or more participants shared dysfunctional thoughts for that measure. Survey items and quantitative means for each of the three CTI construct areas are shown in tables 4.1, 4.2, and 4.3. There are five items in the CTI that do not fall into the three construct areas. Although participants in this study answered responded to those items, those responses were not considered in this study.

**Decision-making confusion.** The decision-making confusion measures in this survey did not yield any unanimous dysfunctional career thoughts across the five participants. These results suggested that the participants in this study did not experience difficulty in making career-related decisions. During this series of survey items, students repeatedly answered *disagree* or *strongly disagree*, which suggested that they have a strong understanding of their interests and how those interests connect to career choices. Students did not strongly agree with any of the statements that would have implied difficulty or concern with decision making.

Several statements in this construct area yielded very functional thoughts. Item 1 resulted in the lowest mean of the entire survey, 0.2. Of the five survey participants, four strongly disagreed with the statement, “No field of study or occupation interests me.” The remaining student disagreed with the statement. These responses suggest that the students were confident that their areas of interest are connected to careers. Further, it suggested that the students in this study did not have trouble making decisions about their course of study or

Table 4.1

*Survey Items Measuring Decision-Making Confusion*

Survey Item	Mean
Q1. No field of study or occupation interests me	0.2
Q3. I get so depressed about choosing a field of study or occupation that I can't get started	1.2
Q4. I'll never understand myself well enough to make a good career choice	0.6
Q5. I can't think of any fields of study or occupations that would suit me	0.6
Q11. I'm so frustrated with the process of choosing a field of study or occupation I just want to forget about it for now	1.0
Q12. I don't know why I can't find a field of study or occupation that seems interesting	1.0
Q13. I'll never find a field of study or occupation I really like	0.6
Q16. I've tried to find a good occupation many times before, but I can't ever arrive at good decisions	1.0
Q20. Choosing an occupation is so complicated, I just can't get started	1.6
Q27. I'm so confused, I'll never be able to choose a field of study or occupation	0.6
Q28. The more I try to understand myself and find out about occupations, the more confused and discouraged I get	1.4
Q36. I'll never understand enough about occupations to make a good choice	0.6
Q43. I'm embarrassed to let others know I haven't chosen a field of study or occupation	1.0
Q44. Choosing an occupation is so complex, I'll never be able to make a choice	0.4

intended occupation. Considering the difficulty that many college students have when making decisions about their course of study or career options, the positive career thoughts of the students in this study are particularly notable. Experiencing a lack of confidence about making decisions about majors or occupations is relatively common for college students, which seems to conflict directly with the results for these students in this construct area.

**Commitment anxiety.** Only one item of the inventory resulted in unanimous dysfunctional career thought. It was found in the commitment anxiety construct. Item 47 stated, “I’m afraid if I try out my chosen occupation, I won’t be successful.” Each of the five students who completed the inventory indicated that they agreed or strongly agreed with that statement, resulting in a mean of 2.2. Although there were no other unanimous dysfunctional thoughts recorded in the results, two other items in the CTI resulted in a mean of 2.2. Both items were also found in the commitment anxiety construct. Item 32 stated, “I can’t be satisfied unless I can find the perfect occupation for me.” Item 35 read, “I worry a great deal about choosing the right field of study or occupation.” For both items, the answer of three or more of the respondents reflected dysfunctional career thoughts.

In addition to the dysfunctional thoughts around commitment anxiety, the commitment anxiety measures in the CTI also yielded several functional thoughts connected to career interests. This is reflected through answers to statements such as “I’ll never find a field of study or occupation I really like” and “I can’t think of any fields of study or occupations that would suit me.” Positive responses to those statements indicate that the students have identified one or more career interests. This is especially noteworthy because many college students have difficulty determining their career interests. In the career planning process, identifying interests serves as one of the most important steps. Students



tend to develop a sense of their interests before they move on to determine their areas of skill and workplace values, two other critical components in the self-assessment process. The importance of identifying interests in the career planning process underscores the positive outcome of this functional career thought for the students in this study. It is not uncommon for students to have difficulty with commitment to a field of study or occupation, so it is notable that the students in this study did not indicate having that difficulty.

**External conflicts.** This construct represents the ability of individuals to balance the

Table 4.2

*Survey Items Measuring Commitment Anxiety*

<u>Survey Item</u>	<u>Mean</u>
Q17. My interests are always changing	1.4
Q21. I'm afraid I'm overlooking an occupation	1.6
Q22. There are several fields of study or occupations that fit me, but I can't decide on the best one	1.8
Q26. My opinions about occupations change frequently There are so many occupations to know about, I will never be able to	1.4
Q29. narrow down the list to only a few	0.8
Q30. I can narrow down my occupational choices to a few but I don't seem to be able to pick just one	1.4
Q32. I can't be satisfied unless I can find the perfect occupation for me	2.2
Q35. I worry a great deal about choosing the right field of study or occupation	2.2
Q38. The hardest thing is settling on just one field of study or occupation	1.2
Q47. I'm afraid if I try out my chosen occupation, I won't be successful	2.2

importance of their own perceptions with the input of important people in their lives (Sampson, Peterson, Lenz, Reardon, & Saunders, 1999). External conflict results largely indicated functional career thoughts for the participants. Each statement about “important people in my life” resulted in the lowest mean scores across the construct, marking this construct as the area with which the students in this study felt most comfortable. These results suggest that the students in this study believe the people in their lives are supportive of their career choices and plans. For many college students, a barrier to career success is a *lack* of supportive relationships. Some students have career goals that are in direct conflict with the hopes their families have for them. For example, students with a strong interest in an art degree may have a difficult time feeling successful if their families pressure them to pursue a major like business instead. The perceived supportive relationships that exist for the students in this study are important to note. The results mark an aspect of the career planning process that often causes difficulty for other college students, but not for the students in this study.

### **Self-Perceived Career Development Needs of College Students with ASD**

Upon completion of the quantitative data analysis, a question set was built to further explore research question one. The set included questions about findings of the CTI in each of the three construct areas, as well as open-ended questions about experiences of the participants and their self- perceived needs. All five of the students who completed the CTI were invited to participate in voluntary one-on-one interviews, and four did so. The goal of the interviews was to clarify results of the CTI, to further determine the self-perceived career development needs of college students with ASD, and to learn about their preferences for receiving support addressing those needs.

These interviews were conducted in the same office space that the students used to complete their surveys which allowed for a sense of familiarity. Consistency and routines are important to many individuals with ASD. Therefore, the interview setting was intentional. The analysis of these interviews revealed several major themes in two broad categories: (a) self-perceived career development needs, and (b) coaching preferences of college students with ASD. The self-perceived career development needs category included three themes: (a) need for routines, (b) difficulty with the unknown, and (c) competing priorities. A strong preference for direct communication, importance of new and existing trust relationships, and a desire to work with people who have familiarity with and understanding of ASD were the three themes in the coaching preferences category. Examples of each theme are outlined in Table 4.4 and Table 4.5.

Table 4.3

*Survey Items Measuring External Conflicts*

<u>Survey Item</u>	<u>Mean</u>
Q6. The views of important people in my life interfere with choosing a field of study or occupation	0.6
Q9. Whenever I've become interested in something, important people in my life disapprove	0.6
Q14. I'm always getting mixed messages about my career choice from important people in my life	1.4
Q23. I know what job I want, but someone's always putting obstacles in my way	1.0
Q46. I need to choose a field of study or occupation that will please the important people in my life	0.6

**Consistency and Routines.** There were references to consistency and routines throughout the interviews. I asked specifically about whether the students preferred to see the same counselor/coach every time they sought career support. Each student said that it would be helpful to their career development process if they met with the same person each time, but some felt more strongly about it than others. Emily shared, “If I have to meet with a different person every time, it’s going to get stressful. Preferably, I would want a consistent person if I’m going back several times.” There were, however, several mentions of the importance of meeting in the same space on a regular basis. Emily said that although a meeting location could vary, it would be important that the environment not change completely.

Further emphasizing the importance of routines, Nico explained, “As a person with autism, routines are really important to me. Doing things the same way is a measure of control and stability in my life. If circumstances change, that can be unsettling at best.” Similarly, Derrick helped explain the importance of routine in his everyday life, “We [individuals with ASD] need our routines to maintain order, and that gives us something to, you know, feel safe. Anything that changes the routine is a little frightening and intimidating.” These explanations cannot be taken lightly. Students’ use of words like *unsettling*, *frightening*, and *intimidating* to describe a lack of routine helped emphasize the importance of routines in their lives.

Students also described practical approaches they would prefer during their career development process, often addressing a need for consistency and direction. Derrick explained, “I feel like a start-to-finish, step-by-step process would be really helpful. Building a specific resume and cover letter for a specific job. The actual application and any practical

steps in that process.” Derrick’s description indicated his belief that either a step-by-step process did not exist or that the career counselors he had worked with in the past did not offer step-by-step directions for the process. Step-by-step career processes did exist, however, indicating a potential disconnect between existing career support and the interpretation of those supports by students with ASD in this study.

Matthew described his environmental preferences, “I guess an ideal place... would have to be someplace that, like, can stimulate me, but not overstimulate me. I suppose a room like this (small office). It’s got some stuff here and there, which I find cool to look at, but it doesn’t distract me too much.” Although Matthew’s description did not indicate a preference for meeting in the same office space, it did imply the need for consistent *types* of space. This preference for a type of space is described by person environment congruence (Strange & Banning, 2001), a theory representing the tendency of individuals to be attracted to environments and spaces that are in line with their preferences. Strange and Banning’s work (2001) has repeatedly highlighted the need for colleges and universities to adapt their physical spaces based on the needs and preferences of students. It is no surprise, then, that the students in this study had reflections about ideal spaces for career development support to happen.

Managing a career planning process in college can be incredibly demanding of a student’s time and focus. Many college students have difficulty managing the additional tasks that this process requires such as building a resume, developing a professional network, and searching for and applying to jobs. To mitigate this difficulty, career professionals often suggest that students develop an organization system to help keep track of their progress. This process relies on a student’s ability to keep a routine and maintain consistency in their

approach. For students in this study, a preference for routine and consistency may work in their favor, as it indicates that they could manage such an organizational system well, and without considering it an extra step or obstacle.

**Difficulty with the unknown.** As mentioned previously, only one survey item in the CTI yielded unanimous results indicating a dysfunctional career thought. During the interviews, I read this statement (Item 47) aloud to all participants and asked for their reactions, “I’m afraid if I try out my chosen occupation, I won’t be successful.” Derrick’s response was very specifically related to difficulty with the unknown. “There’s nothing tangible or real that gives me courage that this may or may not happen.” He went on to say, “I don’t want to guess, I want to know. If I don’t know for sure, I don’t necessarily think I will be successful.” Derrick’s response was unique in the study. Other students related their negative thoughts to other factors like not knowing exactly what success would look like for them, but Derrick was clear about this being a concern of not knowing what to expect. For Derrick, it may be important to spend time and energy thinking about the realities of this ambiguous process, and how to lessen those negative feelings.

“Not knowing what to expect is unnerving,” said Nico. The job search process is difficult for most people, and one specific reason is that it is impossible to predict exactly what will come of the process or when. For the students in this study who indicated difficulty with the unknown, the job search may be even more difficult than for individuals who feel more comfortable with ambiguity.

In our interview, Derrick also discussed frustration over a common component of job applications (i.e., personality assessments). He found the assessment process to be vague, and was never taught the importance of these assessments, or how to excel at them. This is a

common frustration of many college students seeking fulltime employment post-graduation. Nico also expressed difficulty with career assessments, “Knowing what to expect is important to me, so not knowing what to expect in these applications was unnerving to some extent.” Career assessments are another notoriously difficult part of the job search process. Neurotypical college students often describe their apprehension about these instruments, despite their ability to interpret the importance of them. It should come as no surprise, then, that students with ASD who experienced heightened difficulty with interpretation also had a heightened sensitivity to the assessments.

Matthew said that not having any job experience made him nervous about the future, explaining, “I need to build job experience. That will help me get used to a routine, so it doesn’t feel so frightening. Right now, I just don’t even know what to expect from a job.” Many college students have similar concerns, but they often seek internships and other experiential learning opportunities to gain the type of experience which make them feel more confident about what to expect from work environments. For students with ASD who may have trouble with time management and interpersonal communication, seeking these opportunities may not seem feasible.

**Competing priorities.** It became clear that several students in this study had postponed thinking about their career development, because they felt compelled to focus on what they considered to be more time-sensitive priorities. Although this feeling is not uncommon in college students, it was especially evident in the interviews with the students in this study. Matthew described his tendency to prioritize classes over his future career plans, “I’m just, like, the kind of person who tries to prioritize school work over everything else. It’s just, like, you have other things to worry about that you just forget to think about the

future.” Nico shared a similar sentiment, “I have either been unable or unwilling to seek such services in the past. Either because I’m simply too busy, because I’ve had heavy course loads, or because it just simply doesn’t occur to me that to seek those resources would be beneficial.” Derrick explained that he had not sought career support on campus for several reasons, several of which included decisions about the effective use of his time. He said, “It’s a combination of I didn’t have time and I didn’t make time.” The students in this study seemed to have a primary focus on their school work during college. This suggests that either they viewed career planning as a process that did not require attention alongside coursework, or that the demands of working through the career development process were too difficult to deal with at the same time as school work. It is not unusual for college students to feel overwhelmed by the career development process, but many of them understand the importance of a dual process and they make progress toward career preparations simultaneous to their coursework.

This emerging theme of competing priorities may very well be connected to the difficulty that students with ASD experience with executive functioning. College students face the reality of competing priorities daily. This becomes a reality immediately upon acceptance to college, if not before. Students are inundated with messages about what to get involved with on campus, how to live away from home in some cases, and what events to participate in during the first week of school. In addition, students receive an overwhelming amount of information regarding academic transition and support services. Processing this large amount of information can be difficult for any student. For students in this study who experienced increased difficulty with executive functioning, this may be especially challenging.



**Direct communication.** Students in this study discussed a need for clear and direct communication. During his interview, Nico described needing extended time to understand requirements or assignment details. “I have to ask clarifying questions that others may not realize need to be clarified,” he said. His understanding of this need became clearest when he was assigned essays or papers for classes. He would have lingering questions about the assignments that he felt uncomfortable asking but would attempt to complete the assignments. After a frustrating series of submissions, which were found to be completed incorrectly, he changed his approach. “As time has gone on, I have gotten better at really making sure I understand an assignment before I leave the class or whatever it is. I’ve also gotten better at asking specific clarifying questions,” he reflected. Nico shared another experience of frustrating communication, “If you want something, need something, or think something, then just say it to me. That’s the only way I can truly understand what you need, or what your intentions are.”

The experiences Nico shared regarding his frustrations about indirect communication with instructors and faculty could easily happen also in a career development setting. I have observed that sometimes coaches intend to lead a student toward a certain outcome or topic discussion, but their communication is not always sufficiently clear. This is often because career coaches and counselors want to teach students how to manage their career processes, and not tell them exactly what to do or why. This approach is a response to current employment trends which find college graduates changing jobs frequently. If a coach manages a career process *for* students, then students may be ill-equipped to manage their next job search when it inevitably happens. This entire process may be inherently more

difficult for a student with ASD who prefers direct communication and a clear step-by-step process.

Table 4.4

*Themes related to Self-Perceived Career Development Needs*

Theme	Participant Reflections
Need for routines	<p data-bbox="711 531 1427 611">If I have to meet with a different person every time [I seek career resources], it's going to get stressful.</p> <p data-bbox="711 657 1427 737">As a person with autism, routines are really important to me. I don't know if you've run into that before.</p> <p data-bbox="711 783 1427 1031">When I went to class with the same people every day, it would still feel new every day, because it was like new people, a change in routine, and I hate change in my routines, even though my parents taught me to be more outside of the box, the autism part of my brain doesn't care.</p>
Difficulty with the unknown	<p data-bbox="711 1077 1427 1115">Not knowing what to expect is unnerving.</p> <p data-bbox="711 1150 1427 1230">If we don't know now, we can't foresee the future, cause it hasn't happened yet.</p> <p data-bbox="711 1276 1427 1356">Knowing what to expect is important to me. Planning, routines.</p>
Competing priorities	<p data-bbox="711 1402 1427 1566">I would have [applied for jobs] for the summer, but, like, I just didn't find the time to work on the applications, but you know, I could always try it for, like, the fall.</p> <p data-bbox="711 1612 1427 1692">I have honestly not prepared at all. I've just been working on other things.</p> <p data-bbox="711 1738 1427 1860">I was close-minded. Focused on classes, etc. A combo of I didn't have time/didn't make time. When I would have had time, I was dealing with things in my head.</p>

Derrick shared comparable reflections, but he expressed and demonstrated stronger feelings of frustration. When he described difficulty with indirect communication and unclear directions, his voice got louder, and his tone changed indicating a feeling of frustration and potentially anger. It was clear that these experiences were not rare for him, and that they were frustrating. During our interview, Derrick referenced concerns about responsibility, “Like, if you meant to say this, but you didn’t put it that way, then I won’t know, and some people put the blame on me. But like, if you didn’t say it, then I won’t know it.” Derrick further described how he had felt people continually put the responsibility on him, “They say in a politely academic way, this is your end, you should take care of it.” Derrick made this comment as he was describing a time when he questioned a grade he had received. He said his professor blamed him for misunderstanding an assignment, but, because the directions were not very clear and specific, Derrick felt that there was no way he could have completed the assignment correctly. Although he didn’t directly blame the faculty member, he did say, “I am fulfilling my student obligations by doing what you say, but if you don’t say it, I won’t know.” He shared several examples of this type of experience, implying that similar situations happen with regularity. Derrick’s description of his experience indicated that well-intentioned students with ASD who attempt to interpret unclear directions may experience increased disappointment and frustration when ideas are misinterpreted, especially because situations like these tend to happen regularly.

**Importance of trust relationships.** When asked if there were people with whom they talked about their career development needs, the students’ most common answers were family and academic advisers. Matthew first mentioned his adviser. Although he has had three separate advisers, he has always trusted them. The trust he gave the advisors seemed

automatic. It is possible that the students trust their advisers because they see them as experts in their academic discipline. Emily also named her adviser as one of her primary resources for career support, especially with internships. This connection with an academic adviser is critical, as it is often a choice made for a student, not by a student, yet the students saw this relationship as one of trust. This is important because it implies that the relationship with a college adviser may hold trust inherently for students with ASD.

Derrick was quick to mention career help he receives from his family. He said his parents and other family members have always been supportive of his interests and have offered advice when he needed it. Emily also mentioned family support. She shared that when she experienced an immersive internship program in Montana, her mother travelled with her, and that her family has always been supportive of her career interests. Nico's career support came primarily from his mother and father, although he did say he worried that his mother's advice placed too much importance on salary.

Results from the CTI suggested that the participants in this study did not experience negative external conflicts regarding their career development. More simply, they experienced support from important people in their lives about their choices regarding areas of study and career opportunities. Students also frequently mentioned the importance of trust during our interviews. In order to seek career support, they said they would need to work with someone they can trust, and who they felt trusted them. Although many such supportive relationships exist with family and advisers, participants also shared that creating relationships centered on trust would be important in their decision to continue seeking such support on campus. "For me, it's about trust," said Matthew simply.

**Familiarity with and understanding of ASD.** The participants shared many ideas about how career coaches should approach their work with college students with ASD. Most prominent in the interviews were reports of a desire to work with career professionals who knew about and understood ASD. The students admitted that it would be difficult for everyone to have a true understanding of ASD, but that did not keep them from wishing it were the case. Although he agreed that ideal career support would come from someone who had some degree of understanding about ASD, Nico specifically said, “True understanding only comes from people who have dealt with ASD, a friend or family member of someone with ASD. Or someone who actually has ASD. It would be really helpful if everyone on the planet understood what ASD was, and how it affects people so differently. But that’s not going to happen, not everyone is going to understand really. But having a person, or two people in an office like this who really get it, that would be ideal.” Intentionally or not, Nico’s comments were complex. He stressed that ASD affects everyone differently, yet still indicated how helpful it would be if everyone understood it. Nico seemed to imply that because he felt that widespread understanding was unlikely, at least practitioners from various support services on campuses should be aware of the experiences of students with ASD.

Although an appreciation and understanding of ASD was desired, Derrick was careful to mention that there was an important balance between understanding the experience of students with ASD and trying to relate to them. He said, “A lot of advisers here try to relate to my situation. That pisses me off. You have no idea. You don’t see me saying I understand your situation, because I don’t. You can tell me about it, and maybe we can meet in the middle, but that’s it.” Derrick was eager to explain that it would be ideal if everyone

Table 4.5

*Themes Relating to Coaching Approaches Preferred by College Students with ASD*

Theme	Participant Reflections
Direct communication	<p>It can be a little hard [for me] to know what direction to go in.</p> <p>If someone doesn't give me the blue print, or be specific, or say what they mean and mean what they say, things will go right over my head.</p> <p>But, like, if you didn't say it, then I won't know it. I'm autistic. I'm literal. I used to think magicians were alchemists, but as I got older and realized they were people who were performing a role, that original mystique was gone. Then, you're left lied to or set up.</p>
Importance of trust relationships	<p>My ideal person to work with is definitely someone who understands my condition and certainly someone who will be very relaxed. This person trusts me.</p> <p>Someone I'm comfortable with. Someone I trust. I don't know how to describe who that would be. It's just a feeling I get when I know I can trust someone.</p> <p>For me, it's about trust. People I'm close to know I have ASD, because I tell them. I guess other people might assume I do.</p> <p>I haven't disclosed to a lot of people. I'm in the process of disclosing to the campus, and I've disclosed to a few certain people like professors and advisers.</p> <p>Current advisor... ummm, I'm gonna be honest, I think for me, it's not so much what he does that makes me trust him, I think it's because, I trust him because of who he is.</p> <p>(Are there important people in your life who play a role in your career development process?) Yes. (Why are they important in this process?) Trust. I trust them.</p> <p>(Who do you go to for help?) Um, it was, like, mostly my advisor.</p>

Familiarity with and understanding of ASD

The people I know with ASD on this campus are affected in very different ways than I am. The way it couples and compounds with other mental differences in any kind of way, and how those things interact can just make things so different, and I'm so astounded how people who have worked with people with autism tend to get that and be able to work with that despite us being really different in a lot of ways.

My advisor is understanding of my needs. I have been told, although I'm not 100% sure, that he has a son on the autism spectrum. So, he really gets and understands what's important for me to be successful which is helpful. So, having someone who is knowledgeable about this sort of thing was a welcome surprise.

A lot of my friends that I grew up with or have accumulated over the years have had autism or some other similar things. And their parents get it. They get it. I don't really have a better way to phrase. They understand. They truly understand and are able to direct or manage what's going on in a way that I really don't understand anywhere else.

First and foremost, no matter who the teacher/counselor is, they should work towards being open minded. People on the spectrum (or however you refer to it), you could have any style of teaching, but you need to at least have an open-minded approach to meeting people where they are.

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had an understanding, but at the same time it was unacceptable for people to attempt to relate to him when they really had no idea what he experienced daily. It was almost as if he was not sure which reality was worse, the reality where no one understood his situation, or the reality where people thought they had any idea at all.

### **General Findings**

While not tied directly to either research question, several practical needs were pointed out by the student participants in their interviews. Each participant expressed a need to develop a strong resume. Several of the students had experience working on resumes but

agreed that their documents need to be updated and strengthened. Each participant also mentioned needing help with interviews. Matthew said his need for help in this area stems from “not fully understanding [his] skills.” Derrick’s immediate answer was, “Social circles. I essentially have none. I don’t know how to network, or who to network with.” He also mentioned a need for moral support. He said, “I need outside interactions or opinions to bring [my ideas about careers] back down to the ground from being way too up in the clouds.” Nico described his need for help in deciding on a specific career choice. Although he had many hobbies, interests, and activities he enjoyed doing, none of them had led directly to a career he would like to pursue. Each of these practical needs are often shared by many college students, regardless of categorization into a special population, like those who participated in this study. The career development needs shared by the participants in this study were not unlike the needs that many neurotypical students express. In my seven years of experience as a professional career coach, resumes and other application documents, interview skills, networking, and basic career exploration are among the most common topics on which I spend time working with college students.

### **No One Has Ever Asked**

One specific focus of my study was the self-perceived needs and preferences of the students. Hearing directly from and listening carefully to the voices of students with ASD was important as I approached this study through a lens of critical theory. To specifically explore self-perceived needs, two specific questions included in the interviews were: (a) if you could get your ideal version of career support from someone on campus, what would that look like, and (b), has anyone ever asked you what kind of help you’d like to receive? All four students indicated that they had never been asked how they would like to be helped.



Further, it was difficult for them to answer. There were pauses and hesitation from each student. Derrick answered, “I’ve never thought about what I want, because no one has ever asked. People have asked me before about my intended career plans. No one ever asked how I would like to be helped.” Similarly, Matthew said, “Nobody has ever bothered to ask. I mean you know, they’ll tell me where to go to get help, but no one asks what kind of help I want.” Emily agreed that no one had asked her directly about what kind of help she would like to receive. “Mostly the questions are about what I want out of a career, not what kind of help I need or how I want to get that help,” she explained.

During the final few minutes of the interview with Nico, he mentioned that if he had not participated in this study, he doubted he would have ever been asked what kind of help he would like to receive. This question brought up his memories of high school, and the help that was prescribed to him in an individualized education program (IEP). He said that the plan included many helpful interventions that he would have never come up with on his own. This led him to tell me the importance of a balance between self-perceived needs and actual needs, not all of which he would have necessarily addressed without the help of professional educators and counselors. His strong belief was that students with ASD should be involved in their own support plans, and that those plans should be supplemental to the strategies and approaches put into place by professionals.

## **Summary**

Chapter 4 has reported the results of a study employing a sequential explanatory design study. Quantitative results derived from administration of the CTI (Sampson et al., 1996) revealed that the students in this study had predominantly functional thoughts in the three construct areas of decision-making confusion, commitment anxiety and external

conflicts. Six qualitative themes were derived from an analysis of student responses to questions posed in individual interviews. They included (a) need for routines, (b) difficulty with the unknown, (c) competing priorities, (d) preference for direct communication, (e) importance of trust relationships, and (f) preference for working with people who have familiarity with and an understanding of ASD.

## **Chapter 5:**

### **Discussion**

The purpose of this study was to explore the career development process of college students with autism spectrum disorder (ASD). This study was guided by two research questions. First, this study explored the career development needs of college students with ASD. Second, this study sought to identify preferred coaching approaches of students with ASD. Throughout this study, student response themes to surveys and interview questions developed in two categories, aligning with the research questions (i.e., self-perceived career development needs of students with ASD and preferred coaching approaches of those students). The discussion of each of these themes includes interpretation of the results, connections to the literature, and implications for career development practitioners.

#### **Career Development Needs of College Students with ASD**

**Self-perceived career development needs.** The students in this study completed the career thoughts inventory (CTI) which led to responses in three distinct construct areas; (a) decision-making confusion, (b), commitment anxiety; and (c), external conflicts. Interview questions were derived from the college students' responses to the CTI and three major themes emerged from the participant's interview responses. Those themes are (a) need for routines, (b) difficulty with the unknown, and (c) competing priorities.

***Decision-making confusion.*** Decision-making confusion is represented in CTI statements intended to measure comfort with making decisions about areas of study and occupations. For these items, the students in the study reported confidence about their area of study and career choices. This confidence was additionally noted in student interview responses addressing their confidence with decision-making regarding their major and career

choices. Emily, for example, shared that the confidence she felt was probably a result of her ASD. “Special interests to the rescue!” she exclaimed several times. She said that individuals with ASD often focus on one or a small number of specific interests, and that she assumed that’s why she had an easy time deciding on area of study and occupation. Her interest in paleontology began early in her life and has only become stronger as she has grown older. The literature supports Emily’s assertion. Hans Asperger’s initial findings about a group of children initially identified with Asperger’s syndrome, and now identified as having ASD, included the observation that they had special interests (Bissonnette, 2016). The DSM-V also makes mention of a tendency of individuals with ASD to have very specific interests (American Psychiatric Association, 2013).

The results in this study suggest that college students with ASD may have an easier time making decisions about their major and career choices than their neurotypical counterparts. Implications for career development practitioners are that students with ASD may present with strong interests in a major or career option, or that they may not seek support with this common career development process. Although many college students seek support with their major and career choices, the students in this study do not appear to need that type of support.

***Commitment anxiety.*** The construct area of commitment anxiety also has strong connections to the ability of the students in this study to commit to a certain field of study or occupation. There are subtle differences in this construct area, and that of decision making. This construct is more closely connected to feelings of anxiety, worry, and fear associated with the broader decision-making process. Students in this study did report dysfunctional career thoughts in commitment anxiety. Pinder-Amaker’s study (2014) suggested that

students with ASD may experience anxiety at a higher rate than neurotypical students. The results of this study support that claim, because in this construct area, participant results showed heightened dysfunctional thoughts about statements which included language indicating such anxiety. The measures which resulted in dysfunctional thoughts included words that more strongly conveyed a commitment: “I can’t be satisfied unless I find the perfect occupation” and “I worry a great deal about choosing the right field of study.” Although they felt comfortable deciding on a field of study because they had strong interests and no doubts about those interests, the idea of committing to a specific area of study or occupation seemed difficult. The nuance here seems to be in the worry they expressed about what would happen as a result of their commitment. Even the students in the study who felt strongly about their choice of major and career were worried that it might not be the right one. The measures which resulted in functional thoughts were more closely related to their areas of interest: “I can’t think of any fields of study or occupations that would suit me,” and “I’ll never find a field of study or occupation that I really like.” Those statements were not concerning to the students in this study, because as mentioned previously with regard to the decision-making construct, these students felt confident in their areas of interest.

The complexity that this construct area poses for career development professionals is that even though many students with ASD may present with specific interests, they also may have heightened concerns about making the right choice. I once worked with a student I presumed had ASD who agonized over career choices even though he felt very comfortable in his decision about a major. This was incredibly difficult for me because it was a situation unlike any I had experienced with other students. We would meet very frequently, and the conversation always felt the same. He was an education major and loved what he studied,

but he constantly told me that he worried that he had made the wrong decision. He said he probably would not find a job, and that he would not be prepared for any other options. It was frustrating for me that we repeatedly held the same conversations, and I did not know how to move us forward. Career coaches may need to be aware of similar potential disconnects between the strong career interests of a student with ASD and their discomfort in making a commitment to that choice.

***External conflicts.*** External conflicts in career development often occur for individuals when the important people in their lives do not support their career decisions. This is a frequent phenomenon in college career coaching. The students in this study, however, did not report difficulties in this area. In fact, they reported incredibly supportive relationships with their families and with college academic advisers. The participants in Briel and Getzel's study (2014) infrequently, if ever, used the resources offered by career services centers on their campuses. The results from this study support Briel and Getzel's findings, which suggested that some students did not use their career centers because they either already had career support outside of the career center or they did not have time to visit their career center.

***Need for routines.*** Students in this study repeatedly mentioned the importance of routines and consistency in their lives. They described aspects of the career development process that they would need if they were to continue seeking support. First, students felt that seeing the same counselor each time they visited a career center would be ideal. "If I have to meet with a different person every time, it's going to get stressful," said one student. Another student agreed, "Probably...just having one person [would be preferred]." Similarly, the students expressed a strong preference for consistency in meeting space. "It can be in a

different room, as long as it's not in a different building or wing of the building," said Emily. Frequent mentions of these preferences support previous research which indicates that students with ASD may seek consistency and routine (Cai & Richdale, 2015; White et al., 2017).

Such findings are important because they can help career development professionals determine the most basic approaches to scheduling appointments. If students with ASD are most comfortable working with the same person during each of their visits, coaches can be mindful of this detail when scheduling subsequent appointments. Similarly, coaches can be sensitive to meeting spaces. These basic details relating to routines may be easy for professionals to overlook, but the results of this study suggest the importance of greater attention in planning meetings with students with ASD. If career development professionals seek to amend their approaches to better serve this student population, then they must be aware of the many ways those changes can happen. Slight alterations to our approaches can make a substantive difference for these students. For example, if the students in this study have a strong preference for meeting with a consistent person each time that they pursue career development support, it would be ideal for career centers to assess their current processes. Many career centers have multiple coaches which means that students may see different coaches based on availability. In my current office, our team works to minimize the time that students must wait for an appointment, even if that means a student meets with a new coach. Simply asking students if they prefer to be seen by a new coach in two weeks, or the same coach in three weeks could mitigate discomfort for students in this study and might be a reasonable question to ask any student seeking career counseling services.

When considering the preferences students with ASD may have in regard to meeting space, career coaches could think more broadly about access and accommodation. I have worked with several career teams who adjusted and amended coaching space to allow for accommodation, but the concern emerging from the students in this study with ASD was ignored. That is, we would frequently hold coaching sessions outside of our normal office space, assuming students would like to work with us in other, more convenient locations. The students in this study would see this as more of a burden than a convenience if the routine they expected and desired from our coaching sessions were altered.

***Difficulty with the unknown.*** The participants in this study repeatedly brought up their difficulty with the unknown. They discussed how, in general, the challenges of dealing with the unknown. For example, Nico shared, “Not knowing what to expect is unnerving.” He also shared his difficulties with the unknown specifically as it connects to the career process. “If circumstances change that can be unsettling at best. So not knowing what to expect in these applications was unnerving to some extent,” he explained. This emerging theme suggested the importance for career development professionals to consider how it will affect their work with college students with ASD. Career development is inherently ambiguous. From the beginning of a career development process when students are considering their interests and how those interests connect to careers, there are many unknown factors to consider. Students often spend this time concerned with how many jobs are available in a certain career area, how many unfamiliar jobs exist, or how much of the job search process is determined by who is in their professional network. In my experience, even those students who are among the most prepared have difficulty with the ambiguous nature of the process. There are no guarantees in a job search process, and this lack of clarity seems



to be compounded by characteristics that college students with ASD have reportedly experienced. Taking note of this difficulty for students with ASD is important for career development professionals.

Although the results of this study do not inform suggestions of how to mitigate frustration with or fear of the unknown, simply having awareness that some students with ASD may experience this difficulty can help career coaches to provide more effective support. If career coaches working with students with ASD will keep in mind how overwhelming the unknown can be, perhaps they can help students focus on the less ambiguous parts of the process. For example, when students feel overwhelmed by not knowing when they will hear back from a potential employer, a career coach can help them focus on concrete steps they can take such as appropriately following up with that employer or beginning the application process for another opportunity.

***Competing priorities.*** The students in this study reported difficulty focusing on their career development because of their excessive focus on coursework. They felt strongly that their time needed to be spent primarily on course assignments, and that concerns related to their career planning would have to wait. It is possible that the difficulty students in this study had with competing priorities were a result of executive dysfunction. Many of the behaviors and processes affected by difficulties with executive functioning would have a direct connection to the idea of competing priorities. These processes include time management, planning, staying focused and managing distractions (American Psychiatric Association, 2013; Dipeolu, Storlie, & Johnson, 2015; Hurlbutt & Chalmers, 2004; Myles et al., 2007; Mynatt, Gibbons, & Hughes 2014).

Students who have trouble with executive functioning will undoubtedly experience frustration in the career development process (Welsh & Schmitt-Wilson, 2013). This frustration may result in students putting off their career planning process. If students choose to engage in career planning during college, and they have difficulty managing those processes at the same time, the frustration may be heightened. Career counselors need familiarity with issues of executive functioning and should be prepared to work with students who may have those issues. Counselors should be prepared to help students with ASD manage multiple, competing priorities at once. When I work with students who have difficulty with a job search, my first approach is to ask them how they choose to organize their thoughts when necessary. For some, that looks like a pros and cons list. For others, creating a spreadsheet of information to keep track of the positions they have applied for works best. Helping students create an organizational system to help manage their career process may be an effective approach to working with college students with ASD who have difficulty with executive functioning.

**Preferred approaches to receiving career development support.** The second research question in this study explored the self-stated preferred approaches that college students with ASD wish to experience when receiving career development support. The themes which emerged analyzing the data related to this question are direct communication, the importance of trust relationships, and a preference to work with practitioners who have an awareness and understanding of ASD. This section will discuss implications for career professionals as they continue serving college students with ASD.

***Direct communication.*** The students in this study made frequent mention of how important it is for others to communicate in a direct manner. Nico discussed his literal

approaches to communication, giving many examples relating to experiences in the classroom. For example, when faculty gave assignments and the instructions were even slightly vague, he had experienced frustration as he sought further clarification, especially on tasks for which other students did not need further guidance. Difficulty with communication has been described in the literature as a characteristic of individuals with ASD (Bissonnette, 2016; Bogdashina, 2015; Dipeolu, Storlie, & Johnson, 2015; Mynatt, Gibbons, & Hughes, 2014; Pinder-Amaker, 2014). As previously discussed, students with ASD often refrain from asking clarifying questions in the classroom which may lead to difficulty with completing assignments properly (Zager, Alpern, McKeon, Maxam, & Mulvey, 2013). The examples Nico shared during our interview connect directly to the existing literature addressing difficulties college students with ASD may face in the classroom (Cai & Richdale, 2015; Cullen, 2015; HEATH Resource Center, 2017). Students may experience this difficulty very similarly in support programs such as career development resources, if efforts are not made to respond to this need for direct communication.

Career coaches should determine what it would look like to offer very direct communication. Some may even need to consider if they already offer direct communication, and how they can strengthen such approaches. In conversations with colleagues about working directly with this population, it has come up more than once that our primary role as coaches is to lead students toward success, not find it for them. Many coaches believe that the more direct, step-by-step processes we offer, the less helpful it will be for students in the long run, as then they will likely require such processes for much of their career (Dey & Cruzvergara, 2014). For example, when working with a student on a resume or cover letter, coaches usually approach the process as hands-off as possible. We

encourage students to write down their own notes based on verbal feedback that we offer. We ask them to talk through their experience as they write about their experiences, but many of us would never write the bullet points for them. There is a fine line for coaches to walk between being direct and doing the work for a student. Coaches may want to reconsider what it means to be direct and what it means to offer too much practical support.

In the daily work of career practitioners, we work with students to help them create the next best steps for their plans toward career success. This takes many shapes, but I have observed that many career coaches help students to identify mini-homework assignments. For example, I will often ask students to make a list of employers they are interested in with the perhaps misguided assumption that students know what I mean not only when I say interest, but also when I say employers. One student in my study who describes himself as very literal and explains his need for direct communication reminds me of the importance of offering context and confirming that my students are clear on what they should do next. This tip likely will be helpful not only for students who have ASD but also for other students I advise. There is no benefit to students leaving a career coaching session without the clarity they need.

***Importance of trust relationships.*** The students in this study frequently mentioned trust relationships that exist with their academic advisers. When asked if they have received support from important people in their lives, the top two groups identified were academic advisers and family members. Academic advisers are often assigned to students depending on their choice of major, and a relationship between the student and adviser is often required for students to complete course registration. Because there is a built-in requirement for this relationship, and because the students in this study spoke highly of this relationship, an

exploration of creating more systematic connections between academic advising and career development seems warranted. Such connections could be formal or informal and could be structured in a variety of ways. For career development practitioners who do not work for those campuses with official relationships between academic advising and career services, more informal approaches can be considered. An important component of this connection could be as simple as having academic advisers refer their students to career coaches (Ledwith, 2017). If trusted academic advisers suggested to their students that they seek support from a career development center, I would argue it is more likely to happen than without the suggestion from their adviser.

***Familiarity with and understanding of ASD.*** Although the data points to various career development needs and various approaches to support among college students with ASD, there are several insights for practitioners. First, the participants in this study indicated a strong interest in working with practitioners who understand ASD. This understanding can come from reading about the disorder, of course, but several participants specified that the best way to understand ASD was to experience it in some way; having friends, family, or acquaintances with ASD, or working with other students and clients who have ASD. Further, NACE (2002) and NCDA (2015) guidelines require career development practitioners to provide equal support to all students, which implies a requirement to understand ASD. For this reason, career practitioners might design and take part in trainings that involve working with students with ASD. This could be offered in a suite of trainings about special populations, or it could be stand-alone training programs specific to this population. For such training to be effective, it must include information about what ASD is,

the many ways it manifests among college students, and effective approaches to working with individuals with ASD.

Training programs may be most successful if they include direct interaction and collaboration with as many different students with ASD as possible. Although direct interaction may be most helpful, this approach may put an undue burden on college students with ASD. This could be especially burdensome for students who have difficulty with interpersonal communication. Another option would be to hear from family members of college students with ASD. While this is one step removed from working directly with and learning from the population, understanding second-hand the experiences of students with ASD may be beneficial as well. This would be an opportunity for career practitioners to ask questions and explore their own judgments without further imposing on students.

The reflections from students in this study about their preference for working with career coaches who are familiar with ASD are similar to previous research. Pinder-Amaker (2014) found that students with ASD in her study sometimes had difficulty seeking help from support programs on their college campus. She suggested that some students with ASD may be concerned about the lack of sensitivity to or understanding of their diagnosis as they make decisions about seeking resources. Career centers and the coaches who work in those centers should explore the experiences of college students with ASD. This exploration can happen through the use of case studies, journal article reviews, or conference calls with colleagues in their region who have experience in working with college students with ASD. Pinder-Amaker's findings, and those of the current study suggest that students would be more likely to pursue support if career coaches had such an understanding.

## **General implications**

The major themes which emerged from this study have been discussed above. Here I will discuss additional ideas that fall outside of the major theme categories but that address the research questions. These ideas are (a) being mindful of challenges, (b) considering adherence to inclusive mission statements, and (c) asking questions to develop shared expectations.

**Be mindful of challenges.** Students in this study indicated needs for routine. Routine as it relates to career development can include working with a specific coach or counselor repeatedly, meeting in the same space at the same time each week or month, or following a specific routine during the coaching session with a strong focus on direct and literal communication in the support. Participants also suggested the need for career practitioners not to downplay the difficulty of the process for students with ASD. Specifically, Emily mentioned her frustration when someone tells her that something is easy. Emily said practitioners need to be understanding, and not to oversimplify things. “‘All you have to do...’ is not helpful,” she explained. “Don’t suggest how easy it is. Understand where I’m coming from.” Emily’s comments suggest that she has interacted with people who have attempted to be helpful, but that they may have tended to oversimplify things that really are not so easy for her or, potentially, for other students with ASD. One specific example is working with a student to talk about networking or reaching out to a potential employer. I know that as a career coach I have used similar phrasing to “all you need to do is...,” indicating to a student that this process will be easy, when in fact it truly can be overwhelming or difficult. This is an important idea to cover in counselor training programs. First and foremost, it is important for career practitioners to be mindful of the challenges

which may exist for this population. Understanding the common characteristics and experiences of this student population can help with that mindfulness. Career coaching teams might spend time reading about students with ASD and working through case studies. A helpful activity may be to think through several common student experiences in career centers and then look at those again through the lens of a student with ASD. For example, imagine the experience of students applying for internships during the spring semester of their junior year of college who are also managing a midterm exam schedule, planning a trip home for spring break, and working a part-time job to make gas money. Now, think through that same example, but imagine that the student in question has ASD. What are the differences a coach might expect from a session with that student?

**Adherence to inclusive mission statements.** Many colleges and universities need to offer clarity in their mission statements, especially those who suggest they offer equal support of special populations. College administrators often implore their departments to adopt inclusive practices, but this requirement is misguided when there are no training and development supports in place to support the employees who carry out those practices. For career practitioners to offer excellent support to all students, they must first understand the needs and special accommodations necessary for special populations, in this case students with ASD. Then, once a strong foundation of understanding is in place, the best practices of those offices must include effective approaches for all students.

College campuses often tout mission statements as evidence of their dedication to various issues. At the site of this study, the mission statement very intentionally makes mention of an inclusive environment. The institution is guided by very specific inclusive religious traditions. On a campus founded on inclusivity and equity, it is especially



important to offer inclusive and equitable support services to all student populations. The career center on this campus, then, must adhere to the overall mission of the institution, and determine whether or not their practices are meeting the needs of all students.

**Ask questions to develop shared expectations.** One important component of this study was the exploration into how participants preferred to receive help. I asked the research participants the specific question, “If you could get your ideal version of career support from someone on campus, what would that process look like?” Participants did not have an answer at the ready. I prompted them to think about the ideas discussed in the literature, such as routine and communication styles. The participants were able to identify preferences in those areas once prompted. A subsequent question, “Has anyone ever asked you what kind of help you would like to receive,” revealed that the students had never been asked such questions previously. Further, they seemed frustrated that they had never been asked. The frustration they expressed was interesting to me, especially because they did not readily have ideas about the help they wanted to receive. When they did have suggestions, their responses were connected to frustrations they described previously about when people try to relate to their situation or assume that they know what they mean. They focused more on what they would not want from a coach rather than what they would want. For many college students, it is helpful for a career coach to relate to them or understand their situation. Although this may be helpful with neurotypical students, coaches need to be mindful that they likely cannot relate to a student with ASD without extensive background and preparation. In my work as a career coach, I have found that when I begin my coaching sessions with questions about what the student needs and wants from our time together, our experience together is guided by shared expectations and can be more helpful to us both.

Although this specific strategy has not been tested in research, it could be a helpful approach to all students, and in this case specifically with students with ASD, since it offers them an opportunity to co-create expectations.

The findings in the current study are broadly in line with Briel and Getzel (2014). The needs of students with ASD in both studies included strengthening their resumes, seeking internship opportunities, and exploring majors and careers. Similarly, Briel and Getzel found that students did not seek out the available resources and their reasons were in line with those of the participants in this study: (a) they were more focused on coursework at the time, (b) they sought support from family instead of career professionals on their campus, and, (c) in some cases, they already knew what they wanted to do after graduation, so they did not see the importance of using the resources available to them.

My experience with the participants in this study ran counter to previous research (Pinder-Amaker, 2014) which suggested that a lack of self-awareness may be a common characteristic of individuals with ASD. The participants in my study were extremely self-aware. They spoke clearly about differences they perceive in themselves in contrast with their neurotypical counterparts. For example, they shared differences in their communication styles. Matthew discussed a movement he makes with his fingers and hands that might “seem strange to some people,” and that “I sometimes talk kinda strange, I think.” He assumed that once people found out that he had ASD, they would understand his movements and speech patterns. Derrick and Emily both talked about the differences between themselves and other college students and each attributed those differences to “the way my brain works.”

## **Limitations of this Study**

**Small sample size.** A limitation of this study is the small sample size. The smaller the sample size, the more room for potential error due to the sample failing to be representative of the population. A small sample size can rarely produce generalizable data. The current study is suggestive of areas to explore further. Additional studies seeking input from students with ASD would help to confirm or disconfirm the results from this study. Although the small sample size can be a limitation, qualitative research does not seek to generalize. Qualitative or mixed-methods research, and this study which was viewed through the lens of critical theory, seeks, instead, to explore and understand a unique context.

**Survey instrument.** Another limitation of this study is the use of the pre-existing survey instrument, The Career Thoughts Inventory (CTI) (Sampson et al., 1996). The CTI, although widely known and highly regarded for its use in career development processes, was not developed specifically for use with college students with ASD. The instrument helps to identify common areas of career difficulty for individuals who complete it, but it does so through a series of measures that were validated for use with a wider population of students without disabilities. When choosing the instrument and developing my methods, I assumed that the participant answers would be more similar and would inform the creation of interview questions. Using the CTI as the primary survey instrument became a limitation because it did not specifically and intentionally identify and address concerns which may be particularly relevant to college students with ASD. Creating an instrument specifically for this population may have yielded different results. A specific instrument for this study would have taken into consideration the specific characteristics of students with ASD and would have been tested for issues of validity and reliability.

**Convenience sample.** At the time this study was developed, I worked on the campus where it ultimately was conducted. I chose this location because of the existing relationships I had with staff in the accessibility resources office. The population of students with ASD on this campus are within the national average, but they may not be representative of students with ASD at other institutions. This institution has a reputation for inclusivity due to its roots in religious traditions. It is possible that this reputation attracted an atypical population of students with ASD. In a convenience sample, a researcher cannot say with confidence that the individuals accurately represent the larger population. This limitation could be addressed with replication at other institutions.

**One-hour interview time limit.** The participants were notified that the individual interviews would take no more than one-hour. This was deemed necessary for the student population. Research shows that executive functioning may be difficult for students with ASD (American Psychiatric Association, 2013; Cai & Richdale, 2015; Cullen, 2015). Included in those behavior and processing difficulties are flexibility, planning and prioritizing. Providing students with a pre-determined time for the interviews was done in an effort to mitigate concerns with timing and planning. This time limit may have limited the depth of the interviews. This limitation might be addressed in future research with case study designs, extended observations, or multiple interviews.

**Exploratory study.** This study was not designed to comprehensively solve all the problems in career counseling with students with ASD. Instead, it was designed to get a sense of a few specific topics from the perspective of a group of students with ASD. Further work is needed to determine if these concerns are representative and what other concerns there may be.

## **Conceptual framework**

In this study, the conceptual framework was constructed from three sources. This construction was guided by John Maxwell's (2005) approach to research. According to Maxwell (2005), there are four sources of conceptual framework which are "(1) your experiential knowledge, (2) existing theory and research, (3) your pilot and exploratory research, and (4) thought experiments." In this study, three of the four sources were used to develop the conceptual framework.

**Experiential knowledge.** In many cases, the scholarly community sees personal experience and identity as forms of bias which need to be eliminated at best, named at worst. Maxwell (2005) challenges the researcher to see this experiential knowledge as a valuable component. As a seasoned career coach and college administrator, I brought awareness and knowledge of the field to this research. That knowledge helped guide my approach to the study, it helped me offer informed suggestions based on the results of this study, and it will help as I discuss my findings with the field. Ultimately it was my experience as a career coach that led me to this study in the first place. My difficulty working with students with ASD enabled me to see the problem and to develop a research study intended to yield practical outcomes.

**Existing theory.** The goal of critical theory is to change unethical systems, rather than to simply understand them. The research questions guiding this study move toward increasing awareness and understanding and provide a point from which to consider changes. The decision to use critical theory as a conceptual framework was intentional, as was my goal to collect information that could inform any necessary changes or enhancements to

further develop best practices in college career development centers in order to more fully address the needs and preferences of students with ASD.

Two especially important components of this study conducted through a lens of critical theory were interviewing the participants and the second research question requesting preferences for the ways that college career development professionals might help them meet their needs. Hearing directly from the students in this study and placing importance on their self-perceived needs and preferred support approaches will contribute to the ability of career practitioners to make well-informed adjustments to their work to better serve the population of college students with ASD.

An important component of critical theory requires that authors name their bias or judgment. Because I bring experiential knowledge to this framework, I named the bias and judgments I have. That is, it was impossible to separate my professional identity from this research. In the introduction to this study I described the judgments I brought to this work including the fact that I had difficulty working with students with ASD, that colleagues around me expressed similar difficulties, that these observations helped me identify a problem, and that I felt a sense of urgency to work toward more equitable solutions for college students with ASD.

I used critical theory as a “spotlight” (Maxwell, 2005, pp 49-50). Theory cannot help us see every aspect of every issue. Instead, researchers use theory to illuminate the issues they want to highlight. In this study, I used critical theory to illuminate the inequitable structures that may exist in college career development centers. This study claimed that the needs of college students with ASD and the approach through which they prefer for coaches

to help them with those needs may be different than neurotypical students. Critical theory supported this claim and supported my intention to explore it.

**Thought experiments.** Maxwell's interpretation of thought experiments (2005) suggests that after collecting and analyzing data, researchers should think about how to support or disprove them. As I began to describe my findings, I found it important to think through them with colleagues. I invited several colleagues to join me for a roundtable discussion about my findings. I described my research questions, my data collection methods, and the results I gathered from survey and interview responses. Then, I asked colleagues to think through the implications with me. As a group of career practitioners, we imagined common career development experiences that students go through, and then we considered how those experiences might be different for various student populations. This allowed me the opportunity to step away from thinking only about the students in this study and think more broadly about the college career development process. These thought experiments prompted me to think about practical implications of the results I gathered from the students who participated in this study. For example, I thought about college students who embark on the internship search process. I imagined all the conflicting priorities those students experience, and once I thought more clearly about that entire process, I then thought about how a student with ASD might experience this same scenario. Engaging in this thought experiment once I had the context provided by the students in this study allowed me to more clearly consider how other career coaches might do the same.

Developing a conceptual framework which is informed by several distinct areas allowed me to think more broadly about this study. Initially, I considered my own experiential knowledge. Acknowledging that my identity as a career counselor and college

administrator informed my approach was important to this study. I did not remove my own thoughts and experiences from the research questions, and I allowed my experience to inform my interview protocol and the choice of survey instrument. I then allowed critical theory to illuminate an important aspect of this study, which was exploring the potential inequitable structures in play that may disadvantage college students with ASD who seek career development support. Finally, I engaged in thought experiments which helped to more broadly inform the implications of this study and considerations for future research.

### **Recommendations for Future Research**

**Career counselors.** The results of this study suggest opportunities for future research. First, this study made several mentions of anecdotal evidence that current career development professionals may lack sufficient training related to the population of college students with ASD. Examining the training programs for practitioners is necessary to determine the baseline of preparation of these professionals and how that relates specifically to diverse populations. Similarly, an exploration of current practitioner perceptions of their readiness to support college students with ASD is necessary. My experience with other career counselors in the state of North Carolina has led me to believe that our profession does not feel adequately prepared to effectively serve the population of college students with ASD. This is problematic for our profession and even more serious when considering the increasing population of college students with ASD. As I began this study and shared my ideas with colleagues, they expressed interest in the research. I recently had the opportunity to share preliminary findings of my study at the North Carolina Career Development Association and was overwhelmed by how many people approached me with questions. Career counselors from other college campuses in our state are eager to learn about how they



can best serve this student population. The strong interest my colleagues shared supports my assertion that our profession is not yet sufficiently prepared. Future studies can explore this more thoroughly. A study comparing the current approaches of career practitioners with the self-identified preferences of the student population would allow for exploration and understanding of potential gaps between the two. Although the sample size was small in this study, the data collected can influence career development centers on college campuses. Replicating this study at a larger institution or at multiple institutions would increase the generalizability of the data.

**College students with ASD.** Further research is called for to investigate both the self-perceived needs of college students with ASD, and their preferred approaches. The importance of trust relationships for college students with ASD, especially as it relates to academic advisers, emerged as a theme in this study. Future research exploring the impact of formal connections between academic advising and career coaching may prove beneficial. If academic advisers encourage their advisees to engage with career development centers on campus, it may be possible to create early trust relationships with those professionals as well. In turn, college students with ASD may take fuller advantage of the resources offered by career centers.

## **Conclusions**

It cannot go unmentioned that my initial interest in this study stemmed from my own work as a professional career counselor for college students. As I embarked on my professional journey, I was struck by the difficulty I experienced in working with students who had a diagnosis of ASD. I felt unprepared to provide excellent services to this population, and I found myself seeking specific models or support from my colleagues across

the state of North Carolina. As I discussed this student population with my peers and inquired about their own approaches to working with them, I was disappointed by the lack of information or direction. We were unable to identify best practices for working with the population, we did not have trusted resources to turn to for guidance, and we felt unsure of how to move forward. This study represented a small step toward gaining a better understanding of the needs of college students with ASD and how our profession can most effectively respond to those needs.

One concern I had going into this study was whether eligible students would be interested in participating. My experience working with students with ASD in the past was that it was more difficult to engage them in conversations than their neurotypical classmates. As previously mentioned in this study, career development conversations rely on participation by all parties, and I had observed that students with ASD often were not as responsive to my line of career questioning as other students. For this reason, I worried that the interview protocol I developed would not support a thorough conversation. I was surprised to find, however, that the students in this study were eager to discuss their experiences. After the survey component of this study, one student expressed how much he hoped that I would contact him for an interview. I did interview him, and his reflections were in line with other participants in the study. After our time together, he even expressed gratitude for the work I was doing.

I anticipated a low participation rate and was concerned that those who would participate might question my motivations. In fact, Nico wondered if there were any hope that my study would help him or other students with ASD. At the conclusion of our individual interview, I asked for his final thoughts or questions, and he surprised me when he

asked, “Do you believe that you can really be successful in providing better services for people with autism despite the very different ways that it affects people?” This was perhaps the most meaningful moment in the study for me. I was able to reflect on my motivation for the study, and I was able to express to Nico how I felt about the outcome. Although this study sought to understand the career development needs college students with ASD from their own perspectives and to inform the practices of career coaches on college campuses, it was not designed to identify best practices and it is clear the solutions will not be one-size-fits all. I was honest in my response to Nico, “I think it would be very foolish of me to imagine that I’ll get a list of things to do for students who have autism. The same things aren’t going to work with all people. It’s not going to happen with neurotypical students, either. I do think there will be commonalities that will come out in these interviews, and that those can inform my approach.” This study has identified a few commonalities among the participant needs and preferred approaches to receiving help, and I feel confident that other studies can build upon these initial findings.

As the population of college students with ASD increases, college practitioners must identify and understand characteristics of the population and their specific needs. This study sought to identify the specific career development needs of this population, and to understand how those students prefer to receive help. Ultimately, this study demonstrated that these college students with ASD have career development needs and concerns that are quite similar to those of their neurotypical counterparts. Although the needs of the population are primarily in line with those of other students in college, career development practitioners must recognize the potential differences. The consequences of students with ASD experiencing anxiety as they commit to an area of study or occupation may be different than

the consequence of anxiety for a neurotypical student. The approaches that students with ASD in this study would like to see career practitioners use are manageable through current career development structures. For example, a thoughtful approach to scheduling appointments on a more consistent basis, with a consistent coach, and in a consistent space could have positive implications for college students with ASD. For college career centers to provide effective and efficient career development supports to students with ASD, practitioners, no matter what their training and experience with this population, must be willing to listen carefully and learn from these students and adjust their current practices to the unique needs of the individual. After all, best practices in college career development call for providing equitable services to all college students, and college students with ASD are a growing group within that population.

Although the needs of individuals with ASD can be different than those of their neurotypical counterparts, needs among those with ASD are varied, as well (Burgstahler & Russo-Gleicher, 2015). The idea that needs will vary from person to person is supported by the results of this study. While there are recognized themes in the data collected, it is critical for career development professionals to recognize that there is not a one-size-fits-all approach to career coaching and counseling, even, and perhaps especially, among special populations.

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## **Vita**

Megan Lee Walters earned her Bachelor of Science degree in 2004 from Appalachian State University. She immediately pursued her Master of Arts degree from Appalachian State University and began a career in college student affairs. She worked for three years at Lees-McRae College as the director of campus life. She moved to Brevard, North Carolina in 2010 to work as the director of campus life for one year and then as the assistant dean of students for one year, both at Brevard College. During her time at Brevard College, she earned her Education Specialist in Higher Education Administration from Appalachian State University. She moved to Greensboro, North Carolina in 2013 to serve as assistant director for internships at Guilford College. She currently serves as the associate director for career development at University of North Carolina Greensboro where she manages career readiness programming and strategy for the campus. In 2019 she received a Doctor of Education in Educational Leadership from Appalachian State University.