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Perceived Level of Neurodiversity-Based Methodologies in Support Programs for Post-Secondary Autistic Students

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Walden University

College of Education

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Gwendolyn S. Barnhart

has been found to be complete and satisfactory in all respects,
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Walden University
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Abstract

Perceived Level of Neurodiversity-Based Methodologies in Support Programs for Post-

Secondary Autistic Students

by

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PhD, Walden University, 2016

MA, Antioch University, 2019

MS, University of Phoenix, 2009

BS, University of Phoenix, 2007

Dissertation Submitted in Partial Fulfillment

of the Requirements for the Degree of

Doctor of Education

Walden University

June 2021

Abstract

Autistic students often face stigmatization surrounding their autism diagnosis, especially in academia, which can cause depression, lower self-esteem, or suicidal ideation and lead to lower academic success. The problem of insufficient research-based effective practices to guide support services for autistic students in their post-secondary education was addressed in this study. The purpose of this qualitative case study was to understand the degree to which neurodiversity-based methodologies are utilized in special education post-secondary support services. The diffusion of innovation framework was used to explore perceptions of 19 staff members who worked in academic support services. The research questions were focused on the current levels of implementation of the conceptual model of neurodiversity and the support personnels' perceptions on the benefits of neurodiversity for autistic students in post-secondary education. A two-step research process that included a short answer survey followed by an online interview was implemented. Findings from the thematic analysis of data were synthesized in five themes, which indicated that participants had knowledge of neurodiversity and reported an ongoing, concerted effort to broaden their knowledge base. Several participants had sought to determine if neurodiversity would build on supports currently in place. The study contributes to social change through evidence-based findings that could help professionals estimate instructors' potential acceptance or resistance of the principles of neurodiversity as well as emphasizing the role of this model in supporting autistic students.

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Dedication

This dissertation is dedicated to all my fellow autistics. Never let anyone tell you that you cannot achieve what you are called to do. Anything can be achieved with hard work, dedication, and perseverance. I spent much of my academic career in special education classes and encouraged to forego college and university because it would be “too hard.” I did it anyway. This is my third doctorate. Find your passion and do things your own way.

Acknowledgments

I wanted to take some space here to acknowledge the very real debate surrounding the use of identity-first versus person-first language. As both an autistic and an academic, I feel as though I am being pulled in two different directions. Academically, I can understand why the community prefers person-first language, it ultimately is about respect and putting the person in front of any perceived disability. It also elicits the connotation that a person is not their disability and that it is separate. From the autistic community, the use of person-first language is not thought of as respectful at all. The connotation elicits the notion that autism can be separated out of the person. Autism is an important part of who we are and a strong part of our identity. Due to the fact the guidelines from the American Psychological Association's Publication Manual 7th Edition state that both person-first and identity-first are acceptable, compounded by the overall goal of this study which is to help fellow autistics, I have decided to use identity-first language throughout. This decision did not come lightly, it took a lot of research and self-reflection. Ethically, for me and for the purposes of this study, identity-first language is the most appropriate.

Table of Contents

List of Tables	v
Chapter 1: Introduction to the Study.....	1
Background.....	1
Neurodiversity in K-12	2
Neurodiversity in College	2
Problem Statement	3
Purpose of the Study	5
Research Questions.....	5
Conceptual Framework.....	5
Nature of the Study	7
Definitions.....	8
Assumptions.....	8
Scope and Delimitations	9
Limitations	10
Significance.....	11
Significance in Post-Secondary Academic Institutions	11
Significance for Adult Autistic Students	11
Summary.....	12
Chapter 2: Literature Review	13
Literature Search Strategy.....	13
Conceptual Framework.....	14

Diffusion of Innovations	14
Literature Review Related to Key Concepts and Variables.....	16
Neurodiversity.....	16
Positive Niche Construction	17
Autism Symptomology Hinderances that Contribute to Academic Difficulties ...	19
Historical Contexts of Autistic Students in Academia	21
Social and Political Mechanisms	24
Social Understandings for Those with Autism	25
Neurodiversity in Education	28
Summary and Conclusions	29
Chapter 3: Research Method.....	31
Research Design and Rationale	31
Role of the Researcher	32
Methodology	33
Participant Selection	33
Instrumentation	35
Procedures for Recruitment, Participation, and Data Collection	36
Data Analysis Plan	38
Trustworthiness.....	39
Credibility	39
Transferability.....	40
Dependability	40

Confirmability	41
Ethical Procedures	41
Summary	43
Chapter 4: Results	44
Setting	44
Demographics	45
Data Collection	45
Surveys.....	46
Interviews.....	46
Data Analysis	46
Results.....	47
RQ 1	48
RQ 2	51
RQ 3.....	56
Evidence of Trustworthiness.....	58
Credibility	58
Transferability.....	59
Dependability	59
Confirmability.....	60
Summary	60
Chapter 5: Discussion, Conclusions, and Recommendations	62
Interpretation of the Findings.....	62

RQ 1	62
RQ 2	63
RQ 3	64
Limitations of the Study.....	65
Recommendations.....	65
Implications.....	66
Conclusion	67
References.....	68
Appendix A: Interview Questions to Answer Research Questions	81
Appendix B: Short Answer Survey.....	82
Appendix C: Semistructured Interview Questions	83

List of Tables

Table 1. Demographics from Study45

Table 2. Themes from Study.....48

Chapter 1: Introduction to the Study

In this study, I sought to ascertain support service staff's perceptions of the current utility of neurodiversity concepts employed at various post-secondary educational institutions across the United States. In this chapter, I will discuss the background of neurodiversity. I will also state the problem as well as the primary purpose of this study. I will also describe and justify the chosen conceptual framework of diffusion of innovations, as postulated by Rogers (1962). Additionally, I will provide the research questions (RQs) that I answered as well as the assumptions, delimitations, and limitations.

Background

Autistic students often face stigmatization surrounding their autism diagnosis (Bottema-Beutel et al., 2018; Zuckerman et al., 2018), because many people who are unfamiliar with autism believe that they are not as academically capable (Angulo-Jiménez & DeThorne, 2019; Krieger et al., 2018). Further, when autistic students decide to attain higher-level degrees, there often is not much in the way of support for them (Cox et al., 2017; White et al., 2017). However, approaches such as the neurodiversity model can help educators and support staff see the differences in autistics and have the potential to benefit the atmosphere of a college campus through social change (Krieger et al., 2018). Though the concept of neurodiversity is relatively new (Sarrett, 2018), it has the potential to combat maladaptive mindsets of autistics. Often autistics seek to discover their identity within the collegiate context (Gelbar et al., 2014; Gobbo et al., 2018), but they have increased rates of depression, anxiety, and suicidal ideation (Ovaska-Few,

2018; Paskins, 2018).

Neurodiversity in K-12

Various methods can be used to work with students with special needs from a neurodiversity-based perspective (Aldo, 2018). The primary focus of these methods is five categories of special education: learning disabilities, attention deficit disorder, autism, intellectual disabilities, respectively emotional and behavioral disorders. Another strategy is to incorporate the notion of neurodiversity to mediate the instructional process (Armstrong, 2012).

Further, K-12 teachers often pathologize their students with a disability, and students' talents go unnoticed (Rentenbach et al., 2017). Thus, another strategy when working with an individual with a disability is to treat each individual with respect by celebrating their talents and by working to understand their struggles. When autistics feel unconditional support and appreciation for their true selves, they have more opportunities to thrive, as they do not have lingering negative connotations over them (Gobbo et al., 2018). It is also important for educators to assume that an individual can do a task until the student has proven otherwise (Rentenbach et al., 2017). In this way, students are not limited in their opportunities. Another suggestion is to foster a positive approach to teaching using a can do attitude, which is an alternative to eliciting strict academic modalities, such as disciplinarian and authoritative approaches.

Neurodiversity in College

Neurodiversity can help autistic students in the post-secondary arena of academia such as helping reframe their identity (Gobbo & Schmulsky, 2016). Students have had an

overwhelmingly positive reaction to the conceptual model of neurodiversity (Griffin & Pollack, 2009). Neurodiversity strategies help students build self-esteem and thrive in their educational pursuits. Though most of the support autistic students receive in college, is academic rather than psychological, neurodiversity can be infused into academic support systems (Angulo-Jiménez & DeThorne, 2019). However, the current research suggested a gap in the literature that more social support, such as the implementation of neurodiversity, may be helpful in assisting autistic students in graduate school to reach their academic goals. Autistic students, who receive extra assistance in academia, may be more successful in their academic pursuits (Cox et al., 2017).

Problem Statement

Though sufficient research-based practices exist to guide support services for autistic students in their post-secondary education, there is not enough evidence that the benefits of these support practices are fully employed by the academic staff (Cox et al., 2017). Furthermore, autistic adults lack the ability to be more productive in their academic pursuits because of their difficulties in the brick-and-mortar environment of higher education (Gobbo et al., 2018), which can cause higher rates of depression, lower self-esteem, or increased suicidal ideation which can also lead to lower success rates in academic pursuits (Paskins, 2018), especially when these students are stereotyped by educators (Krieger et al., 2018). However, the conceptual model of neurodiversity places a focus on the difference stance, rather than the deficit stance, in autistics (Ovaska-Few, 2018). Proponents of the conceptual model of neurodiversity suggest that it can help thwart maladaptive self-perception that hinders individuals with an autism spectrum

disorder from reaching their educational pursuits (Sarrett, 2018).

Despite the potential benefits of a neurodiversity model, research is limited on the degree to which elements of the conceptual model of neurodiversity and elements of the traditional model for autism are utilized in higher education and post-secondary educational environments. K-12 schools hold the assumption that autistic students will fare well in their collegiate pursuits (Krieger et al., 2018). However, autistic students still need stronger social skills and emotional support (Bottema-Beutel et al., 2018; Cox et al. 2017). Some researchers have shown that the implementation of neurodiversity in K-12, was successful (Angulo-Jiménez & DeThorne, 2019; Ovaska-Few, 2018). Students had gained self-esteem and were thus more productive in their academic pursuits. But I was not able to locate studies that focused on the neurodiversity model's use in post-secondary education.

Through this study I investigated the degree to which elements of the conceptual model of neurodiversity and elements of the traditional model for autism support are utilized. Support systems currently in place for autistic students may benefit from the conceptual model of neurodiversity if implemented into their current model of support (Angulo-Jiménez & DeThorne, 2019; Gobbo & Shmulsky, 2016). This study could help decipher what mechanisms are currently in place and the feasibility of such an implementation. Implementation of the conceptual model of neurodiversity can improve the way individual autistic students feel about themselves and their abilities (Paskins, 2018). This practice, in turn, can promote positive affect and higher success rates in academic pursuits (Cox et al., 2017).

Purpose of the Study

The primary purpose of this study was to understand the degree to which neurodiversity-based methodologies are utilized in special education post-secondary support services. Findings from this study may help professionals estimate whether instructors would accept the basic precepts of neurodiversity (Cage et al., 2018). Evidence-based research to support the model of neurodiversity can also benefit higher education by supporting students who present with atypical learning styles such as autism (Angulo-Jiménez & DeThorne, 2019). This study also addresses a gap in research on the use of neurodiversity-based concepts in the higher education with autistic students (Gurbuz et al., 2019).

Research Questions

RQ 1: What are the current levels of implementation of the conceptual model of neurodiversity in support services for autistic students in post-secondary education, as perceived by support personnel?

RQ 2: What are support personnel perceptions on the benefits of neurodiversity in support services for autistic students in post-secondary education?

RQ 3: What are the limitations in current support services to the implementation of the major support strategies by the conceptual model of neurodiversity for college autistic students, as perceived by support personnel?

Conceptual Framework

This study is grounded in the diffusion of innovations, as postulated by Rogers (1962). Diffusion of innovations is a theoretical model that focuses on how and why

different ideas take hold in society and at which rate they spread (Rogers, 1962), which directly related to the research problem. Neurodiversity is a new model that proposes an innovative approach to counseling and is not yet widely adopted in the support of autistic adults in their academic pursuits (Ovaska-Few, 2018). Because this study focused on neurodiversity, and I primarily studied to what degree this model is adopted in higher education, this conceptual framework was the best fit (Hou, 2017). Through the RQs, I sought to understand the diffusion of the innovative concept of neurodiversity in higher education. The diffusion of innovation model helped me design the first RQ to obtain a baseline of where the academic institution is at with the implementation of neurodiversity into support services for autistic students. This also helped me to ascertain what the current perceived knowledge base is regarding the first stage in the model of the diffusion of innovation. Additionally, I was able to design RQs to ascertain what perceived benefits and limitations the innovative notion of neurodiversity may have within the social system at each academic institution. This correlates directly with the fourth stage in the diffusion of innovation model.

Further, within the scope of the study, the model informed how the concept of neurodiversity can diffuse and become common educational practice in post-secondary education (Mohammadi et al., 2018). Rogers postulated five stages of the adoption model: (a) knowledge, (b) persuasion, (c) decision, (d) implementation, and (e) confirmation (p. 372). The first element in the context of neurodiversity is the innovative nature of this concept. The second element refers to the potential adopters of the innovation such as post-secondary educational institutions and educators. The third

element relates to the communication channels by which the concept of neurodiversity travels. Fourth, the passage of time is an important factor by which new innovations are adopted. It will take time for the concept of neurodiversity to be implemented in the support services for autistic adults in post-secondary education. Lastly, the element of the social system relates to both the external and internal social factors that come into play when employing an innovation. The model of diffusion of innovation was thus helpful for researching neurodiversity in higher education environments because it highlights the processes that take place as the innovative concept of neurodiversity diffuses across post-secondary campuses (Friedrichsen et al., 2017).

Nature of the Study

The purpose of this study was to ascertain the current state of implementation and the utility of the conceptual model of neurodiversity in support services for autistic students in post-secondary education as perceived by representatives from various colleges with autism support services in place, across the United States (Krieger et al., 2018). The nature of the study was determined by the nature of the RQs, which indicated a qualitative design was most suitable. Data collected encompassed participant interviews with support service staff in post-secondary educational venues who have worked with autistic students for at least 1 year. Qualitative methodology is helpful in analyzing research when the data points consist of participant beliefs, opinions, and experiences (Butina, 2015). The specific data points gathered was comprised of thoughts and ideas that would lose meaning if placed into quantifiable contexts (Lee, 2014).

Definitions

Autism: Autism is a spectrum disorder, so there are varying levels of strengths and challenges. For this study, the term *autism* is defined as individuals who have an autism diagnosis as defined by the Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition (American Psychiatric Association, 2013). Autistic students may have varying deficits in areas such as in memory, social skills, and executive functioning. Because autism is a spectrum disorder, the specific areas of deficits and supports vary with each individual. Many autistics can be successful in academia with proper supports in place (Nasamran et al., 2017).

Post-secondary academic institutions: Post-secondary institutions refer to academic entities that consist of vocational or scholastic pursuits for adult learners after the completion of high school.

Support service staff: For this study, the term *support service staff* relates to an individual who works with autistic students in a support role such as, but not limited to, paraprofessionals, special education teachers, speech-language pathologists, occupational therapists, social skills trainers, and applied behavioral analysts.

Assumptions

It was assumed that research participants answered the interview questions in an honest and forthcoming manner (Ngulube, 2015). Another assumption was that participants were honest in their reporting regarding their post-secondary support service affiliation. I also held the assumption that the interview process did not cause adverse complications due to unforeseeable technological events.

Scope and Delimitations

The participants in this study were individuals who had at least 1 year of experience working with autistics as a support specialist in post-secondary education. I placed this 1-year experience modifier because of the benefits of the increased knowledge of support service specialists working with autistic students in the post-secondary arena. Additionally, neurodiversity encompasses many other types of neurological differences; however, for the purposes of this study, I limited the focus to autistic students in college. Autistic students are present in other aspects of education, but this research is inclusive of autistic adults in post-secondary education.

In terms of transferability, the results of this research may not be generalizable to other contexts. More specifically, the results of this study may help other researchers ascertain the level to which the model of neurodiversity is being implemented in post-secondary education settings. The results of this study serve as the first step to implementing the concept of neurodiversity into post-secondary educational settings specifically for adults on the autism spectrum as the aim is to decipher the current utility of this concept.

Other conceptual frameworks were considered but were ultimately not used. For example, social constructivism was not used. Through social constructivism, individuals learn as part of their participation within a specific group (McKinley, 2015; Palincsar, 1998). Though individuals can learn from participating in groups that focus on neurodiversity for autistic adults in post-secondary education, this conceptual framework does not explain the concept of neurodiversity being implemented in different

educational institutions. Social constructivism does not describe the diffusion of this innovation.

Social learning theory also did not fit into the context of this study. Social learning theory was first described by Albert Bandura, who postulated that individuals learn from others through modeling, imitation, and observation (Bandura, 1963; Miller, 2011). This theory describes how neurodiversity in post-secondary academia can help individuals on a personal level but does not describe how the concept could transfer from one academic institution to another. Similarly, the deficit model was not employed, as the focus of the study is neurodiversity, which works to build to an individual's strengths rather than on their deficits. The deficit model focuses on an individual's deficits, but the diffusion of innovation is a better framework based on the purposes of this study.

Limitations

One limitation in the study was that participants from post-secondary institutions may have reported aspects of their experiences and observations at one specific point in time—the time of the interview. However, the institution may have changed their procedures and protocol to address the needs of the students they serve. This may occur over time as the needs of the students change, so the initial reporting by the participants were only valid on the date of their reporting because post-secondary institutions fluctuate in their policies and procedures.

Another limitation of this study is that the sample size was small in comparison to the whole of the population which often is the case for qualitative studies (Creswell, 1994). However, in keeping with the data saturation tradition, the sampling of the

population was sufficient to accurately devise a conclusion that was transferable to similar contexts.

Significance

Within this study, there are two potential significant outcomes that are described in more detail in the following sections. First, the findings from this research can provide educators with information that can help them serve students better. The second potential significant outcome is potential growth of the student.

Significance in Post-Secondary Academic Institutions

The significance of this case study is that it may provide educators with research that can support the implementation of neurodiversity-based support services for autistic students in post-secondary academia. More specifically, this study has the potential for social change in that it may provide a rationale regarding the utility of the neurodiversity concept for academic institutions to help autistic students to better achieve their goals in post-secondary academia (Cox et al., 2017; Krieger et al., 2018; Paskins, 2018).

Significance for Adult Autistic Students

With a neurodiversity-based framework in support services for autistic students in post-secondary academic institutions, students may have the opportunity for acceptance for their true selves, without feeling the need to conform to societal normative expectations (Angulo-Jiménez & DeThorne, 2019). They also have the opportunity for increased empathy and understanding from those professionals who serve them. By increasing their own internal and institutional acceptance, autistic students may be able to better focus their energies on acquiring the knowledge they set forth to attain, without the

compounded difficulties of trying to conform to societal standards that are difficult for them (Cox et al., 2017).

Summary

In summary, autistics often face a myriad of challenges while pursuing post-secondary education (Gobbo et al., 2018). As such, there are a number of support service staff in place to assist those secondary autistic students in order to help them succeed. But at the time of this writing, I have found no research in place that asserts the legitimacy, or the usefulness, of the concept of neurodiversity in post-secondary education support services for autistic students. This research was the first step in identifying the utility of the implementation of neurodiversity in post-secondary education through support services for autistic students.

Chapter 2: Literature Review

There is not enough evidence to support the benefits of support services for autistic students (Cox et al., 2017), especially those that involve the conceptual model of neurodiversity, which can help mitigate factors that affect academic achievement (Paskins, 2018; Sarrett, 2018). The purpose of this qualitative study was to ascertain support service staff's perceptions regarding the implementation and utility of the conceptual model of neurodiversity in support services for autistic students in post-secondary education by interviewing representatives from various colleges with autism support services in place across the United States. Findings from this study can help in the implementation of neurodiversity concepts in support services by providing information on their acceptance on how they can support autistic students.

Within this chapter, I synthesize the results of the literature review. I also include the literature search strategy, a discussion of the theoretical foundation of diffusion of innovation, and the conceptual framework of neurodiversity. I also discuss the literature related to the methodology in this study, case study, and triangulation design. Lastly, the specific diagnostic criteria for autism will be defined, along with specific symptomology that can inhibit an individual's ability to thrive in a classroom setting.

Literature Search Strategy

Several databases were searched to inform of the current literature: ERIC, EBSCO, PsycInfo, and ProQuest. Specific search terms used to query each database included *autism, support services, neurodiversity, disability, education, special education, college, and post-secondary*. Furthermore, specific parameters were employed

to attain recent, peer-reviewed research. That is, no research was included that was published prior to 2015 unless the research substantiated theoretical or methodological frameworks.

Conceptual Framework

Within the conceptual framework of the diffusion of innovation, there are several components, which are described in the following sections. These components consist of knowledge, persuasion, decision, implementation, and confirmation. These components help break down the diffusion of innovation for further analysis.

Diffusion of Innovations

Diffusion of innovation theorizes how and why different ideas take hold in society and at which rate they spread (Rogers, 1962). I used this model to study to what degree this neurodiversity model is utilized in higher education (Hou, 2017). The model helped understand how the concept of neurodiversity may become used in post-secondary education (Mohammadi et al., 2018), highlighting the processes that take place as the innovative concept of neurodiversity diffuses across post-secondary campuses (Friedrichsen et al., 2017). Rogers (1962) postulated that five stages encompass the adoption of an innovative idea such as neurodiversity. The five stages of the model are knowledge, persuasion, decision, implementation, and confirmation.

Diffusion of Innovation—Knowledge

The knowledge stage refers to the first exposure to the innovation (Rogers, 1983). In this study, the innovation is neurodiversity. For example, participation in the study may have been the participant's first exposure to neurodiversity.

Diffusion of Innovation—Persuasion

The persuasion stage refers to the point in time where the individual is interested in the innovation itself and works to understand the innovation (Rogers, 1983). In this study, this referred to whether staff tried to learn about neurodiversity. Further, I examined whether they had examined whether neurodiversity could be helpful to use in support services in their academic institution.

Diffusion of Innovation—Decision

In the decision phase of the adoption process of the diffusion of innovation model, the individual performs a cost benefit analysis. This is when the individual examines the advantages and the disadvantages of the implementation of the innovation into their realm of action. In the case of the study, this would refer to the staff at the specific educational institution's decision to adopt the neurodiversity processes (Ovaska-Few, 2018).

Diffusion of Innovation—Implementation

In the implementation phase, the individual works to implement the new innovation (e.g., neurodiversity). Individuals may examine their educational institution's policies and procedures and ascertain where the notion of neurodiversity could be implemented (Angulo-Jiménez & DeThorne, 2019).

Diffusion of Innovation—Confirmation

During the confirmation phase, the individual makes the final decision whether to implement the new innovation. In the case of this study, individuals running the educational institution would decide if neurodiversity was something worth

implementing in their support systems for autistic students. Part of this final confirmation process is the feasibility of the implementation of neurodiversity into their educational institution (Angulo-Jiménez & DeThorne, 2019).

Literature Review Related to Key Concepts and Variables

While conducting the literature review, key concepts were explored.

Neurodiversity is the key concept for this study. Positive niche construction is also addressed.

Neurodiversity

The persuasion concept of neurodiversity was first coined by Judy Singer in 1998, who began to use the term *neurodiversity* to express the mindset that autistics are not necessarily disabled, but rather they think differently from others in the population. Hence, the word neurodiversity means neurologically diverse. From there, other individuals began to use the term and the notion became more popularized (Aldo, 2018; Jurecic, 2007; Pollak, 2009).

Within the tenets of neurodiversity is an opposing view to the deficit and medical models of disability. Proponents of the neurodiversity concept work to raise awareness in the social justice mindset. A common belief is that by treating autistics as subpar or defective, it can have an adverse effect on the individual (Haug, 2017). Autistic individuals may view themselves differently, which can lead to depression. But when an educational entity accentuates an individual's talents, they are likely to be more productive in their educational pursuits and thus more successful.

Positive Niche Construction

Positive niche construction is another facet of educating those with disabilities like the current practice of least restrictive environment. The least restrictive environment practice is based on the deficit model (Cage et al., 2018), where the student is viewed as subpar, and their talents are not accentuated. The least restrictive environment mindset focuses on the practice that if a student with a disability can function along their peers, then that is the correct placement for them. However, it is argued that the least restrictive environment can be difficult for the student to manage (Kirby, 2017). The student will likely be behind the rest of the class because of their disability (Katowitz & Thurman, 2017). They may also have sensory processing constraints or other difficulties that may go overlooked if the student is deemed disabled. The following sections will go into more detail on the facets of positive niche construction, as described by Armstrong (2011) and Aldo (2018).

Strength Awareness

In terms of developing a positive atmosphere for which to work, Armstrong (2012) suggested that support staff focus on individual strengths of students. This gives students a sense of individualism and helps them to realize that they are not defective and that they have valuable skills and talents to offer the world. Autistic students may begin to develop a positive self-concept when their talents are accentuated.

Positive Role Models

By encompassing a model in which positive role models are available for students to talk and look up to, students can have a mentorship relationship. Students may benefit

from seeing another person with autism who was successful so that they can learn and grow from that role model (Roberts & Birmingham, 2017). This may also help students to believe in their own abilities, following exposure to someone else who was like them being successful (Krieger et al., 2018).

Assistive Technologies/Universal Design for Learning

Though in general, the use of assistive devices can be beneficial, they may not serve the purpose they were initially intended for (Keshav et al., 2018). Having assistive devices at the support team's disposal does not mean that the staff are equipped or trained to use each device (Haug, 2017). But students using the services may need assistive devices (Ismaili et al., 2017), so they need to be used properly.

Strength-Based Learning Strategies

If the student support focuses on strengths, then according to the positive niche construction, the student may be more successful from viewing themselves in a positive stance (Aldo, 2018; Armstrong, 2011). However, if the focus is on a student's weakness and perceived deficits, the student is more likely to think less of their abilities and may not perform as strongly as they otherwise would have.

Human Resources

Human resources refers to how specific support service entities utilize staffing (Katowitz & Thurman, 2017). This includes the realm of staff-to-student ratios and if the entity uses co-teaching techniques. Additionally, staff education and continuing education are considered.

Positive Career Aspirations

One of the main goals of attending post-secondary education is to become competitively employed. This relates to how a student's support focuses on individual strengths in terms of devising positive career goals (Rashid et al., 2017). It may be less beneficial for a support entity to work with individuals on career goals that are not realistic and that do not necessarily enhance the student's true talents, interests, and abilities (Angulo-Jiménez & DeThorne, 2017).

Environmental Modifications

Part of supporting autistic students is understanding their unique and individual sensory needs. Some students may become overwhelmed by light, noise, or other external stimuli (Cox et al., 2017). Other autistics have an ADHD component to their diagnosis (Mayes et al., 2018). It may be beneficial for the support service staff to understand these confounders to a student's learning experience and work to create a learning environment that is conducive to their sensory needs (Gobbo et al., 2018).

Autism Symptomology Hinderances that Contribute to Academic Difficulties

There is specific autism symptomology that can interfere with academic achievement. Two common symptoms relate to difficulties surrounding social skills and communication. Another hinderance that is often overlooked is the student's executive functioning.

Social Skills

Autistics have poor social skills, which can hinder their ability to pick up on social cues that can help facilitate learning (Aldo, 2018; Armstrong, 2011). When

students undergo their normal developmental process, they are typically more able to pick up on various social nuances many neurotypical people take for granted while in the classroom. These social skills are learned, and the minute details of how to get along with others is not as hindered. But autistic individuals struggle to learn these social cues and have difficulty picking up on minute details such as humor and sarcasm. Often in an educational setting, students use these developed social skills to learn. However, autistic students may have difficulty reading facial expressions or working with others, such as in group projects (Cox et al., 2017). Autistic students may also have difficulties in expressing their needs. From a developmental perspective, autistic students struggle with language, as is noted in the diagnostic criteria (American Psychiatric Association, 2013). Some may want help but are unsure of how to ask for it. Some may be too shy to ask for fear of embarrassment, because of perceived notions of intellectual ability or social inadequacies.

Executive Functioning

Executive functioning relates to an individual's ability to multi-task, focus attention, plan, and self-regulate (Mattys et al., 2018). Autistics often have difficulties in their executive functioning. One common difficulty for students on the autism spectrum is that planning ahead is a struggle (Krieger et al., 2018). Many autistic students struggle to prioritize tasks and to ascertain what steps need to be in place when trying to accomplish these tasks. School support services should assist students in planning what task needs to be done first.

Communication

The DSM-5 stipulated that in order to qualify for an autism diagnosis, the individual needs to have a history of symptomology early in their development (American Psychiatric Association, 2013). Impairments may include difficulties in social and vocational interactions, which can significantly impact an individual's quality of life (Cage et al., 2018). Social difficulties are perhaps the most debilitating impairments (Bottema-Beutel et al., 2018). For autistics, these impairments are present throughout their life. Social skills training is often implemented to teach the individual social appropriateness. For those who are neurotypical, social skills are often acquired through life from the time they are young (Mayes et al., 2018). But for autistic individuals, there are a number of ways in which these skills are taught, most commonly, in a therapeutic setting (Ovaska-Few, 2018). In an educational setting, these skills are taught and reinforced through support staff personnel (Sarrett, 2018).

Further, an individual's ability to express empathy is another vital concern in autistics. Many times, autistics have difficulty in expressing empathy, which can lead to difficulties in nonverbal communication many neurotypical people perceive as an important part of communication (White et al., 2010). Research has suggested that those with autistic spectrum disorder had more difficulty in communicating with others when compared to their neurotypical counterparts (Burgess & Turkstra, 2010).

Historical Contexts of Autistic Students in Academia

Chamberlain et al. (2007) explained that people often perceive those with neurological differences as being disabled, and not as able-bodied as their neurotypical

peers. Often, in the school educational model, the system is built upon tradition (McKeon et al., 2013). Duncan and Klinger (2010) asserted that if a student does not fit into the traditional model of learning, then that student may be labeled as having a disability, or a deficit, and thus be viewed as in need of academic supports in the form of intervention. Kayama (2010) discussed that this practice does not consider the student's intelligence or other talents. Furthermore, this practice does not perceive an alternative learning plan to be feasible, therefore limiting educational options for the student.

For persons with autism, *fitting-in* socially can be arduous, especially with others whom are neurotypical (Karayazi et al., 2014; Lin, 2014). Some students may have difficulty in accepting those who are different than themselves. This can lead to ostracization for autistic students (Roberts et al., 2011; Van Roekel, Scholte, & Didden, 2010). Many students on the autism spectrum, in post-secondary academia, struggle as they attend classes alongside their peers. College can also be difficult for those who are not on the autism spectrum. For autistics, attending post-secondary school can be exhausting (Roberts et al., 2011). Acceptance from peers is difficult to attain for autistics (Van Roekel et al., 2010).

For autistic students, the mold of normative learning can be difficult to fit into. For those who do not fit this mold, special education is an option, and helps autistic students to attain their educational goals, when they have difficulty learning in an environment that is mainstream (Kayama, 2010; Mackenzie et al., 2012). This mindset can often hinder a student with autism's learning, by getting judged and bullied by peers, which can lead to low self-esteem and depression (Magnuson & Constantino, 2011).

Although it is true some students get more individualized attention through one-on-one supportive services, such as speech, occupational, physical therapies; one main element, often not supported, is an individual's intellectual capabilities (Diep & Wolbring, 2013; Siebers, 2008). Often, special education classrooms are suitable for those with cognitive delays; however, they are not necessarily suitable for the intellectually gifted, such as some autistic students (Rubenstein et al., 2015). However, individuals with autism are placed in these classrooms, historically, because of their need for smaller class size for anxiety and sensory processing issues (Angulo-Jiménez & DeThorne, 2019). Ableism comes into play here, as autistics are sometimes deemed not as capable academically, as their counterparts, resulting from social awkwardness and communicative deficiencies (Ellman, 2012). The educational system may hinder the growth of academically gifted students in classroom settings because of their deficits in other areas such as communication and other social skills (Rubenstein et al., 2015). Within the realm of special education, there is a stance to keep students in the least restrictive environment. Technically speaking, that would be in the regular classroom (Wolbring, 2008). However, because of other limitations associated with autism, many students with autism cannot thrive in a normal classroom setting, which results in the placing of them in an academically restrictive environment of the special education classroom. This status quo leads to frustration and increased maladaptive behaviors, in students with autism, as they are often not appropriately challenged intellectually (Aldo, 2018; Armstrong, 2011). This historical context of the academic system in the United States is the phenomenon that feeds into individuals' academic pursuits in post-secondary

academia.

Social and Political Mechanisms

For autistic students, various social and political mechanisms were put in place within the realm of special education (Ovaska-Few, 2018). For example, low funding often restricts the services schools can offer special needs students (Education for everyone, 2016). There is an ongoing, low funding tradition, in the educational sector (Keshav et al., 2018). Politically, monies once reserved for education are being diverted into other areas of various interest such as military efforts, immigration reform, and technological advancement. Autistic students can fall through the cracks. They do not necessarily fit into the realm of those who are cognitively delayed, nor are the general classroom settings suitable for these students.

Old Social and Political Mechanisms

Old social and political mechanisms are perpetuating the problem. Socially, autistics were deemed as cognitively impaired, and thus not given the opportunity to enhance their educational pursuits (Kirby, 2017). Often times they were misdiagnosed as intellectually disabled, placed into special education classes (Paskins, 2018). Fortunately, because of increased knowledge about autism, more individuals are receiving a correct diagnosis (Kirby, 2017). Although the individual with autism may be intellectually gifted, they may also have deficits in social and communicative efforts.

Social Practices

Socially, ableism of autistic students in the educational system is integrated into our educational practices through the special education system (Cox et al., 2017).

Autistics present as awkward and can lack the ability to easily assimilate into mainstream culture. Autistic students are often treated as though they are not as intellectually capable as they are, hence, the ableism stance (Kirby, 2017). Society can sometimes make assumptions as to their capabilities, because of the lack of compliance with normative social culture (Paskins, 2018).

Political Mechanisms

Persons within the educational system often keep their practices relatively justified due to the obvious deficiencies autistic students possess. It is true that special accommodations need to be made to help these individuals. However, many times their cognitive abilities are overshadowed by their social and communicative deficits (Haug, 2017). Though many individuals with social and cognitive hindrances are cognitively deficient, this does not hold true in all instances, particularly in autism spectrum disorders (Paskins, 2018). Many educators are used to the normative and traditional way they handle autistic students, and that is, unfortunately, to group them together with students with intellectual disabilities (Krieger et al., 2018).

Social Understandings for Those with Autism

Social understandings and descriptions of how autistics are affected are further discussed. Students on the autism spectrum are especially hit hard when they do not get the proper support and education they deserve. There are several issues surrounding this situation. One is that students are often left to wonder how much they can do (Cox et al., 2017) This includes wondering about their eventual ability, in terms of holding down a job, or having families of their own. Families are left wondering what protections they

need to put in place for their loved one, such as conservatorships or financial trusts. If the educational system assisted autistic individuals more effectively, families may have a better idea regarding their student's level of functionality, which would help them in post-secondary pursuits (Mattys et al., 2018). They would likely have the opportunity to learn skills to help them reach their true potential. At some institutions, there are counseling modalities in place (Aldo, 2018; Armstrong, 2011). These counseling modalities generally help students to learn social skills, devise coping mechanisms, and offer therapeutic support (Angulo-Jiménez & DeThorne, 2019).

Some educators may downplay autistic students' innate academic potential. In turn, this can have a detrimental effect on an individual's ability to acquire job skills, as well as skills needed for self-sufficiency after graduation. Autistic students are at a disadvantage when compared to their neurotypical counterparts (Calderón-Almendros & Calderón-Almendros, 2016). These disadvantages stem from the neurotypical model of academia. Since many autistics do not fit the typical academic mold, many of their academic talents are overlooked, since they are overshadowed by their perceived challenges.

Difficulty exists for autistic students needing services, due to the funding of proper and adequate accommodations (Aldo, 2018; Armstrong, 2011). For many autistics caught in this difficulty, service qualification is often viewed on a case-by-case basis. For instance, an individual can be non-verbal while having superior intelligence (Katowitz, & Thurman, 2017). In the mindset of educators, this can turn into ableism, because if the student is nonverbal, some may deem that they are also cognitively impaired (Calderón-

Almendros & Calderón-Almendros, 2016). Autistics may not advocate for themselves academically (Gurbuz et al., 2019). To self-advocate takes courage, and it is even more difficult when the individual has social and communicative deficits (Angulo-Jiménez & DeThorne, 2019).

Angulo-Jiménez and DeThorne (2019) discussed disparities autistic students face while in the confines of the brick-and-mortar educative modality. Haug (2017) illustrated various exemplars of these disparities while using examples from case studies. These examples describe varying types of disabilities to include blindness, deafness, persons with intellectual impairments, and emotionally disturbed individuals. Haug discussed elements regarding the purpose of special education along with a rationale as to why the system falls short of expectations. Haug also suggested various steps persons such as those with disabilities, school administrators, educators, and the like, can take such as recognition of the problem, consideration of familial goals and desires, inclusion of students, fostering systems of integration, and encouragement through support networks.

Similarly, Hutcheon and Wolbring (2012) conducted a qualitative study in the context of the body-social-self framework. An exhaustive literature review was used to substantiate the defined purpose. The researchers took a disability and sociological approach to the study and sought to determine epistemological thoughts and attitudes of disabled individuals in higher education. Participants consisted of students from the University of Calgary, with varying degrees of both physical and intellectual or learning disabilities, such as cerebral palsy, bipolar disorder, and OCD. Participants were recruited by an advertisement posted at the disability resource center on campus, through a self-

selection process. Data collection ensued via semi-structured interviews conducted over two meetings. The first interview conducted ranged in time from under one hour to more than two hours. The last interview was employed to follow up from the first interview and lasted 45 minutes in length where 4 of the initial 8 participants participated. Ableism was used as a tool in the analysis of the data collected. Analysis of these interviews indicated five themes emerged: hegemonic voice, voice of the body, voice of silence, voice of assertion, and voice of change. Results suggested that participants needed a more inclusive and understanding atmosphere in which to study. The authors suggested possibilities to mitigate this issue, as more awareness education to the university culture and institution wide policy changes.

Neurodiversity in Education

Griffin and Pollack (2009) discussed neurodiversity in higher education. Researchers included students from the United Kingdom with varying types of neurological diversities, including those diagnosed with dyslexia, ADHD, and autism spectrum disorder. In their study, Griffin and Pollack (2009) ascertained a label such as “neurodiversity” would help influence the way students viewed themselves. Twenty-seven students participated in their qualitative study. Students shared details about their experiences, their diagnosis, and being neurologically diverse. Results suggested that several students internalized their diagnosis and, as a result, discussed feeling sub-par as these feelings permeated their psyche and created emotional stress.

Furthermore, students who participated in Griffin and Pollack’s (2009) study shared their belief that educators and parents should be trained in the recognition of

neurologically diverse learners. Griffin and Pollack further discovered that participating students held negative views of being neurologically diverse, and believed themselves to have a deficit. Autistic students were able to develop a more positive stance on their autism after using resources developed for those who are neurologically diverse. The study by Griffin and Pollack (2009) is important in that it described how, with heightened awareness of the neurodiversity concept, student's views of themselves can change, potentially for the better.

Similarly, Cai and Richdale (2016) researched the perceived needs of autistic students in post-secondary educational entities. This study consisted of 23 participants and data were collected through participant input in semi-structured focus groups. Students reported receiving assistance in several different ways to include time management, accommodations for exams, and note-taking assistance. However, students shared that more assistance is needed. Participants of this study stated they would like more flexibility from their instructors, in terms of assignment extensions, to alleviate their anxious tendencies.

Summary and Conclusions

Barnhill (2016) sought to ascertain current practices of support service entities on college campuses for students with Asperger's syndrome. The author compiled a list of 45 universities and colleges which were contacted. Barnhill concluded that 31 of the 45 support service entities contacted believed they had services that went beyond the status quo. It is important to note that 'support services' referred to any service for autistic students. Specific supports that were offered to students were social skills groups,

individual therapy, group therapy, nontherapeutic group, supervised special activities, housing accommodations, and summer transition programs. No mention of neurodiversity was noted. Barnhill (2016) explained that more research was needed to further ascertain the levels of support students with Asperger's were receiving in their post-secondary institutions.

I discussed the background of the theoretical foundation of diffusion of innovation as it relates to this study. I conversed key concepts that relates to this study. I also wrote about the concept of the diffusion of innovation as it is the conceptual framework of this study. At the time of this study, in the year 2020, no formal research existed, that I could locate, that examined the current level of use of neurodiversity-based concepts in the higher education, population with autism spectrum disorder (Angulo-Jiménez & DeThorne, 2019). This research may help post-secondary educational entities to further assist the students they serve by giving them an evidence-based model in which to build their programs.

Chapter 3: Research Method

The purpose of this qualitative study was to ascertain the current utility of the conceptual model of neurodiversity in support services for autistic students in post-secondary education, as perceived by the representatives from various colleges with autism support services across the United States. This study was the first step in determining the feasibility of incorporating neurodiversity-based methodologies into special education post-secondary support services. The findings from this study can help professionals estimate instructors' potential acceptance or resistance to the principles suggested by the basic precepts of neurodiversity. The field of higher education may also benefit from this evidence-based research to support the model of neurodiversity for backing students that present with atypical learning styles such as autism (Krieger et al., 2018). At the time of this study, 2020, I found no formal research on the current level of use of neurodiversity-based concepts in this population.

Research Design and Rationale

A qualitative methodology was the most suitable since the RQs could not be answered quantitatively (Charmaz, 2008). Additionally, a case study is appropriate when the researcher is working to answer RQs that surround a contemporary set of events (Yin, 2014), and when the phenomenon is something that the researcher has little or no control over (Baxter & Jack, 2008). Because the purpose of this study was to examine the neurodiversity conceptual model's implementation in support services for autism spectrum disorders at the collegiate level, a case study was the most appropriate. The design is discussed in more detail in the following sections.

Case Studies

An important factor in case studies is that they focus on a single case, multiple cases, or a single system over time (Creswell, 1994). A case study methodology fit this study due to the system of assisting autistic adults in college. Additionally, case studies implement several different data sources to include interviews, observations, and reports (Creswell, 1994). Thus, this study relied on data collected from the participants with instruments such as short answer surveys and interviews.

Triangulation

There are four different types of triangulation: (a) data triangulation, (b) investigator triangulation, (c) theory triangulation, and (d) methodological triangulation (Denzin, 2006). Methodological triangulation was used in this study, which is when more than one method is used to collect data (Denzin, 2006). Triangulation was used in this study to facilitate the validation of the data (Bogdan & Biklen, 2006). For this study, data were collected through short answer survey first, followed by an interview. Because data were collected in two different ways, the results are triangulated for better validation of the content collected from the participants (O'Donoghue & Punch, 2003).

Role of the Researcher

Primarily my role was that of interviewer. I had no prior relationship, either personal or professional, with any participant. If any volunteer participant was identified as having a personal or professional relationship with me, it would have been unethical to include them in the study and would have been removed from the study (Zilber, 2014). Additionally, participants were not offered any incentives, as this would constitute as an

ethical boundary.

Methodology

Within this section, specific aspects of the methodology of this study will be discussed. More specifically, there will be a discussion describing the participant selection, instrumentation, and procedures for recruitment. Furthermore, I discuss the two phases of data collection.

Participant Selection

When recruiting participants for this study a number of factors were considered. I sought to determine the feasibility of participant selection and identified potential participants. The sampling strategy and the sample size were also important.

Population

The population consisted of staff who worked in a support services capacity in colleges and universities across the country. In a recent study, 30 colleges and universities were identified as having support services for autistic students. Of those universities, a median of 5% of the total student population identified as having autism (Barnhill, 2016, p. 6). Possible participants were identified through the existence of campus support services at the following locations:

- Bellevue University through the Autism Spectrum Navigators Program (ASN),
- Defiance College – Autism Spectrum Disorder Affinity Program,
- Eastern Illinois University through their Autistic students Transitional Educational Program (STEP),
- Eastern University through the College Success Program,

- Edinboro University – BORO Autism Support Initiative for Success (BASIS) Program,
- Fairleigh Dickinson University through the COMPASS Program,
- Kent State University through the Autism Advocates and the AIREO programs,
- Loras College through the Autism Resources for Career and Higher Education (ARCH),
- Marshall University through their College Program for Autistic students Spectrum Disorder,
- Mercyhurst University – The Autism Initiative at Mercyhurst (AIM),
- Rutgers University – The College Support Program (CSP) for Students on the Autism Spectrum,
- St. Joseph’s University through their ASPIRE program,
- Texas Tech University through their Burkhart Transition Academy,
- University of Alabama- ASD College Transition and Support (ACTS) Program.
- University of Idaho through the Raven Scholars Program,
- University of Montana – MOSSAIC (Mentoring, Organization, and Social Support for Autism Inclusion on Campus) Program,
- University of South Florida through The Learning Academy,
- University of West Florida – Argos for Autism,
- Western Kentucky University – Kelly Autism Program,
- Western Michigan University through their Autism Services Center

Sampling Strategy and Sample Size

The criteria for participation in this study was: (a) support services participants had to have experience working with autistic students in the realm of post-secondary education, and (b) potential participants needed to have worked in a support services capacity for at least one year. No previous knowledge of neurodiversity was required for participation in this study. Participants were recruited through purposive sampling via individual email. Potential participants received a letter of invitation, which included the consent form and the eligibility criteria and the survey. Nineteen participants were recruited for this study. The rationale for the sample size was feasibility and data saturation, which establishes credibility (Kühlmeier et al., 2020; Weller et al., 2018).

Instrumentation

For the purposes of this study, instrumentation consisted of a survey and an interview protocol, which are described in the following sections.

Interview Protocol

In data collection, I used a semi structured interview. As shown in the interview protocol (Appendix C), I developed the interview questions to prompt the participants to offer more insight into their initial short answer survey questions; as such, interview questions were built similarly to the survey questions, meaning I grounded them in the diffusion of innovation theoretical model. The difference between the survey and interview is that during the one-on-one interviews, I was able to ask follow-up questions to garner a deeper meaning of the survey questions and to assist in answering the RQs. These responses served as data in need of interpretation.

The diffusion of innovation model relates to the interview questions in several ways. The knowledge stage in the model refers to the first exposure to the innovation (Rogers, 1983). In this study, participants were asked if they had heard of neurodiversity and what point they first learned about the concept of neurodiversity (IQ1, IQ2, see Appendix C). The persuasion stage in the model refers to when or where the individual is interested in the innovation itself (e.g., IQ3, see Appendix C) and actively engages in activities that promote learning and understanding (e.g., IQ4, see Appendix C) of the innovation (Rogers, 1983). Interview questions also related to the decision phase of the diffusion of innovation model (e.g., IQ5, Appendix D), as staff at the specific educational institution discussed the decision to adopt the neurodiversity processes (Ovaska-Few, 2018). In the implementation phase, individuals work to implement the new innovation, which in this study refers to ascertaining whether neurodiversity could be implemented (e.g., IQ6, see Appendix C; see also Angulo-Jiménez & DeThorne, 2019). During the confirmation phase, the individual makes the final decision of whether to implement the new innovation (e.g., IQ6.1 & 6.2, see Appendix C). For this study, individuals running the educational institution decided if neurodiversity was something worth implementing in their support systems for autistic students (Angulo-Jiménez & DeThorne, 2019).

Procedures for Recruitment, Participation, and Data Collection

To recruit the participants, I sent an invitation letter with the consent form embedded (Appendix A) along with the survey (Appendix C). By completing the brief survey, participants both consented to participate in the study and verified their eligibility to participate. Data were collected in two separate stages, which are described below.

Stage 1: The Survey

The first data collection was conducted with a survey (Appendix C) that was completed by 19 participants. I then reviewed all data and chose nine participants to interview over the telephone, based on the knowledge and depth of their survey responses. Participants were notified of their selection shortly after the completion of the stage one data collection process. Participants were selected based on the level of insight on the subject they indicated through their answers to the survey.

Stage 2: The Interview

Participants chosen for the second stage of the data collection process were selected based on the level of insight and experience they had on the subject, autism in post-secondary education. The rationale being that participants who have more experience working with students with an autism diagnosis may have more examples based on their work regarding the strategies they implement into the assistance of autistics (White et al., 2017). Furthermore, participants with experience were also able to offer more comprehensive in-depth insight into the practice of assisting autistics in post-secondary education (Cage et al., 2018). No participants that were invited in the second stage of the study (interviews) declined to participate.

I arranged with each participant a meeting time that was agreeable, for a 1:1 semi-structured interview (Appendix D). At the specified time, set in place by me and the participant, the one-on-one interviews took place over the telephone. One-on-one interviews were also recorded and then transcribed by me.

Once I began the interview, I reemphasized that: (a) the participant was free to quit the interview at any time, (b) their identity was protected and was confidential, (c) the discussions were recorded, for the researcher's benefit and to be transcribed for data analysis. I then asked each participant if they had any questions and moved on to the interview questions.

Survey participants demonstrating greater knowledge of neurodiversity were chosen for the second stage. This second stage of data collection allowed me to interview participants through semi-structured interviews. This was needed so that I was able to garner in-depth answers from the most qualified participants. The rationale for the 6-8 participants relates to the number of participants needed to garner enough data to sufficiently answer the RQs. Maher et al. (2018) suggested employing at least six participants, and that ultimately, data saturation needs to be reached.

Data Analysis Plan

Each participant was assigned an alphanumeric code to maintain their confidentiality. The first step was to transcribe the interviews verbatim, a critical step in the data analysis of qualitative research. I used NVivo® (2020) as a tool to analyze the qualitative data using modified Van Caam coding methodology as described in Rubinson (2019). I grouped all participants' responses, by interview question, and input them into NVivo®. Then, following the Van Caam coding methodology, I placed responses into emerging categories from the data at the conclusion of data collection. I then coded the set of answers, after which, I reviewed the codes and identified overlaps. Codes were not predefined but rather emerged from the participants' answers during the coding process. I

extrapolated commonalities which informed emerging themes within participant responses (Feng & Horenstein, 2019; Valentine et al., 2018). Themes were recurrent, and similar, which signified a phenomenon. These themes were the major outcomes from this data analysis and were related to the RQs. From these data commonalities, I ascertained the answers to the RQs and results of the study.

Trustworthiness

In qualitative research, issues of trustworthiness are important. In this section issues relating to credibility, transferability, dependability, and confirmability are discussed. These trustworthiness strategies are necessary to parse out and to establish the quality of the research process for this study.

Credibility

I used two strategies to address credibility: asking clarifying questions during the interviewing process and peer review. During the interview, I reiterated the information stated by the participant to ensure I understood what was said (Rubinson, 2019). I did this by paraphrasing what was said and by asking for clarification (Angen, 2000). Researchers have the opportunity, through this method, to summarize findings more accurately by eliciting an opportunity for the participant to go into more detail about their stated perceptions. Participants can also correct potential misinformation or misinterpretations.

Peer reviewers work by having peers within the academic or professional institution review the work that has been completed. In this case, I recruited another doctoral-level researcher who was previously identified by myself, to serve as a peer-reviewer (Maher et al. 2018). The peer reviewer had a Ph.D. from another doctoral

program and was known by me to be trustworthy. I asked the peer reviewer to sign a confidentiality agreement and ensured that they were comfortable with the process.

I also addressed the issue of credibility by interviewing multiple individuals to reach data saturation (Weller et al., 2018). Another way I ensured credibility was that I asked interview questions that had a purpose, in this case, the questions posed helped me to answer specific RQs (Butina et al., 2015). My participant recruitment methods were also in an effort to maintain credibility, as I invited potential participants based on programs already in place that focus on the support of autistic adults in post-secondary education (Bogdan & Biklen, 2006). I further placed qualifiers on the participants by stating that they need to have worked in the capacity of a support staff employee, for at least one year, within the adult autism population in post-secondary education (Baxter & Jack, 2008).

Transferability

To create a detailed study so that others may apply the methods and findings into other contexts, I provided detailed descriptions regarding the processes used to conduct this study. Further, by providing an extensive account of the procedures used in this study, I provide the opportunity for readers to conduct their own unique studies to suit their specific needs and RQs (Janakiraman et al. 2019).

Dependability

I worked to include an exhaustive account of all my actions to include documentation outlining each step in this research study process. In so doing, I was able to provide readers with important information to further inform their understanding of the

research procedural process. By taking steps to include detailed procedures of the study, a greater sense of dependability was thus created (Janakiraman et al., 2019).

During the coding stage of the present study, I used the NVivo® qualitative software program. NVivo® was identified as a useful tool for researchers to eliminate human bias (Feng & Behar-Horenstein, 2019)). Within the context of this study, I was able to track my data evaluation processes through the tracking feature embedded within the software.

Confirmability

To provide confirmability, I documented all research procedures, as they took place. Data collected was checked, and re-checked, to confirm that the data were recorded accurately. A third committee member is also regularly assigned to dissertation committees as they serve as a confirmatory measure (Janakiraman et al. 2019). In addition to the measures previously listed, I continued to save each iteration of this dissertation in an effort to create a reflexivity journal electronically. In this way, I was able to track changes and progress over time.

Ethical Procedures

Within this section, various aspects of ethics are addressed. One such aspect relates to institutional review board (IRB) considerations and the treatment of human subjects. Also discussed are ethical concerns related to data as well as considerations related to outside research.

IRB Considerations, Treatment of Human Participants

As part of this research, I secured Walden University's IRB approval (# 04-24-20-0160280) under the expedited category. Nothing was initiated before the IRB approval. Once the IRB approval was secured and the recruiting process began, each participant was presented with the informed consent as part of the invitation to participate. Participants in this study did not fit into the vulnerable population category. Individuals who work in the capacity of student support staff are likely not disabled themselves since they were able to procure and sustain employment (Haug, 2017). Participants volunteered their time and committed to participate in this study, both the interview and the survey. As such, I held the participants in the utmost regard, since I would not be able to complete this doctoral program without their help. Due to the present study's methodology and geographic constraints, I did not conduct interviews face-to-face; rather, I used the telephone.

Participant privacy is also of concern, and as such, I had devised a plan for protection of participant confidentiality. At the beginning of each interview, the participant's identity was concealed by me replacing their name with a code such as Participant 1 and Participant 2. This process helped to protect each participant's identity and as such, protect their privacy.

Each participant was free to drop from the study at any time for any reason without any negative implications. No participant dropped from the study prior to survey collection or interview. Furthermore, as of the date of the results writeup, October 2020, no participant has requested that their data be removed from the study.

Ethical Concerns Related to Data

Data collected as a procedural process for conducting this study are, and will remain, my intellectual property. The names collected as a part of the informed consent process are confidential. Any identifying information, to include demographics, were also kept confidential. Data was stored in a separate encrypted drive on my computer. Furthermore, the specific folder and files were also encrypted with the use of Bit Locker® software. The information shall be stored for a period of five years, at which time data will be deleted and wiped from any computer memory device.

Summary

In this chapter, I have outlined my research plan for conducting this study which was to ascertain the current utility of the implementation of the conceptual model of neurodiversity in support services for autistic students in post-secondary education. I did this by interviewing representatives from various colleges with autism support services in place, across the United States. The field of higher education could benefit from this evidence-based research to support the model of neurodiversity for backing students that present with a-typical learning styles such as autism (Paskins, 2018).

Chapter 4: Results

Through this study, I sought to ascertain the degree to which neurodiversity-based methodologies are utilized in special education post-secondary support services for autistic students. Specific research objectives were as follows: (a) ascertain the current levels of implementation of the conceptual model of neurodiversity in support services for autistic students in post-secondary education, as perceived by support personnel; (b) decipher support personnel perceptions on the benefits of neurodiversity, in support services for autistic students, in post-secondary education; and (c) establish what the limitations are in current support services to the implementation of the major support strategies by the conceptual model of neurodiversity for college autistic students, as perceived by support personnel.

Within this chapter, I describe the setting of the study and provide participant demographics as well as various conditions that pertain to the study. Next, I describe the data collection process to include both the survey and the interview portions of data collection. I also provide detailed data analysis procedures. Results are then presented.

Setting

The survey portion of data collection was conducted through email. Participant email addresses were publicly available on support program websites. Interviews were conducted over the phone. Though I am unsure where the participants were located exactly, I was in my home office behind a locked door to maintain confidentiality and participant privacy. I was not aware of any organizational conditions under which the participants participated under, though one participant shared that she had to get

permission from her superior to participate. All participants selected to participate in this study had at least 1 year of experience working to provide support services for autistic students.

Demographics

Participants from across the United States took part in this study (Table 1).

However, most participants came from states located within the Eastern Time Zone, were White, married, and female. The age range of participants was 26 years and older. Over half of the participants stated that they have over 15 years in their profession.

Table 1

Demographics from Study

Participant #	Time Zone	Years in Profession
1234	Pacific	15 Years +
2222	Eastern	15 Years +
2635	Central	5–7 Years
2854	Pacific	15 Years +
2874	Pacific	15 Years +
4487	Eastern	1–2 Years
5555	Mountain	11–15 Years
5738	Eastern	15 Years +
6997	Eastern	10–15 Years
8541	Central	3–5 Years
1111*	Pacific	5–7 Years
3333*	Eastern	5–7 Years
4444*	Eastern	15 Years +
6743*	Eastern	15 Years +
7268*	Eastern	15 Years +
7539*	Eastern	15 Years +
8456*	Pacific	15 Years +
8699*	Eastern	3–5 Years
9995*	Pacific	15 Years +

Note. This table is inclusive of all participants in the study.

*Participants who participated in both the survey portion of the study and the interview.

Data Collection

In this section, I describe how data were collected including the number of

participants and from whom each type of data were collected. I also describe the location, frequency, duration of the interviews, and the recording of data.

Surveys

Overall, a total of 64 emails were sent to potential participants from April 25, 2020 through May 13, 2020. Email addresses were found on the internet through publically available information. Nineteen surveys (23%) were returned and completed.

Interviews

From the surveys returned, I chose nine participants to request participation in the interview portion of the study. Participants were selected based on the amount of insight and experience they had on the subject. All nine participants, initially chosen, consented and took part in the interview portion of data collection through the telephone. It took a total of 5 hours and 58 minutes to conduct these interviews. The interview length varied from 1 hour and 25 minutes to 23 minutes, with an average duration of 37 minutes.

Data Analysis

Each participant was assigned a numerical code, which assisted in maintaining their confidentiality. I transcribed the interviews verbatim. Next, I analyzed the data using NVivo with a modified Van Caam coding methodology, as described in Rubinson (2019). Two folders were then created: one for data acquired from the interviews and another folder for data obtained from the survey questions. From there, nodes were created relating to interview and survey questions. For example, IQ1 and SQ1 were both input into a created node titled I/S Q1. Cases were created within NVivo for each participant, which elicited the creation of nodes for each participant's responses,

regardless of origin. This process was followed so both survey and interview data could be viewed together during data analysis. Then, following the Van Caam coding methodology, I placed responses into emerging categories from the data. I then coded the set of responses. Coded responses were reviewed, and overlaps were identified and merged. Codes were not predefined. Commonalities were identified by grouping like terms together and then extrapolated and informed emerging themes within participant responses (Feng & Horenstein, 2019; Valentine et al., 2018). Themes that emerged were recurrent and similar and related to the RQs. From these data commonalities, answers to the RQs and the results of the study were developed.

Results

Data garnered from the interviews were analyzed to generate the results, whereas data attained from the surveys were used as a screener to determine which participants to invite for the interview process. It was ascertained that participants who offered more content in the surveys would elicit more content during the interview process. In the remaining part of this section, I present answers to this study's RQs. Each RQ, while grounded within the theoretical framework of the diffusion of innovation, informed the themes and thus the results of this study (see Table 2).

Table 2*Themes from Study*

Research Question	Diffusion of Innovation Stage	Theme
RQ1	Knowledge Stage	#1 Know about neurodiversity
	Persuasion Stage	#2 Neurodiversity learning strategies
RQ2	Decision Stage	#3 Investigation #4 Advantages/ Disadvantages
	Implementation Stage	#5 Psychological support
RQ3	Confirmation Stage	#6 Implementation

RQ1

RQ1 was “What are the current levels of implementation of the conceptual model of neurodiversity in support services for autistic students in post-secondary education, as perceived by support personnel?” At the time of this writing, the programs the participants worked in that provide support services for autistic students in post-secondary education implement the conceptual model of neurodiversity. Based on the analysis of the data, it was concluded that the programs from which the participants were associated with had already worked through the knowledge, persuasion, decision, and implementation stages of the diffusion of innovation. However, there are many facets to neurodiversity and each aspect could be further analyzed in future research while using the same conceptual model. This RQ was answered by a combination of the survey and interview questions combined.

Knowledge Stage: Diffusion of Innovation

The knowledge stage refers to the first exposure to the innovation (Rogers, 1983). In this study's context, the innovation is neurodiversity. It was important to know at what point in time support service staff first learned about the concept of neurodiversity. It was also essential to understand how each participant was first exposed to the concept of neurodiversity, so I could assess if the first stage of the diffusion of innovation had been reached.

Theme 1: Knowledge of Neurodiversity. All participants had heard of the concept of neurodiversity. Based on my conclusion from the data analysis, in-depth knowledge of the concept was held by 17 out of 19 participants. Participants replied with comments relating to neurodiversity being a difference stance, differences in people's brains, and that it was a strengths-based model. Participant #3333 stated that neurodiversity is a "range of differences in brains and behavior." Only two participants stated that they had a limited understanding of the concept. These two participants had heard about it within the scope of their work, as Participant #8467 shared that "it's a nice concept." However, they were unable to offer much information pertaining to the concept's fundamental precepts. Participants also varied greatly in their responses with some becoming aware of neurodiversity since its first inception and some participants becoming aware of it within the last few years. One significant commonality was that the they had worked in the field, along with their age, directly related to overall knowledge and the length of time they have known about neurodiversity.

Persuasion Stage: Diffusion of Innovation

The persuasion stage refers to the point in time where the individual is interested in the innovation itself and actively engages in activities that promote learning and understanding of the innovation (Rogers, 1983). In this study, this referred to whether participants sought out to learn about the neurodiversity concept. Further, I examined whether participants looked at how the concept of neurodiversity could help or hinder the educational supports in place at their academic institution.

Theme 2: Neurodiversity Learning Strategies. Nearly all the participants, 17 out of 19, discussed an ongoing and concerted effort to learn about neurodiversity. They described various efforts in which they partook, such as ongoing research, learning through books, and reflection. They equated the concept of neurodiversity as necessary to the work that they did with students. They took an active role in their development and learning regarding the concept of neurodiversity. One participant shared, “there is always more to learn and different perspectives that may change how we do things tomorrow.” Two participants, Participant #4444 and Participant #7268, did not engage in regular research or reading. However, they engaged in regular discussions with the students they served and their peers. Thus, they took a passive role in the ongoing learning process. Four of the participants, #2635, #2854, #6997, and #8541, stated that they invested little time or energy in learning more about neurodiversity. When asked if the participants had engaged in the ongoing learning process, one participant stated, “not really.” These participants were typically younger and had less experience in the field than most participants.

RQ2

RQ 2 was “What are support personnel perceptions on the benefits of neurodiversity, in support services for autistic students, in post-secondary education?” All participants shared several benefits of neurodiversity within their responses to the survey and interview questions. Participants suggested that neurodiversity could help students by helping to elicit a sense of autonomy or “develop individual action plans based on strengths to overcome any challenges students on the spectrum may encounter” (Participant #4444). Participants also observed students developing a deeper sense of self which translated in an increase of self-esteem and academic productivity. Participant #1111 shared, “I honor autonomy and assist students in making the best decision for themselves.”

Decision Stage: Diffusion of Innovation

In the decision phase of the adoption process of the diffusion of innovation model, the individual performs a cost-benefit analysis. This is when the individual examines the advantages and the disadvantages of the implementation of the innovation into their realm of action. In this study, this refers to staff at the specific educational institution’s decision to adopt the neurodiversity processes (Ovaska-Few, 2018). Overall, most participants, 17 out of 19, had looked at the concept of neurodiversity and decided how the ideas could help or hinder the academic progress of those they served. I present the findings in the following sections.

Theme 3: Investigated Neurodiverse Strategies. Fifteen participants indicated that they have sought to determine if the implementation of the concept of neurodiversity

or any of its central ideas would help or hinder the educational supports in place at their academic institution. All these participants highlighted the benefits of neurodiversity. Three of those 15 also indicated they had observed how the concept could hinder educational supports.

Participants shared how the concept of neurodiversity can support students by helping to elicit a sense of autonomy. Participant #1111 stated that “through neurodiversity, students learn to accept themselves and be comfortable with who they are, rather than develop a false identity of what society wants them to be.” They also observed students developing a more profound understanding of self, which translated in an increase of self-esteem and academic productivity. Three participants shared some hindrances into the implementations of the concept of neurodiversity. All three shared they have observed students getting too much support to the point where they failed to take responsibility for their own actions and responsibilities. Participant #7268 stated “it’s too bad when students use their autism as a crutch, don’t want to actually do the work.” Similarly, Participant #3333 shared “I had this one student who was very bright and had accommodations. He used them to These same participants shared that, at times, the student’s autism certification had been used as a means to get more accommodations than were deemed necessary, such as gaining extra time for assignments when it was not in their initial academic plan. Two participants stated they had minimally sought to decipher if the concept of neurodiversity could help or hinder their students’ educational pursuits. Participant #3333 stated “I know about the concept but have not really spent much time looking it up”, while Participant #7539 shared “I am just so busy, just don’t

have the time to learn more.” Interestingly, these participants were newer to the field than other participants. They also were not in positions where they were decision makers at their respective institutions. Similarly, two participants shared they have not sought to discover whether the concept could help or hinder students. Similarly, these participants were newer to the field than their counterparts. It was also evident these participants did not have as much time or energy invested in the field as did their counterparts.

Theme 4: Advantages/Disadvantages of Neurodiversity. Participants shared their beliefs in how neurodiversity can help students attain a more positive view of their autism diagnosis, rather than a deficit. Participant #8699 shared how neurodiversity gave students a sense of acceptance and belonging, which can bode well in terms of their academic success: “value inclusion and diversity and are constantly working to integrate our students in the larger community.” Participants also stated students they work with were able to learn and understand how their brains worked and, as a result, were able to be more successful than they previously were. Participant #6743 shared that “adults with autism get the opportunity to receive support based on how they best receive information, learn, and think.” Noted success stemmed from support services that were tailored toward the individual and worked with the student in the individualized manner they needed to be supported.

Along with advantages of neurodiversity, participants noted some potential disadvantages as well. Participants shared how they observed some instances in which the student becomes fairly successful within the college or university, however, they had difficulty in life outside of the academic arena. Participant #6743 stated “I had a student

who was a star here, once they graduated, they weren't a star in the outside world and couldn't understand why." Participant #9995 further explained that "we tend to coddle too much, there's little to no support outside of school and they get lost." There was also concern shared how students became expectant the world would become more accepting of their needs outside of school just as the school was, which led to disappointment and difficulty post-graduation. Participant #9995 and Participant #8699 also stated they have seen students use their neurodiversity to excuse poor behavior, immaturity, and to reward procrastination. Participant #8699 further shared that a disadvantage regarding "students who have been enabled, immature, not invested in their growth, those who believe the world needs to adapt to them."

Fourteen participants listed two main hindrances to the implementation of neurodiversity into support services for autistic students in post-secondary education. One aspect was financial considerations. Participants stated that funding was limited, and they would need to procure additional funding in order to pursue more specialized services. Participant #1111 shared that "money is tight, and it is difficult to provide adequate services with the amount of monies provided to us as it is." Participant #7268 shared that "money is an issue, it's really hard to give students what they need and deserve." Another aspect that participants shared were limitations with the administrative staff who were not familiar with the concept of neurodiversity and who were reluctant to implement change.

Implementation Stage: Diffusion of Innovation

In the implementation phase, the individual works to implement the new

innovation, neurodiversity in this case. Individuals may examine their educational institution's policies and procedures and ascertain where the notion of neurodiversity could be implemented (Angulo-Jiménez & DeThorne, 2019). All participants reported they did indeed apply neurodiversity or some of its main ideas. Participants were forthcoming in their reporting and many went into detail explaining the types of services and supports they offered their students. It is important to note the participant responses are not inclusive of every service their support service institution encompasses, rather they reflect information offered to me in a naturalistic setting.

Theme 5: Psychological Support for Autistic Students. Twelve participants shared that social skills were a large part of being successful in post-secondary academia. Many went on to say that most students do not need support academically, as academics was their personal strength. They shared it is the social skills piece that can get in the way of student success and integration. To help mitigate that, support staff engaged students in social skills classes and support groups with their peers. Within the realm of providing support services for autistic students, support service staff provided information regarding the various psychological entities they utilize.

Participants discussed the importance of providing an element of emotional support for students and working with mental health providers in their area where they can refer students to for additional support. Support staff reported the importance of working through a positive lens and to focus on a student's strengths rather than their weaknesses. Participant #8699 reported they "focus on self-acceptance by highlighting the uniqueness of the individual and teach neurological diversity as a natural variation in

the human experience.” Fifteen of the 19 participants also reported they support inclusion as well as advocacy. Participant #4444 stated “There are many different ways of being in the world and that the autistic mind is a legitimate mind.” Participant #8699 further stated that “we’re not trying to change our students; we are trying to teach them how to use the strengths they already have.” Support service staff also shared how they can provide students with life skill support if it is needed. Some participants explained how they help students learn to live on their own such as teach them budgeting skills. Vocational training and career exploration were also essential factors in this component. Six participants stated one of the most important aspects of their jobs was to build rapport with the students they serve. Building rapport elicited a social bond that was comprised of trust and support. If rapport was not constructed successfully, success of the student suffered, and students were less likely to work with support service professional in their endeavors. Participant #5555 shared that they “hold social events to build working relationships between mentors and students.”

RQ3

RQ 3 was “What are the limitations, in current support services, to the implementation of the major support strategies by the conceptual model of neurodiversity for college autistic students, as perceived by support personnel?” Seventeen of the 19 participants shared that the utilization of the neurodiversity model was prevalent in existing programs. Two participants discussed hindrances at their institutions. These topics are discussed below.

Confirmation Stage: Diffusion of Innovation

During the confirmation phase, the individual makes the final decision of whether to implement the new innovation. In the case of this study, individuals running the educational institution would decide if neurodiversity was something worth implementing in their support systems for autistic students. Part of this final confirmation process is the feasibility of the implementation of neurodiversity into their educational institution (Angulo-Jiménez & DeThorne, 2019).

Theme 6: Implementation Seventeen participants reported they were already implementing the concept of neurodiversity into their support services, except for two. Two participants, #7534 and #3333 shared that the main reason was lack of funding. The same participants also reported that, overall, resources were limited. Of the participants that reported they were not implementing components of neurodiversity into their support programs, Participants #7534 and #3333 stated that they “lack the knowledge” to do so. Both believed they needed more education on the subject. Similarly, participants that reported they needed more knowledge on the subject were the same who were not actively seeking to enrich their knowledge of neurodiversity. Participant #3333 responded that they “have limited support from the administration.” This participant shared how the administration was concerned with other aspects of the institution. Participant #3333 also stated that the administration was “archaic in their mindset and that new ideas were difficult to introduce.” This participant also shared that it would take new administration to implement a new idea such as neurodiversity.

Concerns brought up by both participants (#7534 and #3333) were that funding was a limiting factor to the feasibility of implementing the concepts of neurodiversity. They shared that a grant would be needed or some other way to gather funds to support neurodiverse strategies. Participant #3333 shared that “money was a difficult subject to discuss with the administration.”

Evidence of Trustworthiness

As is common in qualitative research, ensuring trustworthiness of the study and its findings are important. In this section I discuss how credibility, transferability, dependability, and confirmability were addressed. These entities are necessary to parse out as to establish soundness in research design.

Credibility

For this study, I addressed the issue of credibility by interviewing multiple individuals to reach data saturation (Weller et al., 2018). Data saturation was met as evidenced by the recurring themes emerging from data collected. Another way I ensured credibility was that I asked questions that had a purpose. The questions posed helped me to answer specific RQs (Butina et al., 2015). My method of participant recruitment was conducted to maintain credibility, as I invited potential participants based on programs already in place that focus on the support of autistic adults with autism in post-secondary education (Bogdan & Biklen, 2006). I placed qualifiers on the participants by stating they needed to have worked in the capacity of a support staff employee, for at least one year, within the adult autism population in post-secondary education (Baxter & Jack, 2008).

I also utilized two types of strategies to address credibility: asking clarifying questions during the interviews and a peer reviewer. I used clarifying questions and a peer reviewer over the course of the entire interviewing process (Kühlmeier et al., 2020). I reiterated the information stated by the participant in order to ensure I understood what was said (Rubinson, 2019). I also paraphrased what was said and asked for clarification (Angen, 2000; Jude et al. 2018). Peer reviewers work by having peers within the academic or professional institution review the work that has been completed. In this case, I recruited another doctoral-level researcher who was previously described, to serve as a peer-reviewer (Maher et al. 2018). I asked the peer reviewer to sign a confidentiality agreement and ensure that they were comfortable with the process. Furthermore, the peer-reviewer and I met on a monthly basis to discuss progress, go over general methodology, and data analysis. This peer reviewer was validating of the work that I was doing, and no major suggestions were made.

Transferability

To create a detailed study so that others may apply the methods and findings into other contexts, I provided detailed descriptions regarding the processes used to conduct this study. Further, by providing an extensive account of the procedures used in this study, I provide the opportunity for readers to conduct their own unique studies to suit their specific needs and RQs (Janakiraman et al., 2019).

Dependability

By taking steps to include detailed procedures of the study, a greater sense of dependability is created (Janakiraman et al., 2019). I included an exhaustive account of

all my actions to include documentation outlining each step in this research study process. In so doing, I was able to provide readers with important information further to inform their understanding of the procedural research process. During the coding stage of this study, I utilized the NVivo qualitative software program. NVivo can be a useful tool for researchers to eliminate human bias (Feng & Behar-Horenstein, 2019). Within the context of this study, I was able to track my data evaluation processes through the tracking feature embedded within the software.

Confirmability

To provide confirmability, I documented all research procedures, as they took place. Data collected was checked, and re-checked, to confirm accurate data recording. A third committee member was also assigned to this dissertation committee as they serve as a confirmatory measure (Houghton et al., 2013). In addition to the measures previously listed, I saved each iteration of this dissertation to create a reflexivity journal electronically. In this way, I was able to track changes and progress over time.

Summary

Within this chapter, I described the setting of the study and provide participant demographics as well as various conditions that pertain to the study. Similarly, I described the data collection process to include both the survey and the interview portions of data collection. I also provided detailed data analysis procedures as well as the overall findings of this study. At the time of this writing, most programs that focus on providing support services for autistic students in post-secondary education implement the conceptual model of neurodiversity. Most programs had already worked through the

knowledge, persuasion, decision, and implementation stages of the diffusion of innovation. Participants shared benefits of neurodiversity within their responses to the survey and interview questions. Participants believed neurodiversity could help students by helping to elicit a sense of autonomy. Respondents also observed students developing a deeper sense of self which translated in an increase of self-esteem and academic productivity. Participants listed two main hindrances to the implementation of neurodiversity into support services for autistic students in post-secondary education, those being financial and limitations of administrative understanding. In the following chapter, I provide a discussion of this study as well as final conclusions and recommendations.

Chapter 5: Discussion, Conclusions, and Recommendations

The purpose of this qualitative study was to ascertain support service staff's perceptions regarding the implementation and utility of the conceptual model of neurodiversity in support services for autistic students in post-secondary education. Findings from the interviews with representatives from various colleges with autism support services in place across the United States may help with future implementation of neurodiversity-based methodologies into special education post-secondary support services. This research also fills a gap on the use of neurodiversity-based concepts in the higher education population with autism spectrum disorder (Cox et al., 2017). Participant perceptions were analyzed regarding how current support service practices are implemented in the major support strategies with neurodiversity. Key findings from this study were that the concept of neurodiversity is largely already incorporated into support services for autistic students across the country. Many professionals continually work to educate themselves and those around them around how they can elicit improved support for their students.

Interpretation of the Findings

From the literature described in Chapter 2, little data were available that focused on support services for autistic students in post-secondary education, though there are support services for students in general. This study addressed that gap. The following sections contain analyses of the findings in the context of the RQs.

RQ 1

The first RQ was answered by analyzing the results through the diffusion of

innovation's knowledge stage (Rodgers, 1983). This stage refers to the first exposure participants had to neurodiversity. Seventeen participants shared that they knew about the concept of neurodiversity, and only two participants shared that their knowledge of it was limited. Thus, the theme of "know about neurodiversity" emerged. Furthermore, participants shared how they learned about the concept in school, at work, or in the context of their own independent research endeavors, which generated the "neurodiversity learning strategies" theme. Thus, I concluded that neurodiversity was not wholly unknown and that most people in the field have knowledge of it. I also concluded that people in the field learned about the concept in varying ways, meaning that the innovation of neurodiversity was disseminated from different facets such as places of employment, in classrooms, and through avenues of independent learning such as the internet.

The first RQ was also answered by analyzing the results through the persuasion stage of the diffusion of innovation (Rodgers, 1983). Seventeen out of 19 participants said that they sought to learn about neurodiversity, indicating an interest in the innovation of neurodiversity. Similarly, participants sought to determine whether the concept of neurodiversity could help or hinder the educational pursuits of the autistic students they serve and gave examples. Most responses could be construed as ways the concept could help autistic students, which is further indicative of the desire and interest of the participants to learn about neurodiversity.

RQ 2

The second RQ related to participant perceptions of neurodiversity, which

correlated with the decision phase of the diffusion of innovation model. Through the decision phase, those in charge would analyze the costs and benefits of adopting neurodiversity in support services (Ovaska-Few, 2018). From here, the third theme, investigation, emerged. Participants shared the advantages and disadvantages with the advantages overwhelming the disadvantages, indicating the concept of neurodiversity would be a useful concept to implement despite the disadvantages that would need to be mitigated. During the interviews, participants who were already implementing neurodiversity shared ways that their implementation of neurodiversity has impacted their institution. This is where the fourth theme of advantages/disadvantages emerged. Participants also discussed psychological aspects of how neurodiversity affected their students. From these statements the fifth theme, psychological support, emerged.

RQ 3

The third RQ was answered in that I was able to ascertain where the participants were within the concept of innovation with regards to the actual implementation of neurodiversity. In the implementation phase of diffusion of information, individuals work to implement the new innovation, such as neurodiversity. Most support services for autistic students in post-secondary education already had neurodiversity concepts in place.

During the confirmation phase of diffusion of information, the individual makes the final decision of whether to implement the new innovation. In the case of this study, individuals running the educational institution would decide if neurodiversity was something worth implementing in their support systems for autistic students (Angulo-

Jiménez & DeThorne, 2019). These questions were posed to those participants who had not already had implemented the concept into their support services. The 6th theme of *implementation* emerged and included hinderances such as finances, lack of knowledge, and administrative issues. These factors were the biggest barriers to implementation of neurodiverse strategies.

Limitations of the Study

One limitation in the study was that some participants from post-secondary institutions reported aspects of their experiences and observations at one specific point in time, the time of the interview. However, the institution may change their procedures and protocol to address the needs of the students they serve. This may occur over time as the needs of the students change, as the initial reporting by the participants would only be valid on the date of their reporting, as post-secondary institutions fluctuate in their policies and procedures.

Another limitation of this study was the sample size was small in comparison to the whole of the population which often is the case for qualitative studies (Creswell, 1994). However, data saturation was still reached, and I believe the sampling of the population was sufficient and as such, an accurate conclusion was devised and can be transferable to similar contexts.

Recommendations

It would add knowledge to the field if further research were done to follow the thoughts and attitudes of persons who provide support for students requesting additional support services in post-secondary education longitudinally as programming changed

(Armstrong, 2011; Keshav et al., 2018). As previously stated, the sample size was small (Kühlmeier et al., 2020). This would further capture the nuances of change through the Diffusion of Innovation (Rogers, 1962). This may also help other entities of post-secondary education to recognize potential patterns that they would also go through as they went through change (Katowitz & Thurman, 2017).

Implications

In this section, I discuss the potential impact for social change at the level of educational entities. I also describe and reiterate where the field is within the Diffusion of Innovation when considering the implementation of the concept of neurodiversity into support services. Lastly, I make recommendations for further practice.

The potential for continued social change is great, due to the findings from this study that neurodiversity and its main concepts are already being implemented by a number of colleges and universities nationwide. From the literature review of this study, it was evident that students had difficulties reaching their educational goals due to antiquated pedagogy. The notion of neurodiversity and its main concepts have helped students reach their goals. Socially, this makes education more attainable for those who were once marginalized due to their autism diagnosis (Armstrong, 2012).

Within the framework of the Diffusion of Innovation, the implementation of neurodiversity is largely already at the implementation stage. Participants pointed out the main caveat to further implementation was the feasibility of attaining resources most notably, finances, lack of knowledge, and administrative issues. Social change can

continue, and educational entities can obtain funding and staff to further support these support programs.

For future practice, I recommend educational entities continue to provide support for students while continuing to use concepts based in neurodiversity. I further recommend the practice of holding autistic students accountable for their actions and not enable students to abuse their diagnosis to attain extra unnecessary accommodations. It should be reiterated that accommodations are intended to help students succeed, not to enable them to develop notions of learned helplessness. Accommodations should be implemented when the student has done all they can do, but by some reason of their disability, they require extra support.

Conclusion

In conclusion, autistic students in post-secondary education are benefiting from continued support from their support service staff. Although the implementation of neurodiversity is seemingly well integrated within academic institutions nationwide, more research is needed that analyzes what facets of neurodiversity are in place and what facets need further integration and why.

The potential for creating social change exists for autistic students through post-secondary entities of education. As educational entities continue to learn about the students they serve, they can continue to hone their services towards reaching those students once thought were unreachable. Although much change has occurred in the way services are delivered to autistic students, much more is needed; however, the current trajectory is promising.

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Appendix A: Interview Questions to Answer Research Questions

Research Question	Interview Question
RQ1 What are the current levels of implementation of the conceptual model of neurodiversity in support services for autistic students in post-secondary education, as perceived by support personnel?	<p>IQ1 What do you know about neurodiversity?</p> <p>IQ2 When did you first hear about neurodiversity?</p> <p>IQ3 Have you sought out to learn about the concept of neurodiversity or any of its main ideas?</p>
RQ2 - What are support personnel perceptions on the benefits of neurodiversity, in support services for autistic students, in post-secondary education?	<p>IQ4 Have you looked at how the concept of neurodiversity or its main ideas could help or hinder the educational supports in place at your academic institution?</p> <p>IQ5 Regarding the implementation of neurodiversity or its main ideas into support services of students with autism, what are the advantages and disadvantages?</p>
RQ3 - What are the limitations, in current support services, to the implementation of the major support strategies by the conceptual model of neurodiversity for college autistic students, as perceived by support personnel?	<p>IQ6 Have you implemented neurodiversity or any of its main ideas into support services of students with autism?</p> <p>IQ 6.1 What would need to happen organizational-wise in order to implement neurodiversity or any of its ideas?</p> <p>IQ 6.2 What is the feasibility of implementing neurodiversity (or any of its main ideas) into your institution's support service for students with autism?</p>

Appendix B: Short Answer Survey

SQ1: What do you know about neurodiversity? *(It is ok if you do not know anything at all.)*

SQ2: When did you first hear about neurodiversity? *(It is ok if this is your first-time hearing about it.)*

SQ3: Have you sought out to learn about the concept of neurodiversity or any of its main ideas? *(build upon the student's strengths, focus on strengths rather than weaknesses, support inclusion, modifications in the learning environment, innovative learning strategies to work towards the student's individual needs, support emotional and social needs of students, focus on difference stance rather than disabled stance.)*

SQ4: Have you looked at how the concept of neurodiversity or its main ideas *(build upon the student's strengths, focus on strengths rather than weaknesses, support inclusion, modifications in the learning environment, innovative learning strategies to work towards the student's individual needs, support emotional and social needs of students, focus on difference stance rather than disabled stance)* could help or hinder the educational supports in place at your academic institution?

SQ5: Regarding the implementation of neurodiversity or its main ideas *(build upon the student's strengths, focus on strengths rather than weaknesses, support inclusion, modifications in the learning environment, innovative learning strategies to work towards the student's individual needs, support emotional and social needs of students, focus on difference stance rather than disabled stance)* into support services for autistic adults, what are the advantages and disadvantages?

SQ6: Have you implemented neurodiversity or any of its main ideas *(build upon the student's strengths, focus on strengths rather than weaknesses, support inclusion, modifications in the learning environment, innovative learning strategies to work towards the student's individual needs, support emotional and social needs of students, focus on difference stance rather than disabled stance)* into support services of autistic students? **If not**, please answer items SQ6.1 and SQ6.2, below:

SQ 6.1: What would need to happen organizational-wise in order to implement neurodiversity or any of its ideas?

SQ 6.2: What is the feasibility of implementing neurodiversity (or any of its main ideas) into your institution's support service for autistic students?

Appendix C: Semistructured Interview Questions

IQ1: *Please describe what do you know about neurodiversity.*

Probe 1a: *If the respondent does not know what neurodiversity is, the researcher will prompt: According to Armstrong (2011) the term “neurodiversity” can be defined as viewing autistics, ADHD, and other differences as being neurologically different, rather than disabled.*

Probe 1b: *What do you know about the connection between autism and neurodiversity?*

Probe 1c: *What do you know about the connection between using the concept of neurodiversity in support systems for students autism?*

Probe 1d: *Neurodiversity can also be construed as the difference stance rather than the medical and deficit models?*

IQ2: *Some ways people first here about neurodiversity are through social media, teachers, or mental health workers. **When did you first hear about neurodiversity?***

Probe 2a: *What was the setting/context?*

IQ3: *Some common ways people learn more about neurodiversity are through the internet or books. **Can you please describe how have you sought out to learn about the concept of neurodiversity?***

Probe 3a: *What are your sources of information?*

Probe 3b: *How much time have you spent on learning about neurodiversity?*

IQ4: *“Neurodiversity helping” may include a positive stance where strengths are*

accentuated. “Neurodiversity hinderance” may include conflicts with the traditional model of special education. **Please indicate to what degree have you looked at how the concept of neurodiversity could help or hinder the educational supports in place at your academic institution.**

Probe 4a: How do you determine when neurodiversity could help educational supports?

Probe 4b: How do you determine when neurodiversity could hinder educational supports?

IQ5: Implementation of neurodiversity into support services for autistic adults may be through the use of assistive technology, staff viewing autism through a difference stance rather than a deficit one. **Regarding the implementation of neurodiversity into support services for autistic adults, what are, in your opinion, its advantages and disadvantages?**

Probe 5b: How are the advantages beneficial to your institution?

Probe 5c: Why are the disadvantages perceived to be problematic?

IQ6: The implementation of neurodiversity into support systems for students with autism may include mentorship programs. **Can you describe how you contributed or how you plan to contribute to the implementation of neurodiversity into support services of autistic students?**

Probe 6a: If not, what would need to happen in order to implement it?

Probe 6b: In what ways do you promote positive and realistic career aspirations?

Probe 6c: *What do these career aspirations look like?*

IQ7: *Feasibility factors may include administrative issues such as funding, staffing, assistive technology, specific training. **In your opinion, what is the feasibility of implementing neurodiversity at your institution's support service for autistic students?***

Probe a: *What aspects of neurodiversity may be feasible?*

Probe b: *What aspects of neurodiversity may not be feasible?*