

2023

Special Education Teachers' Perceptions of Cognitive–Behavioral Interventions in the Classroom for Adolescent Autistic Students with Anxiety

Kasey Jane Aposhian
Walden University

Follow this and additional works at: <https://scholarworks.waldenu.edu/dissertations>

This Dissertation is brought to you for free and open access by the Walden Dissertations and Doctoral Studies Collection at ScholarWorks. It has been accepted for inclusion in Walden Dissertations and Doctoral Studies by an authorized administrator of ScholarWorks. For more information, please contact ScholarWorks@waldenu.edu.

Walden University

College of Education

This is to certify that the doctoral study by

Kasey Aposhian

has been found to be complete and satisfactory in all respects,
and that any and all revisions required by
the review committee have been made.

Review Committee

Dr. Chukwuemeka Eleweke, Committee Chairperson, Education Faculty

Dr. Ajay Das, Committee Member, Education Faculty

Dr. Tammy Hoffman, University Reviewer, Education Faculty

Chief Academic Officer and Provost

Sue Subocz, Ph.D.

Walden University

2023

Abstract

Special Education Teachers' Perceptions of Cognitive–Behavioral Interventions in the
Classroom for Adolescent Autistic Students with Anxiety

by

Kasey Aposhian

MA, Western Governors University, 2013

BS, University of Utah, 2010

Dissertation Submitted in Partial Fulfillment
of the Requirements for the Degree of
Doctor of Education

Walden University

May 2023

Abstract

Adolescents with autism spectrum disorder (ASD) often struggle with comorbid disorders like anxiety. However, special education teachers may lack the training to implement specific interventions in the classroom setting for adolescents with ASD and anxiety. This qualitative action research study was conducted to examine how special education teachers work with adolescents diagnosed with both ASD and anxiety. Bandura's reciprocal determinism concept guided this study by explaining that the classroom environment and adolescents' cognition and behavior should be considered when implementing cognitive-behavioral therapy (CBT) for students with ASD and anxiety. The two research questions asked participants to describe their ability to implement modified CBT interventions in the classroom, and the types of training needed to do so. Using semistructured interview questions and yes/no survey questions, data were collected from 10 special education teachers who were able to openly describe their ability to work with adolescents with ASD and anxiety, including the training opportunities offered to do so. Of the 10 participants, six (60%) displayed a high level of knowledge in working with adolescents with ASD and anxiety, and five (50%) had received specific ASD-based training to work with this adolescent student population. Nonetheless, participants who had not received specific training acknowledged the importance of those training opportunities. The results of this study have potential implications for positive social change by helping recognize that special education teachers can benefit from additional training and support in ASD-related topics. Future researchers can use these results and complete more studies in the field of ASD and anxiety in the classroom setting.

Special Education Teachers' Perceptions of Cognitive–Behavioral Interventions in the
Classroom for Adolescent Autistic Students with Anxiety

by

Kasey Aposhian

MA, Western Governors University, 2013

BS, University of Utah, 2010

Dissertation Submitted in Partial Fulfillment
of the Requirements for the Degree of
Doctor of Education

Walden University

May 2023

Dedication

It is an honor to dedicate this study to Alex and his mom. Alex was a former student of mine who taught me how to support someone with ASD and anxiety in a classroom setting. While I was teaching Alex reading, writing, and arithmetic, he was teaching me patience, kindness, childlike innocence, and love for all. Alex inspired this topic, and I am forever grateful for his influence in my life. Alex: you and your mom are incredible. Thank you both for being my lifelong friends.

Acknowledgments

I must start by thanking my husband for his support on this long journey. Winton, you encouraged me every step of the way, even when I wanted to quit for good. You kept me fed with all the best homecooked meals, and you made sure I had time to myself to write. I could not have asked for a better partner on this journey. This degree is partially yours! I love you.

I also want to thank my parents for teaching me the value of education. I consider myself a lifelong learner, and they instilled the importance of education in me at a young age. Thank you for all your support throughout my life. You were the ones to help me get into college at BYU and you encouraged me to continue pursuing my dreams. I love you both!

Of course, to my bestie, Koley, you are incredible, and you inspire me to reach for all my goals and dreams. Thank you for reading all the drafts of this dissertation. I think you know more about this topic than I do—ha! I cannot wait for you to get your doctorate done so we can be doctors together. Thanks for coming back into my life a few years ago. You are now stuck with me forever! Love you!

Finally, I want to extend my deepest gratitude to my committee, Dr. Eleweke and Dr. Das. Thank you so much for getting me through the hardest, most rewarding thing I've ever done. I could not have accomplished this without your guidance and support every step of the way.

Table of Contents

Chapter 1: Introduction to the Study.....	1
Background.....	2
Problem Statement.....	4
Purpose of the Study.....	5
Research Questions.....	6
Conceptual Framework.....	6
Nature of the Study.....	8
Definitions.....	8
Assumptions.....	9
Scope and Delimitations.....	10
Limitations.....	10
Significance.....	11
Summary.....	12
Chapter 2: Literature Review.....	14
Introduction.....	14
Literature Search Strategy.....	15
Conceptual Framework/Theoretical Foundation.....	15
Observational Learning.....	16
Reciprocal Determinism.....	18
Social Learning Theory in the Classroom.....	18
Literature Review Related to Key Concepts and Variables.....	20
Autism and Anxiety Comorbidity.....	21

Anxiety Among Adolescents With ASD	22
Anxiety and ASD in the Classroom.....	25
ASD, Anxiety, and Cognitive Behavioral Therapy	27
Cognitive Behavioral Therapy	29
Modified CBT Interventions.....	35
Supporting Teachers in the Classroom	41
Training for Special Education Teachers.....	44
Professional Development Is Effective for Teaching all Educators	45
Peer Coaching and Mentoring as Additional Ways to Train Teachers.....	47
The Need for Specific ASD-Based Training for Special Education Teachers	49
Summary and Conclusions.....	51
Chapter 3: Research Method.....	54
Introduction.....	54
Research Design and Rationale.....	54
Role of the Researcher	56
Methodology.....	57
Participant Selection	57
Instrumentation	59
Procedures for Recruitment, Participation, and Data Collection.....	60
Data Analysis Plan.....	61
Trustworthiness.....	62
Ethical Procedures.....	63

Summary.....	65
Chapter 4: Results.....	66
Introduction.....	66
Setting.....	66
Data Collection.....	67
Data Analysis.....	68
Theme 1: Self-Described Skills.....	68
Theme 2: Training Opportunities.....	70
Theme 3: Collaboration.....	73
Discrepant Case.....	74
Results.....	75
Theme 1: Self-Described Skills.....	75
Theme 2: Training Opportunities.....	78
Theme 3: Collaboration.....	81
Evidence of Trustworthiness.....	82
Credibility.....	82
Transferability.....	83
Dependability.....	84
Confirmability.....	84
Summary.....	85
Chapter 5: Discussion, Conclusions, and Recommendations.....	87
Introduction.....	87
Interpretation of the Findings.....	87

Theme 1: Self-Described Skills	88
Theme 2: Training Opportunities.....	90
Theme 3: Collaboration	92
Conceptual Framework of Social Learning Theory in the Results.....	95
Limitations of the Study.....	97
Recommendations.....	98
Implications.....	99
Conclusion	100
References.....	102
Appendix A: Interview and Survey Questions for Special Education Teachers	115

Chapter 1: Introduction to the Study

Autism spectrum disorder (ASD) is a neurodevelopmental disorder that causes deficits in social interactions, communication skills, and behavioral challenges (Muskett et al., 2019). Individuals with ASD also struggle with restrictive, repetitive patterns of behavior, interests, or activities that can complicate everyday activities (Muskett et al., 2019). In addition to challenges like these, comorbid disorders like anxiety and depression often affect the same population at a higher rate than other individuals. At least 40% of individuals with ASD experience some form of anxiety daily (Walsh et al., 2018). Anxiety for adolescents with ASD can appear differently than for those adolescents who only experience anxiety. For adolescents with ASD, uncommon reactions include anxious anticipation and reactions to stimuli that would otherwise be considered enjoyable, anxiety toward change in plans, and multiple sensory-based anxieties (Lau et al., 2020). These complications require specialized support to address all the needs of struggling individuals.

Cognitive behavioral therapy (CBT) has been proven to be beneficial in supporting those who struggle with ASD and anxiety and can be modified in various ways for individualization (Lake et al., 2020; Sklar, 2020). CBT interventions focus on identifying emotions and physiological symptoms, identifying disoriented cognitions, and identifying dysfunctional behaviors (Wood et al., 2019). However, most CBT interventions are conducted in a small, controlled setting by trained clinicians who specialize in this field. While many studies show that CBT is beneficial for adolescents with ASD and anxiety, some studies struggle to allow for variability and generalization

outside a controlled environment (Lake et al., 2020). Adolescents ages 12 to 17 often spend most of their day in a classroom or school setting; therefore, implementation of these interventions should carry over from a small, controlled environment to an academic, social setting. There is limited research on educators being trained and able to implement CBT interventions successfully in a school setting; therefore, this study is crucial to support educators working with adolescents with ASD and anxiety. In this chapter, I discuss multiple aspects of this study, including the problem, the purpose of the study, the research questions used to shape the study, and the delimitations and limitations to consider when replicating this study in the future.

Background

For adolescents with ASD, a school environment can pose various cognitive, social, and behavioral challenges that, in turn, can cause more anxiety within that setting (Lietz et al., 2018). According to educators, students with ASD experience higher levels of anxiety and show more difficulty with academic skills than their peers (Syriopoulou-Delli et al., 2020). In a systematic review conducted by Adams et al. (2019), research indicated a lack of understanding for using effective interventions for adolescents with comorbid ASD and anxiety in any school setting. CBT interventions were developed from typical behavioral strategies integrated with cognitive therapy, with a focus on social cognition and facilitating behavioral changes through cognition (Wood et al., 2019). Modifications for CBT interventions have become more common, and those changes allow for individualization of the treatment overall, particularly when these interventions take place outside a controlled, therapeutic environment.

As current research indicates, CBT interventions can be ideal for adolescents with ASD and anxiety in a school setting; however, most studies are limited in participant size and training for school personnel (Simpson et al., 2019). Typically, when CBT interventions occur in a clinical setting, trained therapists implement the program and educate the adolescents on how to generalize the skill. In one study conducted by Simpson et al. (2019), trained therapists collaborated with special education teachers to support the generalization of learned skills from the controlled environment to the social educational setting of the classroom. Simpson et al. concluded that, with the additional support in the classroom, adolescents had less anxious behaviors overall. These findings are encouraging; however, Adams et al. (2019) conducted a qualitative study of how educators feel working with adolescents with ASD and anxiety in the classroom. Many educators indicated they felt they were providing some interventions well but did request additional support and training when implementing specific programs (Adams et al., 2019). Ireri et al. (2019) was the first to conduct a clinical CBT program in the classroom in Kenya and found many adolescents with ASD and anxiety improved their overall academic skills due to the intervention. The gap in practice I sought to address with this study is the lack of training provided to educators to implement successful interventions for this specific population of adolescents in the classroom. This study is crucial to the field of special education, as I sought to understand how to support special education teachers who work with adolescents with ASD and anxiety daily in the classroom.

Problem Statement

Currently, 1 in 68 adolescents across the United States are diagnosed with a form of ASD despite racial, ethnic, and socioeconomic differences (Ehrenreich-May et al., 2020). ASD is four times more likely among male adolescents than female adolescents (Ehrenreich-May et al., 2020). Individuals with ASD often experience other comorbid issues, including depression, anxiety, learning disabilities, and attention-deficit/hyperactive disorder (Lietz et al., 2018). At least 40% of individuals with ASD experience at least one type of anxiety disorder, including social phobias, specific phobias, general anxiety disorder, separation anxiety disorder, and obsessive-compulsive disorder (Zaboski & Storch, 2018). Adolescents with ASD and anxiety struggle throughout everyday life, especially in a school setting where socialization skills are crucial. An estimated one quarter of school-age children struggle with mental health concerns like anxiety; however, less than 30% of those children receive support (Kester & Lucyshyn, 2018). With anxiety being a struggle for many adolescents with ASD, the school environment can increase negative behaviors and thoughts; implementing cognitive-based interventions to support this population is crucial (Kester & Lucyshyn, 2018).

Many researchers have investigated these comorbid diagnoses in a clinical setting and have used CBT to minimize the effects of anxiety for those with ASD in a controlled environment. This form of cognitive therapy focuses on thoughts and behaviors of the individual experiencing neurological distress (Wood et al., 2019). Cognitive-behavioral interventions, like CBT, have been widely used by researchers and are considered

evidence-based; these interventions emphasize social cognition and facilitate behavioral changes through cognition (Ho et al., 2018). Unlike regular behavioral interventions, CBT requires training in specific areas of cognition and behavioral strategies to improve self-control and coping skills that lead to improvement overall (Ho et al., 2018).

In multiple research analyses conducted within the past 5 years (Lake et al., 2020), CBT has been found to be highly effective for those with ASD and anxiety; however, the sample sizes were small, the settings were controlled, and most results were self-reported, making it hard to replicate the study. Although cognitive-behavioral interventions would be beneficial for adolescents with ASD, educators lack the funding and training to recreate the ideal environment and skillset to accommodate those in need. The problem of practice is that special education teachers lack training to implement cognitive-behavioral interventions regularly for adolescents with comorbid ASD and anxiety symptoms; therefore, these interventions are not occurring often in the classroom (Kester & Lucyshyn, 2018; Simpson et al., 2019).

Purpose of the Study

The purpose of this qualitative study was to examine how U.S. special education teachers who work with adolescents (ages 12–17) diagnosed with both ASD and anxiety describe their ability to implement modified cognitive-behavioral interventions in the classroom. Furthermore, I sought to understand the types of training special education teachers are given to support the population of adolescents with ASD and anxiety in the classroom. Many educators feel overwhelmed, underprepared, and undersupported to help those with ASD and anxiety in the classroom (Syriopoulou-Deli et al., 2018).

Research has revealed that CBT can be successful in a small, controlled environment with a trained individual providing the specific therapy (Lake et al., 2020; Syriopoulou-Delli et al., 2020). Some researchers have modified forms of CBT in settings like small classroom environments and found that anxiety symptoms in students with ASD were minimized and handled well with trained personnel (Simpson et al., 2018). Because adolescents spend much of their day in a classroom setting, it is important that special education teachers can voice their thoughts about supporting the needs of those with ASD and anxiety in this environment.

Research Questions

The central research questions for this study are as follow:

RQ1: How do special education teachers describe their ability to implement modified cognitive behavioral interventions for adolescents with ASD and anxiety in the classroom?

RQ2: What type of training have special education teachers had regarding supporting adolescents with ASD and anxiety in the classroom?

Conceptual Framework

To understand how to assist students with ASD and anxiety in a classroom environment, it is important to understand how behavior, cognition, and the environment all play a role in influencing a person's daily life and routine. Albert Bandura (1971) explained the concept of reciprocal determinism to understand the relationship between the environment, cognition (or the person), and the behavior that is occurring. Each of these three factors has the capability to influence the other two in various ways (Bandura,

1971). Bandura (1978) further explained that behavior can be influenced by the environment; however, the environment can also be influenced by a person's own doing, which is why the theory received the name *reciprocal determinism*. These factors all coincide as they are not independent from one another, and all three must be considered when determining an individual's cause for behavior (Bandura, 1978). Of course, all three factors will vary in differing ways because every person behaves differently in various environments and with differing cognition levels (Bandura, 1978).

The key to supporting those with ASD and anxiety in a classroom setting is to understand the concept of reciprocal determinism (Fast, 2018). Teachers, often special education teachers, are consistently monitoring and modeling appropriate behaviors within a safe classroom environment to support social learning and to encourage reciprocal determinism (Ramey, 2021). Modeling specific behaviors for students can influence how they behave and handle the classroom environment with others around them (Bandura & Walters, 1977; Ramey, 2021). Adolescents with ASD and anxiety have a hard time in an unpredicted, uncontrolled environment, which will often lead to negative behaviors and unsafe outbursts (Fast, 2018). To help those with ASD and anxiety in a classroom environment, teachers must understand the relationship between an adolescent's cognition, their behaviors, and the environment they are in and must model appropriate behaviors for reinforcement.

The conceptual framework of reciprocal determinism incorporates the relationship of the environment to a person's thoughts, feelings, and behaviors. Previous researchers assumed that behavior was only controlled by the environment; however, Bandura (1971,

1978) determined that not only does the environment determine a person's thinking and behavior, but behavior influences environment. This concept supports the current research questions and problem statement in understanding how CBT interventions influence adolescents' cognition and behavior in the classroom environment. As the literature review indicates in Chapter 2, cognitive factors, behaviors, and environmental factors are crucial to include and analyze within the observations conducted and open-ended interview questions answered by the special education participants.

Nature of the Study

The nature of this study was a qualitative action research study to understand a specific population of special education teachers and students. As past research has indicated, there is limited knowledge on training and support for special education teachers working with students diagnosed with ASD and anxiety; therefore, a qualitative, action research study was ideal for the classroom setting as I sought to understand the ways educators support individuals with ASD and anxious behaviors. I used recorded in-depth interviews to collect data from special educator participants. The interview questions were the same for all participants.

Definitions

The terms listed in this section are defined based on the research studies used in the following chapters.

Adolescent: An individual between ages 10 and 19 (Maddox et al., 2018).

Anxiety disorder: An internal, lasting condition caused by consistent stress brought on by anxiety or worry about any number of events or activities currently taking place (Appleton et al., 2019).

Autism spectrum disorder (ASD): A neurodevelopmental disorder characterized by consistent deficits in social communication and social interactions plus restrictive, repetitive patterns of behaviors, interests, and activities across multiple contexts (Lietz et al., 2018).

Assumptions

The goal of this study was to discover how special education teachers can support adolescents with ASD and anxiety in the classroom setting. To do this, some assumptions were made about the participants, the students, and the setting. First, I assumed that participants would be honest and authentic in their answers and recount their experiences to the best of their abilities. I also assumed participants would be licensed educators in the field of special education and would have at least 1 year of teaching experience in a special education setting. Next, I assumed that the adolescents involved with the educators had been diagnosed with mild-to-moderate symptoms of ASD and experience general anxiety. In assuming this about the students, I also assumed the students did not struggle with significant cognitive impairment, as that can affect the way educators support students. Finally, I assumed these adolescents spend at least part of their daily schedule in the special education room with support from the special educators. These assumptions are important to the study to ensure that special education teachers can

express themselves in an open and honest way about their thoughts on supporting a specific student population.

Scope and Delimitations

The scope of this qualitative action research study included analysis of data collected from interviews with 10 special education teachers who work with adolescents diagnosed with ASD and who struggle with anxious behaviors in the classroom. I considered including general education teachers but excluded them as possible participants because special education teachers can implement specific interventions in smaller settings to support individual needs of adolescents who struggle in the classroom. The special education teachers participating in this study work in the state of Utah and teach small group instruction throughout the day for middle-school students diagnosed with ASD. These factors of the scope were considered to answer the research questions effectively and will provide results for the gap in practice focused on adolescents with ASD and anxiety in the classroom. The delimitations in this study included providing the same interview questions for each participant, understanding that the adolescents taught have been diagnosed with ASD from a medical professional, and all educators are licensed in special education and teach in the same area. These factors can be applied to future studies for transferability and generalization among populations.

Limitations

Two main limitations to any qualitative-based study are maintaining appropriate validity and reliability. Because qualitative study results are not based on statistical data, the results cannot be easily replicated. The results from this study are based on individual

opinions, individual training, and individual use of intervention skills. Each participant gave answers to in-depth interview questions that were not the same. Other limitations to consider include that results do not represent the population of those with ASD and anxiety. This study focused on special education teachers who work with a specific age group and a specific set of students; therefore, the results cannot represent all individuals experiencing ASD and anxiety. Students with ASD require individualized support from educators, and each implementation of a specific intervention could look different for each student. With this qualitative action research study, it was important to implement the same interview questions to all participants and to document responses with honesty so future researchers can learn from these results.

Significance

This study is significant to increasing the research in the field of special education for many reasons. First, this study will expand research for educators who work with adolescents diagnosed with ASD and anxiety in the classroom. With ASD rates on the rise and more adolescents experiencing comorbid issues like anxiety, more educators will need to prepare to support those who struggle. Second, this study will expand the research for the use of cognitive behavioral interventions used in the classroom setting. As will be discussed in Chapter 2, research has shown that cognitive behavioral interventions can support those with ASD and anxiety in small, clinical settings. Special education teachers can provide these same interventions in a small group, classroom setting with the right training and support. Finally, this study will expand the understanding of qualitative research studies in the educational field. Qualitative research

studies can be harder to interpret and generalize because each response may be different; however, this study is necessary to understanding the way special education teachers are trained to support students with ASD and anxiety. By implementing this study and analyzing the results, researchers can advance the practice and the use of cognitive behavioral interventions to support all adolescents with ASD and anxiety in the classroom setting.

Summary

Rates of adolescents diagnosed with ASD have increased, and rates of comorbid anxiety among this population have also increased. Due to this rise in numbers, more special education teachers are struggling to provide the right support within a classroom setting for this specific population. CBT interventions are evidence-based strategies that support adolescents with ASD and anxiety in a small, controlled setting and are often provided by trained clinicians. Simpson et al. (2019) expanded on this concept and encouraged trained therapists to collaborate with educators in the classroom to generalize the skills taught by the CBT intervention. Simpson et al. (2019) found that collaboration among therapists and educators is highly beneficial and supports adolescents involved. When educators are trained and supported to implement a modified cognitive-behavioral intervention in a small classroom setting, all adolescents involved can benefit. The gap in research identified for this study indicated that special education teachers are struggling to support adolescents with ASD and anxiety in a social school setting. While there are limitations to this study, like small population size and individual opinions expressed, this study will add to future research in the special education field. This study will encourage

future educators and researchers to increase the research for all those affected by ASD and anxiety. A thorough literature review addressing the topics of comorbid ASD and anxiety, CBT interventions, modified CBT interventions for the classroom, and training for special education teachers is discussed in the following chapter.

Chapter 2: Literature Review

Introduction

The problem of practice is that special education teachers lack the training to implement cognitive–behavioral interventions regularly for adolescents with comorbid ASD and anxiety symptoms. Therefore, these interventions are not occurring often in the classroom (Kester & Lucyshyn, 2018; Lake et al., 2020). The purpose of this qualitative action research study was to examine how special education teachers in the United States describe their ability to implement modified cognitive–behavioral interventions while working with adolescents diagnosed with ASD and who struggle with anxiety. Furthermore, this study sought to understand the type of training that special education teachers are given to support this type of population in the classroom.

Many educators feel overwhelmed, underprepared, and undersupported to help students with ASD and anxiety in the classroom (Syriopoulou-Deli et al., 2018). Multiple research studies have revealed that cognitive–behavioral interventions can be successful in a small, controlled environment and with a trained individual providing the therapy (Burkhart et al., 2018; Lake et al., 2020). Research has shown that modifications and specific support can be implemented in structured settings for adolescents with ASD and anxiety; however, few studies have been conducted in an educational environment. Adolescents spend most of their day in a social and academic setting, so it is important that cognitive–behavioral interventions be present to provide support when anxiety symptoms arise. In this literature review, I focus on the topics of ASD and anxiety

comorbidity, CBT, modified CBT interventions, and support for special education teachers.

Literature Search Strategy

In conducting research for this topic, the Walden University Library databases and the Google Scholar search engines were used. Depending on the type of search terms used, many resources and references were found that were published within the past 5 years. Key terms for these searches included *autism spectrum disorder*, *anxiety disorder*, *comorbid/comorbidity*, *cognitive-behavioral therapy*, *cognitive-based intervention*, *modified CBT*, *special education*, *teachers*, *school setting*, and *training for special education teachers*. Most information was found in both the Walden University Library and Google Scholar when searching for *autism*, *anxiety*, and *cognitive-behavioral therapy*, as these terms have been used in many research studies. As the research increased, the word *comorbid* was added to searches and a strong correlation between those with ASD and anxiety was discovered. The number of studies started to decline as information about this topic included the search of implementation in a school setting. This indicates that many interventions to support adolescents with ASD and anxiety have occurred in small, clinical settings. There has been minimal research on how these same interventions can be used in the classroom, especially for special education teachers.

Conceptual Framework/Theoretical Foundation

Social learning theory, as defined by Bandura (1971), explains how individuals learn through observing, modeling, and imitating other behaviors. Furthermore, social learning theory focuses on the concept that cognition, behavior, and the environment all

impact each other (Bandura, 1971). The three core concepts behind social learning theory are: (a) individuals can learn through observation, (b) individuals' internal mental state is an essential part of the process, and (c) specific behaviors can be influenced in specific environments (Morse et al., 2019). These concepts expand social learning theory through key factors known as observational learning and reciprocal determinism. Learning can happen through modeling, observation, and various environmental factors. The conceptual framework based around social learning theory supports this current study by examining the relationships among adolescents' cognition, their behaviors, and the skills needed to be successful in a specific environment such as the school setting.

Observational Learning

The term *observational learning* indicates that individuals can learn by observing the behaviors and consequences of others. However, Bandura (1971, as cited in Bandura & Walters, 1977) clarified four key components that need to occur to ensure an individual observes the behavior and changes their actions as well: (a) attention, (b) retention, (c) motor reproduction, and (d) motivation/reinforcement. When paying attention to others and their modeled behaviors, complex actions can be taught and established (Hartjen, 1974). In various settings, like a classroom, videotaping the model behavior is suggested so others can pay attention and retain more details in the actions (Morse et al., 2019). Bandura and Walters (1977) also encouraged the use of visual representations of model behaviors to support the retention of the skill. The behaviors and actions must be practiced through motor reproduction to become more natural over time (Hartjen, 1974). Finally, motivation is a key component to reinforcing a behavior over

time. Bandura (1971) explained that individuals do not perform a behavior unless they are motivated to do so. Even if the behavior is learned, without motivation, the individual will not want to perform it again.

The role and relationship of the learner and the individual demonstrating the behavior can affect the modeling process in many ways, but the consequences of the behavior play an equally important part for both individuals involved. Bandura (1971, as cited in Bandura & Walters, 1977) explained that behavioral consequences and reinforcement can occur through the environment and through cognitive processes between the learner and the modeling individual. Some examples include the learner being praised directly for completing the behavior, the learner being praised by others in the environment (third party), the learner being motivated and rewarded from the behavior itself, and the individual instructing may also be rewarded and, in turn, the learner observes that reinforcement. Many of these scenarios occur in a classroom environment between teachers and students when managing behaviors. Morse et al. (2019) found that learning through observation can promote creativity and foster innovative ways of thinking and processing information, especially within a school environment. When individuals are taught correct behaviors, they can go beyond the modeled skill and adapt to their own individual needs (Morse et al., 2019). Cognition, behavior, and the environment play a crucial role in supporting individuals in everyday life.

Reciprocal Determinism

Another critical concept of social learning theory is reciprocal determinism, in which Bandura (1978) introduced the notion that for events to influence behavior involves constant reciprocal interactions between the behavior, the person, and the environment. In previous research, other theorists assumed that all behaviors were controlled by environment; however, Bandura (1978) explained that the environment can influence a person's thoughts, feelings, and beliefs, and those influences can impact behavior, which may in turn change the environment. Personal, environmental, and behavioral factors do not function as independent components; instead, all three impact how a person's behavior can change based on those reciprocating factors (Bandura, 1978). People interact, learn, and behave differently based on environmental factors and other personal factors like cognition and personality (Bandura, 1978). Environments like a school/classroom setting typically require the use of many social communication skills and will influence different behavioral responses; therefore, reciprocal determinism needs to be considered when working with adolescents with ASD and anxiety within various environments.

Social Learning Theory in the Classroom

When considering implementation of the components for social learning theory (attention, retention, motor reproduction, and motivation), in many studies conducted in the educational field, researchers tended to focus on attention and motivation. Ahn et al. (2019) reviewed multiple studies addressing the impact of role modeling to incorporate social learning theory components to support cognition and behavior in an education

setting. Role modeling, for the purpose of the review, was defined as educators performing specific behaviors to convey information to the observers about appropriate reactions and responses within the school setting (Ahn et al., 2019). Additionally, a desired behavior can be developed through observation without the observer being directly involved in the behavior (Ahn et al., 2019). These are important concepts to consider for adolescents with ASD and anxiety embedded within a social setting like school. Burkhart et al. (2017) discovered that modified cognitive-behavioral interventions have been used to support anxious behaviors by allowing the use of role modeling, role playing, visualization support, and video recordings. Studies that incorporate role modeling show that strategies like these can be made effective in influencing positive behavioral outcomes and are often the most favored in this field (Ahn et al., 2019). Educators are often considered role models in their classrooms, often exhibiting appropriate behaviors for all types of social situations. As adolescents practice their skills in this environment, generalization of those skills is often noted.

In a systematic review and meta-analysis conducted for adolescents with ASD and anxiety, Haupt (2020) used Bandura's social learning theory to demonstrate that the environment not only influences adolescent behavior, but can also influence other factors like cognition. Additionally, Haupt (2020) explained that modeling desired behaviors through reinforcement, cognition, and environmental factors can be used in various CBT interventions for this specific population. When using the social learning theory within a CBT intervention for adolescents with ASD and anxiety, Haupt (2020) recommended (a) using high-level vocabulary and language to introduce new concepts, (b) exposing

participants and teaching new skills for practicing in various settings, and (c) promoting the generalization of skills across all contexts. CBT often occurs in a clinical setting; however, educators often model and represent social skills to allow for generalization and practice within various settings (Haupt, 2020). Once participants can adapt the learned skills among peers, caregivers, and other adults, anxious behaviors are often reduced and coping skills are implemented (Haupt, 2020).

In conclusion, social learning theory explains how individuals learn through observing, modeling, and imitating other behaviors. Furthermore, the theory is focused on the concept that cognition, behavior, and environment all impact each other (Bandura, 1971). When educators can expose adolescents to the components of social learning theory through modeling, visualization, observational learning, and practice, CBT support can offer relief for anxious behaviors in multiple social settings. Modifications in these practices are required as participants with ASD often succeed with individualized support. Educators are encouraged to be flexible in implementing attention, retention, motor reproduction, and motivation/reinforcement so that all individuals can generalize their social skills to decrease anxious symptoms. Social learning theory was appropriate for this study because cognition, behaviors, and the environment must be considered when supporting students who struggle with social communication and anxious behaviors.

Literature Review Related to Key Concepts and Variables

Most individuals diagnosed with ASD often experience other comorbid mental health issues like anxiety (Ehrenreich-May et al., 2020; Lietz et al., 2018). Research has

indicated that those with ASD often exhibit higher rates of anxiety symptoms compared to their peers (Clarke et al., 2017; Syriopoulou-Delli et al., 2020). Often, these neurodevelopmental disorders are supported through cognitive-based interventions held in clinical settings within a controlled environment (Burkhart et al., 2018; Lake et al., 2020). Unfortunately, there is little research on how special education teachers can use modified cognitive-based interventions with students diagnosed with ASD who exhibit anxiety in a classroom setting (Kester & Lucyshyn, 2018; Simpson et al., 2019). The following four sections of this literature review consists of discussions around autism and anxiety comorbidity, cognitive-behavioral therapy, modified cognitive-behavioral therapy interventions in the classroom, and training offered to special education teachers to support adolescents with ASD and anxiety in the classroom.

Autism and Anxiety Comorbidity

In this section, anxiety is discussed as a comorbid complication for all those with an ASD diagnosis. ASD and anxiety can occur for adolescents in a school setting and should be addressed in the classroom. One method many researchers have used to address these comorbid issues is CBT interventions (Sklar, 2020; Wise et al., 2018). These interventions can be used to address social anxiety in various environments for the participants.

At least 40% of individuals with ASD experience at least one type of anxiety disorder, including social phobias, specific phobias, general anxiety disorder, separation anxiety disorder, and obsessive-compulsive disorder (Walsh et al., 2018; Zabolski & Storch, 2018). Researchers have sought to gather information about individuals with

ASD and the risks involved with a comorbid psychiatric disorder. Kirsch et al. (2020) noted that those with ASD are often diagnosed at an earlier age and, at times, are more likely to have more than one psychiatric diagnosis. These disorders can follow an individual throughout life and make personal, academic, and social skills more difficult (Kim et al., 2021; Kirsch et al., 2020). Professionals must find the right support early on for individuals with a comorbid diagnosis of ASD and other psychiatric disorders.

Anxiety Among Adolescents With ASD

Anxiety in adolescents with ASD can appear differently than typically developing peers who are the same age (Kim et al., 2021). ASD is characterized by deficits in social communication and by the presence of restricted and repetitive behaviors (RRBs) (Lau et al., 2020). Examples of RRBs that many adolescents experience includes repetitive motor movements, insistence on sameness, insistence on adherence to a fixed schedule and routine, and hyperactivity to sensory aspects in the environment (Muskett et al., 2019). Adolescents with ASD often have common anxieties and worries that most people with anxiety experience; however, researchers have discovered that there are additional worries that only apply to those with ASD (Lau et al., 2020). These differences can make it more difficult for researchers and other professionals to determine how best to support these individuals in all types of environments. Uncommon anxieties in those with ASD include anxious anticipation and reactions to stimuli that would otherwise be considered enjoyable, anxiety toward change and uncertainty in plans, and multiple sensory-based anxieties (Lau et al., 2020). These uncommon anxieties can exhibit in the classroom

setting, making the learning environment harder to navigate for adolescents and teachers alike.

Anxiety is linked to the presence of RRBs for those with ASD (Muskett et al., 2019). Muskett et al (2019) and Kim et al. (2021) both discovered that individuals with anxiety and ASD had significantly more self-injurious behaviors than those who do not have anxiety. Those behaviors included skin picking, deliberately hitting oneself, and deliberately hitting other objects (Muskett et al., 2019). Anxiety can cause adolescents to hurt themselves if the situation is too stressful to handle. Kim et al. (2021) added that age can play a major role in how adolescents with ASD exhibit anxious and negative behaviors through RRB in the classroom. Kim et al. (2021) and Muskett et al. (2019) concluded that anxious behaviors of those with ASD are positively correlated to RRBs and need to be addressed by professionals to support adolescents who struggle. When providing training for educators working with adolescents with ASD, anxious and negative behaviors need to be addressed. Adolescents need coping strategies to address these anxious symptoms in various settings.

In essence, ASD is a developmental disorder, and researchers agree that age should be considered when determining effective treatments. Educators have reported an increase in adolescents with ASD exhibiting more anxious behaviors in the classroom, which ultimately impacts their learning (Adams et al., 2019; Kim et al., 2020).

Adolescents, particularly those who attend mainstream school settings, have shown significantly higher levels of anxious behaviors than children (Adams et al., 2019). Kim et al. (2020) determined that younger adolescents become the most improved in

minimizing their anxious behaviors after participating in treatment. Furthermore, as adolescents age, specific, structured support is encouraged to be utilized to improve specific anxious behaviors (Kim et al., 2020). Educators must consider age as a factor when working with adolescents with ASD and anxiety.

Adolescents diagnosed with ASD often struggle with social communication skills. When anxiety is added into the mix, social functioning and social interactions suffer (Briot et al., 2020; Factor et al., 2022). More specifically, social anxiety negatively affects adolescents with ASD and can cause the most significant impairments, as compared to any other type of anxiety disorder (Factor et al., 2022). Briot et al. (2020) explained that when adolescents experience an increase in social anxiety, their social motivation decreases, making it harder to interact with peers and educators. Because adolescents attend school in a social environment, active social functioning and social motivation are important to maintaining positive learning experiences. If educators can support social anxiety in the classroom, research shows that adolescents with ASD can be successful in a social classroom setting (Briot et al., 2020). Furthermore, interventions that utilize positive reinforcement by increasing social interactions have been shown to decrease social anxiety in adolescents with ASD (Factor et al., 2022). Educators who work with adolescents with ASD need to remember that social anxiety can negatively affect the learning environment. When educators can learn and utilize interventions that support anxiety in a social setting, many adolescents can be successful.

In conclusion, adolescents with ASD often struggle with anxious thoughts and behaviors that negatively impact everyday life. Anxiety can be exhibited in various ways,

and adolescents with ASD struggle with uncommon anxious behaviors that typically developing adolescents do not often face (Lau et al., 2020). These anxious behaviors are often intensified in various social settings, especially in the classroom. The school environment encourages a lot of social interactions with peers, teachers, and other individuals. As adolescents age, social interactions become more complex and anxiety can amplify (Kim et al., 2020). Adolescents with ASD and anxiety need to be supported in a social setting as complications can create a negative learning environment in the long term.

Anxiety and ASD in the Classroom

For those with ASD, a school setting can pose various cognitive, social, and behavioral challenges which, in turn, can cause more anxiety. Educators have reported that students with ASD experience higher levels of anxiety and show more difficulty with academic success than their typically developing peers within the classroom environment (Adams et al., 2019). Currently, the number of students with ASD experiencing clinical levels of anxiety in the classroom had doubled over the past ten years, according to Adams et al. (2019). Because these numbers are rising, more educators need to be prepared to support adolescents with ASD and anxiety in a social setting. Both Adams et al. (2019) and Lietz et al. (2018) agreed that more interventions to address anxiety for adolescents with ASD in a classroom setting is a must to provide a successful learning environment for all students. Because students with ASD spend a significant amount of time in a school environment each day, educators are encouraged to recognize symptoms of anxiety and to implement specific interventions that will support each student (Lietz et

al., 2018). This is not always easy for an educator to do. As mentioned before, adolescents with ASD struggle with uncommon anxious symptoms, and educators may not always understand how to support that student. Training in this field for all educators is important and will benefit future research in this area of study (Adams et al., 2019; Lietz et al., 2018).

While the number of students with ASD and anxiety increases in the classroom setting, research on this topic has yet to increase as well. Syriopoulou-Delli et al. (2020) stated that research on treatment for those with comorbid ASD and anxiety diagnoses is minimal. Furthermore, Delli et al. (2018) and Syriopoulou-Delli et al. (2020) explained that more schools need to modify interventions and create techniques to support this specific population. Collaboration and involvement between administrators, therapists, teachers, special education teachers, and parents are also crucial in creating a successful program for adolescents (Delli et al., 2018). Adolescents work with various educators, therapists, and other adults throughout the day, therefore, collaboration about the intervention utilized will support the adolescent in various settings with various anxious symptoms (Delli et al., 2018). Each adolescent with ASD and anxiety is different, therefore, all adults should understand how to implement the right intervention for support. Both Delli et al. (2018) and Syriopoulou-Delli et al. (2020) agreed that various behavioral and cognitive interventions, like cognitive-behavioral therapy, are ideal to implement for adolescents with ASD and anxiety in a school setting for future studies.

In summary, adolescents with ASD and anxiety in the classroom often exhibit more complications in social settings than those of typically developing peers (Adams et

al., 2019; Lietz et al., 2018). As more research is collected in this field, educators are becoming key individuals in supporting these adolescents who struggle. Interventions that are created for the specific age group with ASD and anxiety are encouraged to be utilized; however, training is not always available. So far, research has been minimal for those with ASD and anxiety in a specific classroom setting, but research is encouraged in this field (Delli et al., 2018; Syriopoulou-Delli et al., 2020). Collaboration among therapists, teachers, parents, and other support personnel is critical for assisting those with ASD and anxiety in the classroom setting.

ASD, Anxiety, and Cognitive Behavioral Therapy

Past and current research studies have revealed that cognitive-behavioral therapy (CBT) can be successful in a small, controlled environment with a trained individual providing the therapy (Lake et al., 2020; Syriopoulou-Delli et al., 2020). Researchers who have utilized CBT in their studies found there are two ways to implement these interventions for those with ASD and anxiety: a) prescriptive, streamlined interventions that take place in a clinical setting, despite individual needs of those participating; or b) personalized, modified interventions to specifically address anxiety and ASD for each participant (Sklar, 2020). Although clinical settings are ideal, many adolescents spend most of their day in a school setting and require specialized instruction to support learning. Research showed that as students with ASD age and progress through the school system, psychiatric disorders like anxiety increase in frequency (Lake et al., 2020; Sklar, 2020). With rising numbers in anxiety, individuals require more support in social

settings like school. CBT can be utilized in a school setting, but it does take time, effort, and training for all those involved.

Research indicates that up to 50% of adolescents and even young adults with ASD meet the criteria for a social anxiety disorder (Wise et al., 2018). Past research indicated that CBT has been beneficial for young children and early adolescents in a clinical setting (Wise et al., 2018). Likewise, CBT interventions have decreased anxiety in children with ASD by teaching them to change negative thoughts into positive ones, and by challenging anxious behaviors in social settings (Choudhary & Begum, 2018). Research pertaining to the benefits of conducting CBT interventions on adolescents with ASD and anxiety in a social environment is minimal; therefore, both Choudhary and Begum (2018) and Wise et al. (2018) addressed this topic with two separate studies. While both studies involved CBT interventions in a social setting, Wise et al. (2018) focused on older adolescents' social skills to promote more independence in learning and socializing. Adolescents face many environmental and social factors as they age and progress through school and life. These life changes can cause a lot of anxiety in various settings. Wise et al. (2018) supported past research in that CBT interventions do significantly decrease anxious behaviors in social settings. Furthermore, Choudhary and Begum (2018) learned that the efficacy of CBT interventions could be extended to more social environments as adolescents continue making progress throughout school and life. Choudhary and Begum (2018) and Wise et al. (2018) encouraged all future research in this field to include educators, parents, and other adults present in the adolescent's life to implement CBT interventions to promote decreased anxiety in social settings.

To sum up, those with ASD are often faced with challenges in peer interactions, social communication, and emotional regulation (Burkhart et al., 2018; Sklar, 2020). When anxiety is added to the mix, adolescents with ASD have additional and uncommon anxious behaviors that others may not understand (Lau et al., 2020). As individuals grow and mature, anxiety symptoms increase as well. Almost half of adolescents with ASD are diagnosed with an anxiety disorder and deal with the symptoms daily (Sklar, 2020). Adolescents spend most of their day in a school setting and require specialized treatment to support learning when dealing with anxiety and ASD. These comorbid diagnoses are crucial for special education teachers to understand, so individualistic support can be implemented in a classroom setting. Additional training to help educators reinforce positive cognitive and behavioral interventions is crucial to addressing the needs of adolescents in a non-clinical setting. By studying this topic, more research will be added to the field of ASD and anxiety in a school setting.

Cognitive Behavioral Therapy

Cognitive-behavioral therapy (CBT) and interventions are evidence-based as they have been implemented in studies since the mid-1900s (Wood et al., 2019). CBT has been a widely studied and highly utilized psychosocial intervention for individuals who struggle with behavioral and cognitive issues; however, ASD and other mental, comorbid issues like anxiety were included in the studies within the last 15 years (Lake et al., 2020). CBT has been used to support individuals with typical behavioral issues, but as research progressed and more studies emerged, many clinicians found it to be beneficial for those with a comorbid ASD and anxiety diagnosis as well (Lake et al., 2020; Pickard

et al., 2020). Currently, with 23% to 43% of adolescents accessing treatment, CBT has become one of the most frequently used mental health treatments for youth with ASD (Wood et al., 2019). Studies that focus on utilizing CBT for adolescents with ASD indicated that the results are diverse and are not limited to addressing all the psychological problems alone (Ehrenreich-May et al., 2020). In this section, research is presented through the following two topics: CBT for ASD and CBT Implementation in a Controlled Environment.

CBT for ASD

CBT interventions were developed from typical behavioral strategies integrated with cognitive therapy, with a focus on social cognition and facilitating behavioral changes through cognition (Wood et al., 2019). Other psychological therapy interventions have been attempted to support adolescents with ASD; however, researchers have determined that CBT interventions can be easier to access and implement in social settings (Picard et al., 2020). Modifications to streamline CBT interventions over the years have become beneficial for those with ASD and comorbid psychological issues (Wood et al., 2019; Pickard et al., 2020). Wood et al. (2019) determined that standard CBT interventions are successful in lowering anxiety in adolescents with ASD; however, when an adapted CBT intervention is utilized, adolescents experienced lower anxiety levels and additional benefits. Pickard et al. (2020) found additional benefits to implementing a modified CBT intervention, including the interventions' effectiveness, ease of use, and compatibility with the participants. Utilizing CBT interventions for adolescents with ASD and anxiety is still new to research; therefore, it is recommended

that future studies analyze this topic and build on the results of current research (Wood et al., 2019).

While most CBT interventions are not age-specific and can be applied to many different individuals, adolescents and young adults are proving to be highly successful when participating in the specific interventions at that age. Adolescents with ASD often develop anxiety symptoms when participating in multiple social settings, when creating independence, and when becoming a self-advocate based on needs being met (Ehrenreich-May et al., 2020). Changes from childhood into adulthood can be stressful for all adolescents; therefore, CBT interventions are encouraged to be implemented at this age to support those changes. Researchers like Wijnhoven et al. (2021) determined that adolescents who require CBT support can benefit from the intervention when paired with a desirable age-appropriate activity. Adolescents require activities to improve and practice social skills and behaviors that impact everyday life, inside and outside the classroom setting (Ehrenreich-May et al., 2020; Wijnhoven et al., 2021). After implementing age-appropriate CBT interventions for adolescents diagnosed with ASD and anxiety, both Ehrenreich-May et al. (2020) and Wijnhoven et al. (2021) discovered that the participants showed some improvements in decreasing their anxious behaviors in social settings. Furthermore, these improvements continued to benefit the participants one month after the implementation of the intervention (Wijnhoven et al., 2021). However, researchers did have to make accommodations and adjustments to the CBT intervention to accommodate each participant and their unique needs (Ehrenreich-May et al., 2020). More research in modified CBT interventions for this population is highly encouraged.

To sum up, CBT interventions that focus on symptoms caused by ASD and anxiety have vastly improved in the past two decades and are now considered evidence-based interventions (Ehrenreich-May et al., 2020). Researchers Wood et al. (2019) were able to utilize a larger population of 147 participants who were diagnosed with ASD and had interfering anxiety in various social settings. This study is crucial because researchers were able to incorporate a larger number of adolescents than most studies. On the other hand, Ehrenreich-May et al. (2020) conducted a small study, determining that intervention with modifications for specific populations can be highly beneficial. Many researchers, including Pickard et al. (2020), concluded that more research and information should be collected in this field of study so that participants, parents, and educators can provide additional support in various settings.

CBT Implementation in a Controlled Environment

Many studies addressing the benefits of CBT interventions for adolescents are often conducted in clinical, controlled environments. In two different reviews conducted on studies in this field, Lake et al. (2020) and Perihan et al. (2021) determined the benefits and setbacks from conducting interventions in a controlled environment. Lake et al. (2020) noted that most studies were conducted for efficacy, meaning it was done under ideal, more clinical settings. Studies that focus on the efficacy of the CBT treatment are often implemented through controlled environments, strict inclusion and exclusion criteria for participants, fixed implementation dates, and trained clinicians (Lake et al., 2020; Perihan et al., 2021). Fewer studies focused on the effectiveness of the treatment in less controlled, more real-world environments, like schools, homes, and

communities (Lake et al., 2020). On the other hand, Perihan et al. (2021) found that more adolescents with ASD and anxiety were being placed in a general classroom setting, which is an uncontrolled environment. It is important to note that controlled environments are minimal in a school setting where many adolescents spend most of their time; therefore, interventions for anxious behaviors need to be flexible to accommodate unstructured environments. While the results from multiple studies show that CBT is beneficial for adolescents with ASD and anxiety, they do not allow for variability and generalization among other populations (Lake et al., 2020; Perihan et al., 2021). It is important that researchers take these factors into consideration and allow for variability in the results. While some factors are easily controlled, many cognitive-based interventions do need to be modified to allow for the unique characteristics of those with autism and anxiety in various settings like the classroom (Lake et al., 2020; Perihan et al., 2021).

There are many components to implementing CBT interventions in a more controlled setting that are to be considered when working with adolescents diagnosed with ASD and anxiety. Klebanoff et al. (2019) determined that there was an alliance between therapists and adolescent participants who were receiving the intervention. It was noted that children with ASD and anxiety had lower ratings of child-therapist alliance than those who were typically developing based on child and therapist reports (Klebanoff et al., 2019). While the connection between the clinician and the participant is important, there are other components to consider. Spain and Happe (2020) studied both therapists and educators who implement CBT intervention in controlled settings. Maintaining positive relationships between the therapist, educator, and the participant is

important because individual adaptations can be easily made to support the learning of the coping skills (Klebanoff et al., 2019; Spain & Happe, 2020). Furthermore, Spain and Happe (2020) concluded that all adaptations should be made based on the individual characteristics of the participant. Many factors, including the environmental aspects, need to be taken into consideration when implementing a CBT intervention for adolescents with ASD and anxiety.

Many CBT interventions are conducted in a controlled environment, like a hospital, doctor's office, therapist's office, or a research facility (Solish et al., 2020). Researchers Kilburn et al. (2020) implemented a specific CBT program within a mental health hospital setting for participants who are diagnosed with ASD and anxiety. The results from the self-reports showed statistically significant improvement from pre-treatment to post-treatment (Kilburn et al., 2020). While the specific intervention was effective in reducing anxiety symptoms, Kilburn et al. (2020) concluded that the controlled environment, where the intervention took place, was a key factor in providing positive results overall. Solish et al. (2020) expanded the idea of utilizing a controlled environment for CBT interventions by comparing studies where CBT is implemented in a hospital setting as well as in a community setting. One specific intervention was implemented across one hospital setting and across six community group settings. Solish et al. (2020) concluded that both settings were equal in that there were significant improvements in anxious behaviors for the participants who were involved. The controlled setting in each study was beneficial for all those involved and can promote future studies in this area.

In brief, CBT interventions have been proven to be highly effective in clinical settings with trained personnel to support those with ASD and anxious behaviors (Kilburn et al., 2020; Solish et al., 2020). Previous research studies indicated that training for professionals and clinicians will support the effectiveness and reliability of the CBT intervention provided (Lake et al., 2020; Wood et al., 2020). Furthermore, Wood et al. (2020) noted that there has been an increase in the use of CBT over the years, yet many studies have indicated that modifications and adaptations to the programs are necessary to create a positive impact on adolescents with ASD and anxiety (Spain & Happe, 2020; Pickard et al., 2020). With the right settings and support, CBT programs have been proven to make positive impacts on those with ASD and anxiety; nonetheless, more factors like individualization and adaptations need to be explored to understand the support given to those adolescents.

Modified CBT Interventions

Because ASD complications and anxious symptoms vary from person to person, CBT and other cognitive-based interventions can be modified to support the effectiveness for everyone who is participating (Sklar, 2020; Spain & Happe, 2020). Some modifications in a controlled setting typically include the teaching of social skills, the teaching of independent living skills, the teaching of cognitive and behavioral connections, and the implementation of role-playing for practice for real-life scenarios (Bemmer et al., 2020). Those same modifications are encouraged to be used in a school setting, along with a focus on academic and environmental anxious symptoms as they arise. Anxious behaviors in school can look different as they can negatively impact

learning, social skills, and relationships between peers (Kester & Lucyshyn, 2018; Drmic et al., 2017). Modifications for this setting can be highly beneficial for those with specific needs and support (Bemmer et al., 2020). This section addresses CBT modifications occurring in a clinical setting as well as a school setting. This section concludes with research that supports CBT interventions being utilized by special education teachers in the classroom.

Modified CBT Interventions in a Clinical Setting

Social anxiety and social functioning are important aspects to focus on when working with adolescents with ASD. Among all comorbid psychiatric complications, social anxiety disorder is the most common, as it occurs at a much higher rate in individuals with ASD than compared to the general population (Bemmer et al., 2020). Moreover, Nordh et al. (2021) explained that the correlation between social anxiety and the social difficulties adolescents with ASD face are the main contributors to the connection between ASD and comorbid anxiety disorders overall. To address these specific issues, modified CBT interventions were used to focus on improving social functioning and decreasing socially anxious behaviors within a controlled environment. Improvements in social functioning and social anxiety were observed and the results from the interventions showed significant improvement in all areas (Bemmer et al., 2020; Nordh et al., 2021). Specifically, improvements in social functioning included an increase in social functioning, an increase in social motivation, and a decrease in restrictive and repetitive behaviors (Bemmer et al., 2020). In addition to the benefits of the outcomes, researchers Bemmer et al. (2020) and Nordh et al. (2021) concluded that these modified

CBT interventions were successful in a controlled setting. Research has suggested that more studies including modified interventions inside and outside controlled environments are encouraged.

When CBT interventions are implemented within a controlled environment, trained therapists and counselors often execute the intervention to adolescent participants. To understand adolescents with ASD and anxiety well enough to modify a specific CBT intervention, one must be trained to implement the program for support (McBride et al., 2020; Reaven et al., 2018). In the past, CBT interventions were utilized for those with anxiety disorders; therefore, adapting the program to meet the needs of adolescents with ASD requires training to implement the intervention successfully (McBride et al., 2020). Adolescents with ASD may struggle with more than one comorbid complication, making it difficult to implement the right intervention. McBride et al. (2020) reported that one modified CBT intervention implemented benefited adolescents with ASD, anxiety, and attention deficit hyperactivity disorder. The therapists who conducted the intervention were trained to work with adolescents diagnosed with ASD and other comorbid disorders. While training for therapists can look different for everyone, Reaven et al. (2018) noted that all training is beneficial, and that each therapist involved in training can effectively implement a CBT intervention. More specifically, therapists who were involved in workshop-style training with hands-on experience were able to implement the intervention quicker and more efficiently (Reaven et al., 2018). McBride et al. (2020) and Reaven et al. (2018) recommended that future studies involve trained individuals to implement the interventions for specific adolescents diagnosed with ASD and anxiety.

To be brief, when working with adolescents who struggle with ASD and anxiety, modifications to clinical CBT programs may be crucial for success. Because ASD has a focus on social communication and functioning, specific programs do require modifications to address the individual needs of those struggling with anxiety in a social setting. Modifications for CBT interventions should include structured cognitive support and specific behavioral components to challenge negative thoughts and consequences (Bremmer et al., 2020). Training for the individuals implementing the intervention is to be highly considered for the success of the program (McBride et al., 2020).

Modified CBT Interventions in a School Setting

Previous researchers have stated that schools need to implement modified CBT programs in the classroom setting to minimize anxiety symptoms in adolescents with ASD (Rodgers & Ofield, 2018; Solish et al., 2020). Adolescents with ASD require specialized instruction to support individualization in learning; therefore, modifications in CBT interventions are encouraged to minimize anxiety in a school setting (Solish et al., 2020). Many studies around adolescents with ASD and anxiety benefitting from CBT interventions have been reported; however, the environment in which those studies take place has been limited to controlled settings (Rodgers & Ofield, 2018). Rodgers and Ofield (2018) and Solish et al. (2020) agreed that due to the high number of adolescents with ASD and anxiety attending public school, more research studies should focus on implementing modified CBT interventions in the school environment. Likewise, Solish et al. (2020) explained that the feasibility, acceptability, and effectiveness of a modified CBT intervention implemented in a community setting can occur when there is training

and ongoing support for those executing the program. As mentioned previously, modified CBT interventions are shown to be beneficial for adolescents with ASD and anxiety in various controlled settings. Recent studies encouraged research to expand by including CBT interventions in a school setting, allowing more adolescents to benefit from the program.

While modifying CBT interventions to support adolescents with ASD and anxiety in a school setting is important, researchers and educators must remember that the program must remain feasible, acceptable, and sustainable after modification. One noticeable gap in practice is implementing reliable modified CBT interventions within a school setting for adolescents with ASD and anxiety (Kester & Lucyshyn, 2018; Bernhardt, 2019). When modified CBT interventions are utilized in a community setting like school, multiple people are involved, including general education teachers, special education teachers, counselors/psychologists, parents, and administrators (Solish et al., 2020). Training and collaboration among all adults utilizing the intervention are critical to ensure that the program is implemented with feasibility, acceptability, and sustainability (Kester & Lucyshyn, 2018; Bernhardt, 2019). Kester and Lucyshyn (2018) discovered that parents and educators enjoyed learning about the intervention the adolescent was involved in. Furthermore, both parents and educators reported high levels of success for the participants because the CBT concepts were enforced in multiple settings (Kester & Lucyshyn, 2018). Bernhardt (2019) discovered that even though the intervention was implemented by a trained counselor in the school setting, parents of the participant were also supported by learning about the intervention. To ensure that the

participants are successful with the implementation of the modified CBT intervention, educators and researchers need to ensure that the program is implemented with feasibility, acceptability, and sustainability before training others to implement it further (Kester & Lucyshyn, 2018; Bernhardt, 2019).

Recently, with the COVID-19 pandemic, more education and training have been provided online, which has required specific modifications. When the pandemic occurred, Kalvin et al. (2020) noted that various anxious behaviors for adolescents with ASD increased; however, social anxiety decreased because most social interactions, like school, were occurring online, which allowed adolescents to control the interactions more. Luckily, some past research on internet-based CBT interventions has been conducted and has proven to benefit adolescents with ASD; however, anxiety disorders were not considered as part of those studies (Sehlin, 2021). Modifications to internet-based CBT interventions and counseling support needed to be considered based on current events happening in the world, and anxiety needed to be included in studies supporting adolescents with ASD (Kalvin et al., 2020; Sehlin, 2021). Because in-person education and training had to be altered, so did the way the intervention was presented, which led to many advantages and disadvantages. While adolescents attended the intervention sessions from the comfort of their own homes, educators and counselors were able to encourage a positive rapport and were able to address anxiety in real-life situations and settings (Kalvin et al., 2020). This style of intervention also allowed counselors to provide real-time support to the adolescents, which allowed for the participants to understand and apply the skill to their own environment and understanding

(Sehlin, 2021). On the other hand, all visual and physical aides needed for the intervention had to be converted into images on the screen, which limited interactions and specific conversations between the counselor and the participant (Kalvin et al., 2020). Adolescents with ASD benefit from visual stimulation and support alongside physical manipulation, therefore, understanding some concepts was difficult because the physical aspect was missing (Sehlin, 2021). Future studies on internet-based programs are highly encouraged because more adolescents can benefit from it; however, it is not a perfect solution and will require additional modifications to improve.

To conclude, modified CBT programs are critical to creating an individualized approach in supporting adolescents with ASD and anxiety in the classroom setting. Research has indicated that when modifications to CBT interventions occur, these programs remain feasible, acceptable, and sustainable for participants (Solish et al., 2020). Training to utilize these interventions is important for reliability, but it may not always be possible to train all educators in the classroom (Kester & Lucyshyn, 2018). This field of study has a lot of room to grow as research continues to be conducted in a classroom setting.

Supporting Teachers in the Classroom

Being able to implement modified CBT interventions in the classroom would require collaboration from all individuals involved in the adolescent's life, including caregivers, regular education teachers, special education teachers, school psychologists, school administrators, and clinical psychologists (Lietz, et al., 2018; Simpson et al., 2019). Ileri et al. (2019) further explained that when parents and educators work together to

implement the intervention, adolescents benefit in multiple settings and situations. While current research indicates CBT interventions would be ideal for adolescents with ASD and anxiety in a school setting, most studies are limited in participant size and training for school personnel (Simpson et al., 2019). Implementation of CBT in an educational-based setting has shown to be beneficial to supporting anxious behaviors and the impact on academic ability. Researchers have recommended that further exploration of this topic be a priority.

Educators have reported a rise in anxious behaviors among adolescents with ASD in the classroom setting, and many are feeling unprepared to handle the issues (Olsen, 2018). The frequency of anxiety among adolescents with ASD is a concern for educators as anxious behaviors have a negative impact on academic achievement and intellectual functioning (Lietz et al., 2018). Furthermore, educators have perceived adolescents with ASD to have more difficulties in a school setting due to anxiety, as compared to their typically developing peers (Lietz et al., 2018; Olsen, 2018). While adolescents spend most of their day in an educational setting, it is crucial that educators can solidify learning by decreasing anxious behaviors using modified CBT interventions. Both Lietz et al. (2018) and Olsen (2018) agreed that past research on modified CBT interventions in school settings is useful to review because educators can explore all the benefits and disadvantages of the programs for adolescents. Past research has indicated that CBT interventions in a social setting like school can be highly beneficial for adolescents with ASD and anxiety, however, small population sizes, limited training availability, and limited understanding of anxious behaviors among educators were apparent throughout

the research (Olsen, 2018). Utilizing past research results to encourage future support for educator training for an understanding of ASD, anxiety, and how to implement CBT interventions is important to ensure success in the classroom (Lietz et al., 2018; Olsen, 2018).

Collaboration between trained therapists and educators is key to supporting the adolescents because they can discuss and reinforce learned skills in all school settings (Ileri et al., 2019; Simpson et al., 2019). Adolescents with ASD and anxiety reported that their negative behaviors made school difficult and resulted in poor attendance, poor test scores, and higher anxiety levels (Simpson et al., 2019). Many adolescents attend different classes in different classrooms each day, which can increase anxiety and impact social interactions. Ileri et al. (2019) explained that when trained therapists work with all educators for adolescents, the intervention concepts can be generalized into various social settings and scenarios. Additionally, when parents are also involved in the training and support of the CBT intervention, adolescents can decrease anxiety levels in various settings for longer periods of time (Ileri et al., 2019). Collaboration among all educators, trained therapists, and even parents has proven to be beneficial for the adolescent; therefore, collaboration is highly recommended to be implemented for CBT interventions in a school setting.

In conclusion, while CBT programs support adolescents with ASD and anxiety in a clinical setting, many participants found it difficult to generalize their learning into other social settings (Kester & Lucyshyn, 2018). By training educators and encouraging collaboration among all personnel, adolescents can benefit from additional CBT support

in a school setting (Simpson et al., 2019). Unfortunately, with this topic being new in the educational field, there are limited research studies to examine for future implementation (Lietz et al., 2018). Future studies are encouraged to explore the benefits of a CBT intervention in the classroom; therefore, the following study is being implemented to support special education teachers who work with adolescents with ASD in the middle school and high school setting.

Training for Special Education Teachers

In the United States, special education teachers complete an educational training program where they are highly trained to support students who fall under one of the 13 disability categories in the school setting. Among those categories are students with ASD. Consistent training in these disability categories is crucial to promote student success. Professional development (PD) is the most common form of training for special education teachers to learn how to implement evidence-based interventions and new teaching strategies (Gill, 2021). Other training opportunities to support special education teachers in a hands-on approach involve peer coaching and mentoring, where experienced educators support novice teachers through training, implementation, and feedback (Mrstik et al., 2018). Unfortunately, many special education teachers lack explicit knowledge of ASD characteristics and how to support students with ASD in the classroom setting (Gill, 2021). In this section, PD training, peer coaching, and mentoring are all discussed as options to train special education teachers. The need for more training and support opportunities is presented in the final section.

Professional Development Is Effective for Teaching all Educators

All teachers, both in general education and special education, are encouraged to participate in PD training to improve student achievement by implementing new teaching practices. Additional training for all educators was necessary to reduce achievement gaps, utilize evidence-based practices, and support special education students with the general education curriculum (Gill, 2021). Jackson (2021) further explained that special education teachers are expected to be experts in various topics including specifically designed instruction, explicit instruction, and strategic strategies to close the learning gaps for students. Even with multiple PD opportunities offered throughout a school year, teachers are faced with issues attending due to a lack of time, a lack of interest, or a lack of motivation (Gill, 2021). Jackson (2021) discovered that when special education teachers were able to attend PD sessions, they felt more prepared to implement newly learned interventions, strategies, and skills. While PD has many benefits, there are barriers that often prevent teachers from attending the opportunities. Those barriers include teachers needing permission from the administration to attend, teachers voluntarily participating and receiving no follow-up from administration, and teachers requiring time away from the classroom and needing backup support (Gill, 2021). While barriers are present in all PD opportunities, special education teachers do value the training and do implement newly taught interventions in the classroom.

Because more students with ASD are enrolled in general education and special education courses, more special education teachers require training to provide the right interventions for them. Special education teachers are required to utilize evidence-based

interventions and practices when working with adolescents with ASD; therefore, training and PD sessions are required for expert implementation (Hsiao & Petersen, 2019).

Special education teachers who are ‘highly trained’ in implementing evidence-based interventions showed higher efficacy, more positive attitudes towards teaching, and a better understanding of policies and practices than those with ‘little or no training’ for the specific programs (Horan, 2019). Moreover, only about 60% of special education teachers report being trained directly through PD sessions or courses (Hsiao & Petersen, 2019). This means that 40% of educators are not prepared to execute evidence-based interventions in the classroom for adolescents with ASD. Horan (2019) added that despite the educators’ best efforts to participate in training and to become an expert in specific evidence-based practices, more research on supporting special education teachers is required so all can attend training. Hsiao and Petersen (2019) recommended that further research in this area is crucial to determine appropriate ways to train and support special education teachers working with students with ASD.

In conclusion, in-service PD and training opportunities are crucial for teacher success when working with students diagnosed with ASD. While special education teachers learn about evidence-based practices for all students with disabilities in a teacher training program prior to teaching in the classroom, they still lack the understanding to support the current individual needs of those with ASD (Hsiao & Petersen, 2019).

Providing the opportunity for all educators to attend PD training throughout a given school year will allow more interventions and practices to be implemented for student success. Furthermore, Horan (2019) discovered that more schools can provide PD for

special education teachers and more evidence-based interventions are being taught to teachers. As Gill (2021) pointed out, both general education and special education teachers will benefit from training in special education topics because students with ASD are being included in multiple settings at school. Future recommendations for research entail more special education topics in PD training and more support to allow all educators to attend and implement support for students with ASD.

Peer Coaching and Mentoring as Additional Ways to Train Teachers

Training is critical for all teachers, especially when learning to implement new interventions and teaching strategies. Training can be presented in many ways including PD, peer coaching, and mentoring. Novice and preservice special education teachers are highly encouraged to participate in peer coaching and mentoring programs to improve their ability to implement evidence-based practices in the classroom (Grygas Coole et al., 2018; Schles & Robertson, 2019). Educators experience challenges when working with adolescents with ASD when in the classroom; therefore, training and support need to occur in real-time settings to provide hands-on learning through peer coaching practices (Grygas Coole et al., 2018). Moreover, peer coaching and immediate feedback at the right moment can improve teaching practices and can support students with the right accommodations. Schles and Robertson (2019) reviewed the research on peer coaching and discovered that 19 out of 20 novice special education teachers were able to improve the implementation of evidence-based interventions when peer coaching and immediate feedback were involved in the training. Likewise, the adolescents receiving the intervention support also benefitted from the special education teacher being trained to

support their learning (Schles & Robertson, 2019). Peer coaching has been discussed as a highly supportive way to train new educators in the classroom and should be encouraged to utilize in future studies.

In the state of Utah, a new special education teacher is assigned a mentor teacher for the first three years of their teaching career. This allows special education teachers to learn from others and build their teaching skills to support the diverse needs of students with disabilities. Past research has indicated that peer coaching and mentoring have improved special education teacher skills as well as job satisfaction (Abbasian & Esmalee, 2018). Furthermore, peer coaching and mentoring can be tailored to meet the busy schedule and the teaching location of each educator involved through online sources and training classes (Mrstik et al., 2018). Both Abbasian and Esmalee (2018) and Mrstik et al. (2018) reported that many adolescents had benefitted from the effective teaching approach from their special education teachers. The special education teachers who were working with those adolescents reported that they benefitted from the continued support of their mentoring program from experienced educators (Abbasian & Esmalee, 2018; Mrstik et al., 2018). Upon further investigation, when Mrstik et al. (2018) utilized visual aids and video support in the mentoring program, those educators also used more visual supports for adolescents with ASD. Results from increased visual support improved the outcome of the adolescents' intervention scores (Mrstik et al., 2018). This type of training allowed novice special education teachers to apply their learning in their own time and utilize support as needed. More research around the mentoring topic is encouraged moving forward.

In addition to PD sessions for teacher training, peer coaching and mentoring can provide extra support to novice special education teachers who need to implement evidence-based practices. Research indicated that positive teacher interactions with students in the classroom had a direct impact on student success (Mrstik et al., 2018). This success is indicative of educators learning through peer coaching, mentoring, and PD sessions. Peer coaching and mentoring differ from PD as both allow educators to pair up with colleagues and work together through lessons, observations, discussions, and follow-up support (Schles & Robertson, 2019). While all training requires time and commitment, mentoring can be implemented in various ways, like video recordings, to allow for flexibility to a busy special education teacher's schedule. Future research on peer coaching and mentoring is highly encouraged, even in a university or teacher education program as many novice teachers begin their careers.

The Need for Specific ASD-Based Training for Special Education Teachers

Currently, 1 in 68 adolescents across the United States is diagnosed with a form of ASD (Ehrenreich-May, et al., 2020). Students with ASD often experience other comorbid issues, including depression, anxiety, learning disabilities, and attention-deficit/hyperactive disorder (Lake et al., 2020; Sklar, 2020). Due to these complications, special education teachers are expected to be up to date with their knowledge and understanding on ways to support the individual needs of students with ASD and comorbid complications. Bakar et al. (2020) concluded from previous research that special education teachers need training and more specialized support when teaching students with ASD so each student can find their own strengths and success. Bakar et al.

(2020) learned of a significant difference in the knowledge and skills level of special education teachers who attend training to develop skills encouraged to support adolescents with ASD in the classroom as opposed to those who do not attend training. As special education teachers work with students with ASD, consistent and frequent training to support the growing field is crucial to ensure all teachers and students are successful. Interventions can be implemented in a variety of ways and can be modified to address specific needs; therefore, special education teachers need to be taught how to teach it correctly (Keshav et al., 2018). The need for training in special education settings is crucial for full adolescent success.

When adolescents enter middle school, social functioning and peer relationships are crucial. Bolourian et al. (2019) concluded that special education teachers who work with middle school and high school adolescents with ASD and anxiety require additional training for support required for that age group. While most adolescents with ASD spend their time with same-aged peers, the difference in social functioning can create anxious feelings and behaviors (Bolourian et al., 2019). To handle these varying behaviors, special education teachers would require specialized training and support to ensure the adolescents are able to cope with their behaviors and feelings (Bolourian et al., 2019). Adams et al. (2018) recognized that specialized instruction to educators working with ASD adolescents is essential. After completing a questionnaire, special education teacher participants reported that many adolescents with ASD had high levels of anxiety and required additional support (Adams et al., 2018). Most of the educators requested additional support to help their own students in their classroom (Adams et al., 2018).

Future research in this area is recommended to support special education teachers working with the select population of adolescents with ASD and anxiety.

To sum up, many special education teachers are seeing an increase in students who are diagnosed with ASD within the classroom setting. While special education teachers are required to complete specialized training for their teaching license, many programs lack specific education on supporting students with ASD (Baker et al., 2020). Special education teachers are often trained to support multiple types of disabilities in one setting; therefore, most teachers understand the basic characteristics of ASD but do not have an explicit understanding of the disorder (Gill, 2021). From all three studies discussed, all researchers recommended more PD training, addressing the needs for best practices to support students with ASD in the classroom (Baker et al., 2020; Lake et al., 2020). This action research study being conducted will contribute to the previous research as it seeks to understand training provided to special education teachers when working with students with ASD and anxiety.

Summary and Conclusions

At least 40% of all individuals who have been diagnosed with ASD will also experience comorbid anxious behaviors and symptoms throughout their lives (Walsh et al., 2018). Anxiety among adolescents with ASD can appear differently than typically developing peers and can even become intensified in many social situations. Adolescents aged 12 to 17 spend most of their day in an academic, social environment where anxious behaviors can increase and can cause negative experiences for those involved. CBT interventions that focus on supporting adolescents with ASD and anxiety have vastly

increased in the past two decades and are now considered evidence-based interventions (Ho et al., 2017). Numerous research studies concluded that CBT can be successful in a small, controlled environment with a trained individual providing the intervention (Lake et al., 2020; Syriopoulou-Delli, et al., 2020). Small, controlled settings are ideal for most research studies; however, special education teachers are learning to accommodate adolescents in other settings. Modifications for the CBT interventions are highly recommended to support the individuality of adolescents with ASD and anxiety in any setting, especially in a school setting (Bemmer et al., 2020; Sklar, 2020). Unfortunately, CBT implementation is still considered a new concept in the educational field and many teachers have reported feeling under prepared and under trained to support this specific population (Adams et al., 2019).

All licensed special education teachers are trained in supporting all types of disabilities prior to starting their teaching career. Because of this, special education teachers often have a general understanding of ASD but lack explicit knowledge about the disorder and how to support adolescents with ASD in the classroom setting (Tiwari & John, 2017). As special education teachers progress in their career, PD training and mentoring support is often established and available to enhance teaching skills and implementing evidence-based practices. However, most PD trainings cover general education topics and provide minimal opportunities for special education topics to be discussed (Gill, 2021). With the support of mentoring and peer coaching, novice special education teachers can learn from experienced educators and are able to receive personalized, hands-on support to implement the right strategies. While special education

teachers are doing the best they can with the training they have received, research shows that specific training on ASD support and the best practices for students diagnosed is crucial for success in the classroom (Baker et al., 2020; Tiwari & John, 2017; Wei & Yasin, 2017). In the next chapter, the methods and participants of this action research study are discussed.

Chapter 3: Research Method

Introduction

The purpose of this qualitative action research study was to examine how special education teachers working with adolescents diagnosed with ASD and anxiety describe their ability to implement modified CBT interventions in the classroom. Furthermore, I sought to understand the types of training that special education teachers in the United States are given to support adolescent students with ASD and anxiety. In Chapter 3, I describe the methodology of the study, including the research design and rationale, role of the researcher, data techniques used for qualitative data, trustworthiness, and ethical considerations to consider moving forward.

Research Design and Rationale

By conducting this study, I sought to understand training opportunities for special education teachers working with adolescents with ASD and anxiety. Additionally, I focused on the specific implementation of modified CBT interventions within the classroom for those with ASD and anxiety. The research questions that guided the study were:

RQ1: How do special education teachers describe their ability to implement modified cognitive-behavioral therapy interventions for adolescents with ASD and anxiety in the classroom?

RQ2: What type of training have special education teachers had regarding supporting adolescents with ASD and anxiety in the classroom?

A qualitative action research study methodology was used to answer these questions efficiently. While a phenomenological design study would have been appropriate to describe the lived experiences of special education teachers in the classroom, this design lacks the ability to implement the practices of the study afterward. I also considered a case study design that would have allowed the specific population of 10 special education teachers to share their expertise through in-depth interview questions; however, a case study design would have been time consuming and would not allow for follow-up with participants afterward. Therefore, I used an action research design as the most appropriate option for the research questions and aim of this study.

Teachers often conduct action research studies to improve their own practices in the classroom environment. Sagor and Williams (2017) defined *action research* as any investigation conducted by a researcher who is empowered to act based on the research results to improve future actions. In addition, Sagor and Williams (2017) identified three questions to ask when determining if action research is an appropriate methodology for a study: (a) Is the focus on your professional action? (b) Are you empowered to adjust future actions based on the results? (c) Is improvement possible? If a researcher can answer yes to all those questions, then action research is the methodology that should be used.

Other study methodologies would not have been appropriate for the research questions and the purpose of this study. Quantitative studies are conducted to look at quantitative data and scores. While I considered asking questions and recording answers based on a Likert scale, I wanted the participants to be open with all their answers. I

wanted to learn from their own thoughts and opinions on this topic. A qualitative questionnaire with open-ended questions seemed to be the most appropriate for this study.

I am a former special education teacher with current ties to the special education field. The participants in this study included current special education teachers currently in the classroom working with adolescents diagnosed with ASD who show anxious behaviors in school. The results from this study can be implemented into the field of special education and empower positive change in the future. A qualitative action research study was encouraged for this study as I sought to understand training for special education teachers and the implementation of modified CBT interventions for adolescent students with ASD and anxiety in the classroom.

Role of the Researcher

For this study, the role of the researcher was to be a facilitator while asking open-ended questions in an interview format. I am a former special education teacher communicating with current special education teachers who teach adolescents diagnosed with ASD. As the researcher, I did not have any power over the participants and did not influence the observation results and interview responses in any way. All researcher and participant relationships were professional and remained that way. Participation in this study was strictly voluntary.

Actions were in place to avoid researcher bias and influence over the results of the study. First, I avoided questioning bias by keeping interview questions simple and avoiding leading words and verbiage. I encouraged participants to be open and honest in

all responses. Second, I avoided confirmation bias by evaluating all data results with an open mind and used all responses. Additionally, I was prepared to provide a written transcript from the recorded interview to each participant to ensure meaning if a participant requested. For this study, all participants openly wrote their answers and sent them to a secure email. Finally, I avoided research bias by maintaining confidentiality in the data collection and analysis of participant responses for this study.

Methodology

In the following section, I describe the qualitative methodology used for this current study. I describe participant selection; instrumentation; procedures for recruitment, participant, and data collection; and the data analysis plan.

Participant Selection

Participants for this qualitative research study were special education teachers who currently teach adolescents in the classroom. According to Moser and Korstjens (2018), qualitative research requires researchers to select a sample of participants deliberately, not at random. Furthermore, with purposive sampling, the most common qualitative strategy, participants are selected based on a researcher's judgment about those specific participants and how their insight will be informative for the specific research topic (Moser & Korstjens, 2018). Using purposive sampling in this study, I implemented two criteria to select specific special education teacher participants. First, all participants must be a licensed special education teacher currently working in a middle-school classroom setting. Second, all participants must have been working with adolescents diagnosed with ASD by a medical professional. This documentation was

verified by the participants before conducting the study. I also verified these criteria when gathering participants for the study through a social media outlet.

The purpose of qualitative research is to describe and interpret issues systematically from the point of view of an individual or from a group to generate new ideas and concepts (Mohajan, 2018). Unlike quantitative research, qualitative studies are rooted within social and cultural aspects and seek to conduct a deep understanding of the specific topic (Mohajan, 2018). In this specific study, I selected 10 special education teachers who work with adolescents with ASD in the classroom. To select these 10 special education teachers, I had planned on working with a local school and requesting approval by the administration of that school. Unfortunately, that opportunity fell through, so I recruited participants through social media postings.

Participants were licensed special education teachers who had taught in the special education setting for at least 1 year. By incorporating 10 special education teachers, I discovered in-depth results to the interview questions. Had I used more participants, I do not believe the results would have been as in-depth and well explained. While this population is small, I am confident that each of the participants' insights and opinions deepened the research.

I ensured that all participants' identities are protected, and each participant's interview answers were protected from others outside the study. To do so, I did not use the participants' names in the study, and I did not allow anyone outside the study to review the results. Furthermore, I maintained security by keeping all study documents locked in a password-protected file. I also honored each participant's willingness to

participate in the study. If a special education teacher did choose to withdraw from the study, I would have supported that individual's choice. After receiving approval to work with local special education teachers, 10 participants were contacted and provided a consent form that stated the reasons for the study and expectations for participation and that requested their permission to participate.

Instrumentation

For this qualitative action research study, two data collection instruments were used with each of the 10 special education teacher participants: a semistructured interview questionnaire and a yes/no survey. The questionnaire was given to each teacher, and I planned to gain an understanding of special education teacher training to support working with adolescents who struggle with ASD and anxiety in the classroom. The interview questionnaire (Appendix A) was researcher created based on the literature review conducted and was reviewed by experts in the special education field. Shrotryia and Dhanda (2019) discussed two crucial steps to maintain construct validity with research-made instruments. First, researchers need to identify the content topic, create sample questions, and construct the instrument (Shrotryia & Dhanda, 2019). Moreover, the content topic is created from the research literature and analysis of past studies in this area. I reviewed literature about modified CBT intervention and training offered for special education teachers to create the specific semistructured interview questions. Second, Shrotryia and Dhanda (2019) explained that once the instrument is developed, experts in the field should review it to ensure the content is valid and the instrument is assessing the topic intended. For this study, the interview questionnaire and survey were

reviewed by three content experts in the field of supporting special education teachers when working with students with ASD and anxiety.

To ensure responses from participants were genuine, I originally planned to record each interview and transcribe the results. However, I did not need to do that, as all 10 participants completed their questionnaire in writing and sent the responses to a secure email address. I encouraged participants to review their answers before I conducted the data analysis. The questionnaire and survey used for each participant are in Appendix A. Questions pertaining to CBT interventions and training were included in this interview questionnaire.

Procedures for Recruitment, Participation, and Data Collection

As the researcher, I submitted for consent to Walden University's Institutional Review Board (IRB) and waited for approval. Once approval was gained from the IRB (# 08-26-22-0622566), I posted to social media to recruit participants for my study. My original plan was to work with school administrators to gain access to special education teaching staff; however, that option did not work out as planned. Once I identified 10 special education teachers willing to participate, I sent out written consent forms to each participant through my secure school email address. As participants agreed to the consent, they verified their eligibility for the study by confirming they were licensed teachers and their students had been diagnosed with ASD by a medical professional. Each participant was asked to give approximately 30 minutes of their time for the study by participating in a 30-minute interview. This information was presented to the participants through the consent form. Each participant opted to answer the questions on their own

time and submitted the results back to my secure school email address. No data collection was conducted until I had approval from the IRB and consent from each participant.

After collecting the information from each participant, I offered to address any additional questions or comments participants had. No participants had any follow-up comments or questions. All participant confidentiality was protected, and no real names were used in the study.

Data Analysis Plan

Analyzing qualitative data requires a unique approach, and for this study, I conducted an inductive data analysis approach. With inductive analysis, a researcher identifies and organizes data into important patterns and themes to create a framework that represents the key findings in the study (Mertler, 2020). After each of the semistructured interview results were collected, I began a coding scheme to determine themes and patterns among the responses. I conducted an inductive coding process because I did not predetermine the themes for the data. As Mertler (2020) clarified, researchers who use this type of coding must read and reread the data, describe the main features of the data, and interpret what is being said. While working through the inductive analysis process, a researcher must step back and reflect on what the data are trying to say (Mertler, 2020). While many computer programs can perform coded data analysis, Mertler (2020) encouraged researchers to do their own coding and analysis using computer software as backup. No technology can replace human logic and reasoning (Mertler, 2020). I did not use a computer program in my analysis. For discrepant cases

that did not support the themes created, the original data were reviewed and coded differently.

Trustworthiness

Establishing a valid and reliable qualitative study requires multiple strategies focused on the trustworthiness of the study. Trustworthiness is created by examining the credibility, transferability, dependability, and confirmability of the study (Mertler, 2020). For this action research study, I performed thick descriptions, purposive sampling, triangulation, and reflexivity to ensure trustworthiness. According to Mertler (2020), member checks occur when the researcher asks each participant to review their results to improve accuracy. Member checking was going to be utilized on recorded interview transcripts; however, no participants opted to participate in that option. Because each participant wrote their own responses and sent them to a secure email, member checking did not apply. To ensure the study has transferability, I did conduct thick description and purposive sampling. According to Ponterotto (2006), providing a thick description is beneficial because it provides context of the study, it states the intentions that organize the study, it shows the development of the study, and it presents the study in text so it can be interpreted and duplicated. For this action research study, a thick description was provided. In addition, providing purposive sampling was encouraged as this study applied to all special education teachers who work with adolescents with ASD and anxiety in a school setting. This type of sampling was beneficial over random sampling as it gave a clear picture of the setting for the study.

To determine reliability in a qualitative study, the researcher needs to exercise dependability. To do so, the researcher needs to describe the changes that occur in the setting and how those changes affect the way the researcher approached the study (Mertler, 2020). For this study, I conducted triangulation among the data points by incorporating both the interview questions and the survey questions to learn about each participant and their opinions on the topic. I utilized all data points to ensure the setting and the changes within the educational field were considered. Finally, to ensure there was objectivity within the study, I conducted reflexivity to ensure the confirmability of trustworthiness. Reflexivity requires the researcher to incorporate their own opinions and thoughts into the data collection to ensure there are not biased opinions (Mertler, 2020). Reflexivity also improves public perception. Researchers who are honest and open about their belief systems, underlying biases, and background can better connect with readers. It is a means of validating the study in the eyes of the public. For this study, I incorporated my own thoughts about the study into the data analysis section in the next chapter.

Ethical Procedures

Ethical practices in research studies are crucial, especially when the study involves human beings. To ensure ethical procedures are taking place, Mertler (2020) encouraged the researcher to consider how the participants are treated, how participants will be encouraged to be open and honest in their answers, and how the results will be reported. Prior to the start of the study, I distributed a written consent form to each participant. That form contained the purpose of the study, a description of participation, a

guarantee of confidentiality for the participants, and a statement on the voluntary commitment to the study. Written consent from each participant was obtained before the interview and survey questions are distributed. Participation in this study did not involve testing of any kind. All participants were only involved in answering a semi-structured interview questionnaire and quick survey. No rewards were distributed for participation in the study, however, a small thank you gift was sent after results were received from participants. Any participant that was not willing to commit to the study did not agree to the written consent form and was replaced with another participant who was willing.

Ethical procedures also took place for data collection to ensure confidentiality of the participants. The identity and any personal information pertaining to each participant was kept confidential and was not shared with anyone. The location of this study and where the participants work was also kept confidential as it was not recorded in the data. Because I was a former special education teacher, the participants were not colleagues of mine. Data were collected through writings sent to a secure email address. All data are being stored in a secure location for five years as per university policy. All data were secured on a computer with a password needed to access the data. At an agreed upon time, the data will be destroyed, and confidentiality will remain among participants.

While conducting this study with a small, specific population of special education teachers, the social change impact from this study may be larger than anticipated. First, special education teachers who work with adolescents with ASD can learn from the feedback and opinions of the participants and their ability to participate in training for those students. As mentioned in the literature review, more adolescents with ASD are

being taught in the general and special education settings; therefore, more educators are working with those adolescents daily, and this study can provide support for them. Second, the results from this study can positively impact the way adolescents with ASD and anxiety are being taught with modified interventions. By addressing the way teachers are trained, I hope to learn how to encourage more training across more schools and more educators. Educators are successful when involved in training about how to implement evidence-based interventions for the right adolescent. Finally, by conducting this study, I hope to implement positive social change for research in the field of special education. I hope that other researchers will improve my results and will utilize what is learned from this study in future populations.

Summary

In Chapter 3, I, the researcher described the methodology for this qualitative action research study involving special education teachers who work with adolescents diagnosed with ASD and who deal with anxious behaviors in the classroom. Through a semistructured interview questionnaire and yes/no survey, the participants were able to openly express their thoughts and opinions on receiving training to work with students who are diagnosed with ASD in the classroom. I was able to conduct the interview and survey for each participant. All participants' personal information was kept confidential throughout the process. This study was able to maintain validity and reliability through multiple strategies, including purposive sampling and triangulation. In Chapter 4, the data collection techniques will be presented, and an analysis of the data will be conducted.

Chapter 4: Results

Introduction

The purpose of this qualitative study was to examine how special education teachers working with adolescents (ages 12–17) diagnosed with both ASD and anxiety describe their ability to implement modified CBT in the classroom setting. Two central research questions supported the purpose of this study: How do special education teachers describe their ability to implement modified cognitive behavioral interventions for adolescents with ASD and anxiety in the classroom? What type of training have special education teachers had regarding supporting adolescents with ASD and anxiety in the classroom? In this chapter, I discuss the setting, data analysis, data collection, results, and trustworthiness used throughout this study.

Setting

To collect specific data for the research questions, I conducted purposeful sampling to seek participation from special education teachers only. While I did consider random sampling techniques, the research questions for this study required specific responses from a select population. I conducted outreach for voluntary participation on social media websites. My social media post asked for participation from licensed special education teachers who currently or recently worked with adolescents (ages 12–17) with ASD and anxiety in a classroom setting. I did not collect any demographic information from the participants. I assumed that when participants consented to participate in the study, they acknowledged meeting the posted criteria. Each participant was able to provide responses to the questions on their own time and in their own setting. I did not

provide any additional instructions for the participants and their responses. Because participation was voluntary, participants were not required to answer questions they chose not to answer. To my knowledge, there were no personal or organizational conditions that influenced or affected the participants' responses.

Data Collection

Ten licensed special education teachers provided responses for data collection. For this study, I created an interview with 10 open-ended questions and a survey with 10 yes/no questions. I suggested to each participant that these 20 questions would take approximately 30–45 minutes to complete. I offered participants the option to answer the questions on their own through writing or over the phone with me recording the answers. All participants opted to answer the questions on their own time and in their own setting. The survey and interview were sent out one time to each participant after I gained their consent to participate. There was no restriction on how and where the questions were answered. Each participant wrote out their own responses and submitted them via email.

There was one main difference in participation for this study as opposed to the plan listed in Chapter 3. All participants who volunteered for this study came from different schools and different geographical locations across the United States. My initial expectation was to contact one local special education school and use 10 special education teachers within that single setting. I was unable to gain approval from the specific school, so I used social media to recruit participants. I was able to gain participation from teachers locally and teachers in other geographic areas. This provided diverse responses to my questions and created a clearer understanding of special

education training across the United States. This change introduced diversity in my results rather than having all data collected from participants in one local school.

Data Analysis

To provide a thorough analysis of the data, I had to read and review each participant's response to every interview and survey question multiple times. I analyzed data on the survey results separately from the themes and categories that developed from the interview responses. For the survey, I separated the responses based on participants' answer (*yes* or *no*) Question 1, "Are you implementing a specific intervention to address anxiety in the classroom?" Further analysis of the other questions determined how participants were able to implement the intervention or the lack thereof. For the interview results, I read and reread each response to each question before determining codes, themes, and categories. I was able to determine the following three themes based on the 10 interview questions asked: (a) self-described skills, (b) training opportunities, and (c) collaboration.

Theme 1: Self-Described Skills

The first theme, self-described skills, relates to the first four questions of the interview. These four questions addressed participants' ability to describe their skills, knowledge, and understanding when working with adolescents with ASD and anxiety as well as their ability to implement modified CBT for these students. Among those four questions emerged answers such as "well educated" (P3), "moderate knowledge" (P8), and "continue to learn" (P10). With these statements in mind, I separated out the terms into three categories: (a) high level of knowledge, (b) moderate level of knowledge, and

(c) minimal level of knowledge. Within the category of high level of knowledge, most participants stated their understanding of adolescent behaviors as well as interventions were “above average” (P5), “very knowledgeable and very confident” (P4), and “well educated” (P3). P5 explained, “My abilities to work with adolescents with ASD and anxiety in a classroom setting are fine tuned after many years of learning about positive behavior supports ... I am confident in my ability to implement a cognitive–behavioral intervention.”

Within the category of moderate level of knowledge, participants described their understanding and skills as “moderate amount of knowledge” (P8), “some practical experience” and “pretty good” (P7). P8 began the interview questions by stating they had “a moderate amount of knowledge” of adolescent behavior in the classroom setting. However, when asked about working with adolescents with ASD and anxiety and using CBT in the classroom, P8 wrote, “I feel proficient/somewhat advanced knowledge of working with my students in my classroom. ... I have advanced knowledge and understanding of cognitive–behavioral interventions in the classroom setting.” When asked about describing personal knowledge and understanding of adolescent behavior in the classroom, P7 stated, “I have some practical experience, but not a lot of theoretical knowledge. Most of what I know about ASD and anxiety comes from personal experience or my experiences working with the kids in the classroom.” P7 also described their understanding of CBT in the classroom as “mostly practical, again.”

Finally, within the third category of minimal level of knowledge, participants described their understanding and skills as “minimal training” (P10), “emerging” (P9),

and “limited” (P10). P9 elaborated, “I understand the basics, but there is always more to learn.” P10 stated they had “minimal training” and “could learn more.” In reference to using a CBT intervention, P10 explained, “I continue to learn as I go.” Of 10 participants, only two were in the minimal level of knowledge category, and their answers were narrow in explanation. Having these statements provided diversity to the study results overall.

Theme 2: Training Opportunities

The second theme, training opportunities, addressed Questions 5–8 and Question 10 of the interview. These five questions asked participants to address training provided to them to work specifically with adolescents with ASD and anxiety, the types of training they have participated in recently, and what topics the participants recommend for potential future training. Of the specific interview questions, four categories emerged: (a) whether participants have completed specific ASD and anxiety training; (b) whether recent training has been provided by the participant themselves, by their administration, or both; (c) the types and topics of trainings conducted recently; and (d) the potential future trainings participants recommend.

I asked participants if they have participated in specific training to work with adolescents with ASD and anxiety. Participants were able to answer *yes* or *no* and were asked to explain that answer. P4 stated they have received “Certified Autism Training and ... training at school for dealing with anxiety.” P5 explained in detail their training experience for adolescents with ASD and anxiety:

The extensive training I got from some of the educational leaders who support the ASD community made a big impact on the way I teach and how I train others as an administrator. I even got to spend several days with Temple Grandin fine tuning some of our life skills and work release programs.

On the other hand, P9 explained, “I’m working on my master’s degree to get certified in SPED teaching but have not received specific training beyond just what the classifications look like.” Likewise, P7 wrote, “I’ve had basic training in the types of disorders I’d be working with and their various triggers, but I haven’t had training on how to teach around those.” The responses in this area were split.

Next, I asked participants if the training they have participated in within the past 12 months was provided by their administration, provided by themselves outside their work setting, or both. P6 explained, “I have required professional learning for my teaching job as well as having started working on an advanced degree.” Additionally, P8 clarified, “Some of my training was prompted by the students in my classroom (their needs). Another training was chosen based on new special education leadership in our district.” On the other hand, some participants only attended training provided by their administration. P7 described,

My school hires out training to a firm. That firm does one-on-one coaching with teachers, as well as teaches us in a broad group. Their main focus is on implementing behavior management and intervention strategies from a classroom to a school level.

No participants stated that they only attended training conducted on their own.

Administration-provided training was discussed in each answer, while most participants added that they participated in both options.

Next, I asked about the types and topics of training that each participant has completed within the past 12 months. P1 clarified they have participated in “in-person, live online, and asynchronous online training” within the past 12 months. P6 explained, “For my district we did a book study and Stanford by Jo Boaler regarding math mindsets.” While some participants have received specific training for their role, most participants stated that they have participated in the Special Education Law Conference and training courses focused on specific special education topics. Besides the law conference, both P1 and P10 stated they have also participated in Positive Behavior Interventions and Supports Tier 3 training, MANDT de-escalation and crisis cycle training, and classroom management training. P2 and P4 were able to participate in positive behavior supports training. All topics for the participants were for special education teachers, but not all addressed specific support for ASD and anxiety in the classroom.

Finally, participants were asked to recommend the topics of training they would like to see conducted in the future to better support their teaching practices with adolescents with ASD and anxiety in the classroom. While the participants listed various topic suggestions, most included the idea of having all teachers, general and special education, participate in specific training topics for students with ASD and anxiety. P2 explained, “I would love to see more trainings for all teachers on autism and anxiety.

New ideas are popping up all the time and at times we aren't informed until a couple months or years later!" In addition, P5 stated,

I think most teachers, GenEd and SpEd, have difficulty with behavior modification. I think it is important for all trained educators to understand the arc of behavior and the researched ways to positively support students showing negative, violent, or off task behaviors. This isn't only good for students with ASD but for all students with behaviors.

P3 elaborated, "I would also like to see general education teachers trained on ASD. Most have no idea what it might look like in students." The various responses clearly indicated that special education teachers want more support in working with adolescents with ASD and anxiety, but they do not want to be the only ones who receive the training. All teachers need to participate in training for adolescents with ASD within the classroom.

Theme 3: Collaboration

The third theme, collaboration, was addressed in Question 9 in the interview. I asked participants whether they collaborate, who they collaborate with, and how often they collaborate. While every participant stated they do collaborate with others when working with adolescents with ASD and anxiety, their responses on how often and who they meet with differed. Participants stated they are collaborating anywhere from daily to weekly and monthly, and some participants indicated that collaboration occurred informally. Multiple participants explained they collaborate with general education teachers, administrators, and parents., P8 clarified that they "collaborate with our general education teachers, [occupational therapist], and [speech-language pathologist], as well as

parents. If a student has additional support through behavioral health and parents give permission, I will work with them as well.” P2 stated, “I do this almost daily. I collaborate with the general education teachers, paraprofessionals, administration, and parents.” Even though all participants made it clear that collaboration is important and occurs at various times, there were some open concerns as well. P9 explained, “Collaboration is awesome when you have a great team. But, when everyone else is treading water, it is hard to find time to actually do it.” All participants expressed that collaboration is necessary for student success, and they are all looking for ways to incorporate it into the daily, weekly, or monthly schedule.

Discrepant Case

The only discrepant data that occurred within this study was one response to the survey questions. The first question of the survey asked, “Are you implementing a specific intervention to address anxiety in the classroom?” P1 responded in writing “No – we aren’t implementing a specific strategy for anxiety itself, but we are using the Skillstreaming intervention curriculum to address and teach coping skills.” After this explanation, the participant was able to answer yes to all remaining questions within the survey based on the specific intervention listed in Question 1. P1 explained that while this intervention may not address anxiety specifically, it supports coping skills for their students. With that in mind, I decided to include it in the data results as *yes*, an intervention is being implemented to support students with ASD and anxiety.

Results

To review, the central research questions for this study are written as follows: (1) how do special education teachers describe their ability to implement modified cognitive behavioral interventions for adolescents with ASD and anxiety in the classroom? and (2) what type of training have special education teachers had regarding supporting adolescents with ASD and anxiety in the classroom? After analyzing the data, I believe that these two questions were answered based on the first two themes, self-describing skills and training opportunities. The third theme, collaboration, was included within the interview because of the importance explained by the literature results from Chapter 2. To represent the data, I have decided to address the research questions within the three themes previously described.

Theme 1: Self-Described Skills

The first four questions of the interview were written based on the first research question of this study: how do special education teachers describe their ability to implement modified cognitive behavioral interventions for adolescents with ASD and anxiety in the classroom? Based on the participants' responses, the data was divided into three categories (or levels) of knowledge when working with adolescents with ASD and anxiety as well as utilizing CBT interventions in the classroom. Of the 10 participants, six (60%) participants displayed a high level of knowledge in those topics. Two participants (20%) exhibited a moderate level of knowledge, and two participants (20%) revealed a minimal level of knowledge in those topic areas.

Within the high level of knowledge category, the six participants displayed their results through statements like “well educated” (P3), “very confident” (P1), and “above average” (P5). P1 self-disclosed that they themselves are diagnosed with ASD and know firsthand how to work with adolescents with ASD and anxiety in the classroom. P1 stated, “I am Autistic, as is my daughter, and so I’ve had a personal interest in implementing neurodivergent-affirming teaching practices in my classroom.” With personal experience, this participant stated they were “fairly confident” working with adolescents with ASD. Moreover, P2 expanded on their ability to implement CBI for adolescents by stating “I am able to implement these strategies daily with my students when needed.” Additionally, P4 explained “I feel comfortable implementing CBI because I currently do so.” With these results, the six participants in this category made it clear that they can work with adolescents with ASD and anxiety in the classroom.

Within the moderate level and the minimal level of knowledge categories, participants were restricted when describing their ability to work with adolescents with ASD and anxiety, including implementing CBT interventions. Phrases like “emerging effective”, “limited”, and “open-minded” were used to clarify these categories. P7 expressed their moderate level of knowledge and ability to work with adolescents with ASD and anxiety in the classroom,

I understand sensory processing issues so I can mitigate those issues fairly readily. Emotional dysregulation is a bit harder, but then again, it is for the child as well. My greatest struggle right now is appropriately applying the curriculum I have in a way that is accessible to a greater variety of learners.

Additionally, P10 labelled themselves as having a minimal level of knowledge by explaining, “I have minimal training. I have read about ASD and seen a few videos. Anxiety gets sent to a school counselor and ASD students are high functioning if they are in math class.” Nonetheless, all four participants in these two categories share similar responses: they are all willing to learn. P9 stated “I understand the basics, but there is always more to learn.” Likewise, P8 wrote “I am open-minded to all sorts of training/professional development that will encourage/increase success for my students.” Being willing to learn to improve the success of adolescents with ASD and anxiety is a big step in improving as a special education teacher.

Consequently, the survey responses shared similar results to this theme of self-described skills. Of the 10 participants, six (60%) participants were implementing a specific intervention to address anxiety in the classroom. On the other hand, two (20%) participants were not implementing a specific intervention, and two (20%) participants chose not to participate in the survey questions at all. Of the six participants who answered ‘yes’ to implementing the intervention, they also answered ‘yes’ to 80% of the remaining survey questions. All six participants who said they implemented an intervention also fall under the high level of knowledge category explained above. Of the two participants who answered ‘no’ to implementing the intervention, they also answered ‘no’ to at least 50% of the remaining survey questions. One of the participants who responded ‘no’ was considered to have a moderate level of knowledge, and the other participant who responded ‘no’ was considered to have minimal level of knowledge. Conversely, P6 chose not to complete the survey questions, yet they had implied that they

had a higher level of knowledge. However, P9, who also chose not to complete the survey, indicated that they had a minimal level of knowledge. I cannot assume anything with those two participants choosing not to complete the survey questions as all participation was voluntary. Participants were not required to answer all questions if they chose not to do so.

Between the first four interview questions and all the survey questions, participants were able to clearly describe their abilities to work with adolescents with ASD and anxiety, as well as their abilities to implement a CBT intervention in the classroom. Based on the data analysis and the categories that emerged, these results were diverse. Most (60%) of the participants appeared to be confident and knowledgeable in these two areas. The other participants (40%) were less knowledgeable but were more willing to learn and grow to support adolescent success. As mentioned above, these results came from participants all over the United States, therefore, we can conclude that there is diversity in special education teachers' ability to work with adolescents with ASD and anxiety in the classroom.

Theme 2: Training Opportunities

The second research question of this study was written as follows: what type of training have special education teachers had regarding supporting adolescents with ASD and anxiety in the classroom? This question can be answered based on the results from questions five through eight in the interview. Within this section, I asked each participant if they have received training to work with adolescents with ASD and anxiety, then asked them to explain the answer. Of the 10 participants who answered the question, 5 (50%)

participants had received specific training, and 5 (50%) participants had not received specific training to work with adolescents with ASD and anxiety. P1 was trained in specific ASD and anxiety support; however, they believed that support for this adolescent population required more than just the topic of anxiety. They explained,

I think it's important, but I think the most important training that needs to happen is how to make classroom setting smore accessible for all neurotypes. This won't "fix" anxiety, but it will decrease the number of triggers a student may face in a given day due to sensory/routine/masking reasons. Because Autism is a social disability, we can mitigate some of its impact by changing the environment students have to be in so it's more accessible to them.

Alternatively, for those five participants who have not received training to work with adolescents with ASD and anxiety, all (100%) explained that training is important and should be offered to all special education teachers. P8 did not have specific training but did describe that, "Many of my students with ASD also have anxiety. Understanding strategies to decrease their anxiety and increase their comfort in the classroom/throughout their day results in greater opportunities for academic/behavioral success." While these results were split, participants in this study expressed that training in ASD and anxiety is important for special education teachers to complete so they can support the adolescents in their classrooms.

As a former educator, I am aware that educators are often required to participate in training provided by the administration each year. Educators are also encouraged to participate in training on their own, to better understand their role and skillset. I asked

each participant if they had participated in training only provided by their administrator, only provided on their own, or provided by both them and their administrator simultaneously. Out of the 10 participants, three (30%) participants had participated in training only provided by their administrator, whereas the other seven (70%) participants reported that they participated in training provided by both them and their administration. While most of the participants' responses are short and straightforward, P8 described that they participated in both options of training. P8 wrote "Some of my training was prompted by the students in my classroom (their needs). Another training was chosen based on new special education leadership in our district." All ten participants reported participating in some type of training, whether provided for them or by them outside of their work setting.

Two of the 10 interview questions asked participants to explain the types of training and the topics they have completed within the past 12 months. Only P3 answered that they had not participated in any training in the past 12 months. The other nine participants provided various answers to the questions about the types and topics of training. Those nine participants explained that they had completed various special education topics through online training, in-person training, and asynchronous training options. P7 explained that they have completed "specialized education basic training regarding classroom management, IEPs, 504s, and other SPED items like creating functional goals for the students." When asked about potential future topics, most (80%) participants recommended training be provided to all teachers and general education teachers specifically. As P3 wrote "I would also like to see general education teachers

trained on ASD. Most have no idea what it might look like in students.” All the participants expressed the importance of providing training opportunities for all educators through their answers to the interview questions.

Theme 3: Collaboration

One question in the interview addressed collaboration among educators. This question was added because of the importance of collaboration expressed in the literature within Chapter 2 of this study. More analysis of the literature and this theme will be addressed in the next chapter. For question nine in the interview, addressing collaboration, required multiple responses from the participants. According to the responses, all 10 (100%) participants answered yes to the question, do you collaborate with others when working with adolescents with ASD and anxiety in the classroom? Six of the ten participants (60%) specifically stated that they collaborate with general education and special education teachers who work with the specific adolescent(s). Likewise, two (20%) participants wrote that they also collaborate with parents and administrators. P2 explained “I do this almost daily. I collaborate with general education teachers, paraprofessionals, administration, and parents.” Two (20%) participants expressed their collaboration meetings with individuals like an “instructional coach”, “OT, and SLP” as well. With all ten participants answering yes to collaborating with other individuals indicates that this skillset is crucial for adolescent success in the classroom setting.

While all participants provided various responses to each interview question, two participants chose not to complete the ten survey questions. As a researcher, I cannot

speculate why two participants chose not to complete those questions. Without two responses to the survey, I would state that the potential missing data lead to discrepancies in the survey data analysis. However, all ten participants answered all ten interview questions thoroughly. With the results of the interview questions, I was able to effectively answer the two research questions in this study. I believe all the data has been thoroughly represented in this study, and the participants' opinions were represented to the best of my ability.

Evidence of Trustworthiness

Trustworthiness within a study is created by examining the credibility, transferability, dependability, and confirmability in all components (Mertler, 2020). Establishing trustworthiness through a valid and reliable qualitative study requires multiple strategies. As mentioned in Chapter 3, the strategies that I planned to perform were member checks, thick descriptions, purposive sampling, triangulation, and reflexivity to ensure trustworthiness. Some of those strategies changed and others were implemented with pure intentions.

Credibility

As mentioned in Chapter 3, I had planned to conduct recorded interviews with each participant, then type up a transcript with each response for the participant to review afterwards. I planned to provide member checking to ensure that each response I reviewed was interpreted as it was meant to be. This changed when each participant requested to complete the interview and survey questions on their own, then submit their responses in writing via email. The participants were not required to respond

immediately, as I wanted to allow them the time that they needed to complete both the interview and survey questions. I did offer my support to answer any questions the participant might have with the interview and survey. No participants required additional support from me. Rather than asking participants to review their written responses, I ensured that the interview responses lined up with the survey questions through triangulation. Unfortunately, because two of the participants did not respond to the survey questions, I was only able to compare responses to eight of the participants. As the researcher, I can assume that all answers are authentic and answered to the best of each participant's ability.

Transferability

To ensure transferability was conducted in this study, I conducted purposeful sampling for specific participation, and thick descriptions of the responses produced by each participant. For this qualitative study, I wanted specific participation from licensed special education teachers who work with adolescents with ASD and anxiety in the classroom. Responses from these participants provided more insight to the research questions rather than responses provided by random sampling. By utilizing purposeful sampling through social media, I was able to gather more diverse responses to support the research questions in this study rather than utilizing responses from one central location. Those diverse responses allowed me to apply a thick description of the skillset of special education teachers working with adolescents with ASD, as well as the types of training provided to those teachers. I attempted to portray the thoughts and feelings of each participant by utilizing their words and writings within the data analysis and results

section of this chapter. If this study were to be replicated, I believe the results from other special education teachers will provide more information in their teaching practices and training opportunities through similar questioning styles and approaches.

Dependability

Prior to conducting this study, I had anticipated that I would be observing teachers in the classroom setting. I would then utilize the interview responses and the observation data to conduct triangulation among all data points. Ultimately, I changed my approach by cancelling the observations and adding in the survey questions instead. As previously mentioned, I was able to compare eight responses from participants who completed both the interview and survey questions. I was able to utilize triangulation on both the interview responses and survey responses. By doing so, I learned that special education teachers who felt their abilities to work with adolescents with ASD and anxiety were high, they were able to effectively implement CBI support in the classroom. Only when participants indicated that they were still learning how to work with adolescents with ASD, did they struggle to implement CBI. Even though my approach to collecting data changed, I believe I was able to get similar results through the eight survey responses.

Confirmability

As previously stated, I used to be a licensed special education teacher in the classroom. The topic for this study came from my own practices, beliefs, and knowledge when I actively taught in special education settings. Because of my training as a special education teacher, I was able to conduct reflexivity throughout the study and within the results of the interview and survey questions. My past teaching experiences allowed me

to understand each participant's unique response to the interview questions. Some participants utilized specific special education acronyms within their responses, and I easily understood what was being discussed. My former experiences assisted me in writing the interview and survey questions so that special education teachers understood the context of each question. I believe my teaching experience has allowed me to thoroughly understand and analyze the data so I can make an educated conclusion on the results of this study.

Summary

Within the first theme, self-described skills, special education teachers working with adolescents with ASD and anxiety were able to describe their ability to implement CBI in the classroom as a high level, a moderate level, or a minimal level of knowledge overall. Answers to the survey questions about implementation of CBT also reinforced the three levels of knowledge to support adolescents with ASD and anxiety. Most (60%) participants explained their high level of knowledge when working with their specific population in the classroom setting. Furthermore, with theme two, training opportunities, participants were able to describe the types of training they have experienced, both with ASD and anxiety support and with other special educational topics. Nine (90%) participants were recently able to attend various training courses to better their skillset as special education teachers, whereas five (50%) of those participants were able to attend training specific to ASD and anxiety support. The need for training in this area is constant and all participants in this study expressed their thoughts on future training topics. Eight (80%) participants specifically stated that all teachers should be trained in the future to

support adolescents with ASD and anxiety in the classroom. Through the results of this study, special education teachers described their abilities and the training they have been involved in to feel prepared to work with adolescents with ASD and anxiety. In the next, and final chapter, I discuss the final aspects of this study, including the interpretation of the findings, the limitations of the study, recommendations, and implications for social change.

Chapter 5: Discussion, Conclusions, and Recommendations

Introduction

For adolescents with ASD, a school environment can pose various cognitive, social, and behavioral challenges, which, in turn, can cause multiple negative anxious behaviors (Lietz et al., 2018). Special education teachers are doing their best to support adolescents with ASD and anxiety in the classroom; however, not all have the training they require to provide the right support. The purpose of this qualitative study was to examine how special education teachers describe their knowledge to work with adolescents with ASD and anxiety in the classroom and the training opportunities they are provided to do so. In creating this qualitative study, I used open-ended interview questions and yes/no survey questions to gain perspectives from 10 special education teachers. Data from the interview and survey questions were analyzed, and three themes emerged: (a) self-described skills, (b) training opportunities, and (c) collaboration. Within each of those themes, special education teachers openly described their level of knowledge working with adolescents with ASD and anxiety and the training opportunities that have been provided in support. In this chapter, I use the data to describe the interpretation of the findings, limitations of the study, recommendations, and implications for positive social change.

Interpretation of the Findings

The three themes to emerge from the results of the interview and survey questions were (a) self-described skills, (b) training opportunities, and (c) collaboration. This section will include an in-depth analysis of each theme based on the results and the

literature explained in Chapter 2. Following the three themes, I will discuss how the conceptual framework of social learning theory in the classroom was exposed through the implementation of CBT interventions for adolescents with ASD and anxiety.

Theme 1: Self-Described Skills

According to Adams et al. (2019) and Kim et al. (2020), general education and special education teachers reported an increase in adolescents with ASD exhibiting more anxious behaviors in the classroom, negatively impacting their learning. Furthermore, adolescents who attend mainstream school settings have shown significantly higher levels of anxious behaviors than children who are younger (Adams et al., 2019). In the interview questions, I wanted to know how special education teachers would describe their skills working with adolescents with ASD and anxiety, and their skills implementing CBI for those adolescents in the classroom setting. Lietz et al. (2018) explained that interventions specifically used to address anxiety for adolescents with ASD should be implemented in the classroom setting to provide a successful learning environment. Multiple participants in my study expressed their knowledge on implementing interventions within the classroom setting. P2 explained, “My students know that my classroom is a calming pace and will come in to wind down or use the strategies they have been taught to get back into the green zone.” Additionally, P10 stated, “I have done well with students with anxiety. I am able to make my classroom a safe space.” Likewise, P4 wrote, “I am very knowledgeable about [cognitive-behavioral intervention] in the classroom setting and use it daily to have students figure out the cause of their behaviors.” According to the survey results, six (60%) participants are

implementing CBT interventions in the classroom this school year. As the literature stated and participants reiterated, CBT interventions in the classroom setting are important and can be used for adolescents with ASD and anxiety.

In a section of the literature review in Chapter 2, I included many researchers who have discussed that CBT interventions are often conducted in a controlled, clinical setting rather than in a classroom. Both Lake et al. (2020) and Perihan et al. (2021) concluded that CBT interventions are often implemented through controlled environments, strict inclusion and exclusion criteria for participants, fixed implementation dates, and trained clinicians to implement the intervention. Additionally, only minimal studies have been conducted that focus on CBT interventions in less controlled, more real-world environments like school and community settings (Lake et al., 2020). However, Solish et al. (2020) learned that implementations within both clinical settings and less controlled settings have equal results in that participants show significant improvements in anxious behaviors. Within the results of my study, P1 explained, “I have done training in trauma-informed teaching and have a bachelor’s degree in social work, and I worked at a counselling center for about 6 months while finishing my degree.” When I asked about CBT interventions in a classroom setting, P1 stated,

I haven’t implemented them in a classroom setting before, but I have in a more clinical setting with supervision. ... if given the materials and appropriate training, I would feel fairly confident transferring my clinical experience into a classroom setting.

When conducting the literature review, I was concerned that minimal special education teachers were unable to implement CBT interventions in a classroom setting; however, the results from the 10 participants showed that 60% of those special education teachers can do so with a high level of knowledge and confidence.

Theme 2: Training Opportunities

Jackson (2021) explained that special education teachers are expected to be experts in various topics, including specifically designed instruction, interventions, and strategies to close the learning gaps for adolescents with disabilities. With a rise in diagnoses of ASD in adolescents, Bakar et al. (2020) and Bolourian et al. (2019) both added that special education teachers need training and specialized support for ASD to create a successful learning environment. However, Gill (2021) worried that many special education teachers lack explicit knowledge of ASD and how to support adolescents with ASD in a classroom setting. In the interview, I asked participants if they have received training specifically for adolescents with ASD and anxiety. Five (50%) participants answered that they had specific training to work with this exact adolescent population, while the other five (50%) participants stated they had not received specific training.

P2 explained, “We have yearly training in this area as part of our pre-service training. Then throughout the year the counselor comes in and teaches strategies to the students and teachers based on our SEL curriculum.” P8 and P9, on the other hand, answered that they had not received specific ASD training. P8 wrote, “I do think it is important. Many of my students with ASD also have anxiety. Understanding strategies to

decrease their anxiety and increase their comfort in the classroom/throughout their day results in greater opportunities for academic/behavioral success.” Additionally, P9 reiterated, “It is very important, it is really hard to know how to help a student who is jumping off tables and does not respond to typical SLD prompts.” While half of the participants were able to receive and discuss their specific training for ASD and anxiety in the classroom, the other half echoed the importance of having the support to create a successful learning environment for students.

Within the interview questionnaire, I asked participants to explain the types and topics of training they attended within the past 12 months. Only one participant stated that they had not participated in any training in the past 12 months. All other nine participants described attending various PD as well as statewide conferences, administration-led training, and individual training in specific content areas. According to Jackson (2021), special education teachers who attend PD sessions report feeling more prepared to implement new interventions, strategies, and teaching skills in the classroom. Nonetheless, Gill (2021) discovered that, despite being offered various training topics and opportunities, educators experience issues attending PD opportunities due to a lack of time, lack of interest, or a lack of motivation. Hsiao and Petersen (2019) found that only about 60% of special education teachers report being trained directly through PD sessions and courses. However, in my study, three (30%) participants only attended administration-required training, whereas seven (70%) participants engaged in both administration-required training and training on their own outside of their work setting. P5 explained, “Generally I am providing in house training. I like to learn from others

outside of [this state] to see what other states are doing to support adolescents with ASD.” Even though nine (90%) participants stated they had attended training within the past 12 months, all participants explained they had attended some type of training from their administration and on their own to improve their teaching practices with adolescents. With these results, I can conclude that special education teachers recognize the value of training to work with adolescents with ASD and anxiety in the classroom.

Theme 3: Collaboration

For participation in this study, special education teachers had to work with adolescents ranging from 12 to 17 years of age. That means these educators work in middle school and high school settings, so each adolescent has multiple teachers to work with throughout every school day. Throughout each topic in the literature review in Chapter 2, collaboration was continuously emphasized as being crucial for each adolescent’s success. Delli et al. (2018) reiterated that collaboration and consistent involvement between special education teachers, administrators, therapists, general education teachers, and parents are crucial to creating a successful learning environment for adolescents. When specific interventions and strategies are being taught and developed in one classroom, it is important that all adults involved with the adolescent learn how to implement those interventions accurately in other classroom settings. Kester and Lucyshyn (2018) explained that training and collaboration among all adults who are using the specific intervention are critical to ensure that the program is implemented with feasibility, acceptability, and sustainability. A few studies mentioned in Chapter 2 included parents when teaching and implementing an intervention for adolescents with

ASD and anxiety in the classroom. Bernhardt (2019) discovered that even though the intervention was implemented by a trained counselor in the school setting, the parents of the adolescent were also supported by learning about the intervention. This led to implementing the strategies learned in other settings outside of school and provided benefits to both the adolescent and their family (Bernhardt, 2019). Due to the importance of collaboration among the literature, I chose to include the topic in one of my interview questions to the participants.

Question nine in the interview addressed collaboration and required multiple responses from each participant. I asked participants if they collaborate with others when working with adolescents with ASD and anxiety. Depending on the response, I then asked them to explain their answer. All 10 (100%) participants stated that they do collaborate with others involved in the success of the adolescent with ASD and anxiety. Participants expressed that they collaborate with others “almost daily”, “weekly”, and “monthly”. Six (60%) participants specifically stated that they collaborate with general education teachers and special education teachers within the school setting. Other responses included collaboration with parents, administration, paraeducators, “instructional coach”, and “partner teacher”. P10 expressed the importance of collaboration by stating, “... I work well with the counselor to help students with anxiety attend their classes. For ASD, I usually seek advice from previous teachers on what works for the individual student. I also reach out to parents.” P8 was more specific in who they collaborate with for adolescent success. They wrote “I collaborate with our general education teachers, OT, and SLP as well as parents. If a student has additional

support through behavioral health and parents give permission, I work with them too.”

While P9 answered that they do collaborate with others, they shared their thoughts on the topic. They expressed that “collaboration is awesome when you have a great team. But, when everyone else is treading water, it is hard to find time to actually do it.” Of course, there are always going to be restraints on providing successful collaboration, however, based on the literature review and the responses from the participants, I have concluded that collaboration is crucial for adolescent success. When everyone involved in the adolescent’s life can implement the right strategies and interventions, the adolescent will be more successful in managing their anxious behaviors in various settings.

Within the Chapter 2 theme, training for special education teachers, I learned that peer coaching and mentoring are common ways to provide support to special education teachers working with adolescents with ASD. As Grygas Coole et al. (2018) explained, special education teachers experience daily challenges working with adolescents with ASD in the classroom; therefore, training needs to happen in real-time and within that classroom setting to provide the right support. Additionally, peer coaching and mentoring can be tailored to meet the needs of busy special education teachers within their own classroom settings rather than training outside of their work (Mrstik et al., 2018). While I do believe that peer coaching and mentoring is critical for teacher success in the classroom, I did not ask about it specifically in the interview questions. However, two participants specifically mentioned that they collaborate with their “mentor” or “instructional coach”. Both participants explained that they utilize collaboration with their peer coaches to improve their teaching practices. P1 wrote “I have an instructional

coach I collaborate with, though I am the one doing the actual teaching and implementation. We meet monthly.” Likewise, P9 expressed “If I need help, I ask for it. I collaborate with my mentor at least weekly, but rarely about student programming needs.” To support the literature about peer coaching and mentoring, these two participants find it important to work with a mentor or instructional coach on teaching practices to ensure all adolescents are receiving support. I chose to include this data in this section as the statements were written in the collaboration question of the interview. Again, I agree that collaboration with others is critical to the success of adolescents with ASD and anxiety in the classroom.

Conceptual Framework of Social Learning Theory in the Results

As mentioned in Chapter 2, social learning theory was described as the conceptual framework for this study. Bandura (1971) explained that social learning theory focuses on the concept that cognition, behavior, and the environment all impact each other. Furthermore, Morse et al. (2019) clarified that the three core concepts of social learning theory state that a) individuals can learn through observation, b) individuals’ internal mental states are an essential part of the process, and c) specific behaviors can be influenced in specific environments. When planning this study, I originally wanted to observe special education teachers implementing the CBT interventions in the classroom for the adolescents with ASD and anxiety. I wanted to see the interactions of the educator, the adolescent, and the classroom environment working together. However, I had to adjust my study and that included asking participants to complete 10 survey questions about the intervention rather than allowing me to observe the intervention live.

Most participants answered yes that they implement a CBT intervention and can support adolescents with ASD and anxiety in the classroom.

Of the 10 participants, two chose not to complete the survey at all, therefore, data on this section will include the eight responses that I do have. Six (75%) participants are currently implementing a specific intervention to address anxiety in the classroom for adolescents with ASD. Two (25%) participants are not implementing an intervention, but they both indicate that they implement various strategies for adolescent support. The 10 questions in this survey were developed based on research on components of CBT intervention. The yes/no questions asked participants if they address negative thoughts and behaviors, if they have a strong, trusting relationship with their students, if they collaborate with others on behalf of the student, and if they work with the student to establish goals to improve anxious behaviors. These questions imply that the adolescents involved have the internal mental capacity to work with the special education teacher to improve behaviors. Also, these interventions are currently being conducted in the classroom environment. By indicating that special education teachers collaborate with others, they can implement strategies and support in various environments. While I was not able to personally observe the intervention being executed in the classroom environment, I do believe that most (75%) participants applied the social learning theory components when implementing the intervention based on their affirmative responses to each question in the survey.

Limitations of the Study

As mentioned in Chapter 1, two potential limitations to qualitative studies are maintaining appropriate validity and reliability. Results from this study were gathered from 10 special education teacher participants through open-ended interview questions and yes/no survey questions. All participants received the same instructions on what to do and received the same interview and survey questions to answer. Even though each participant provided various answers to each question, I was able to compile and compare the results among three common themes. I was able to avoid any researcher bias as I did not directly interact with the participants. I utilized social media to recruit for my study, then received written consent from the voluntary participants through email. I then offered two options for the participants, a) to meet with the participant over the phone to conduct the interview and survey questions, or b) allow participants to write out their own responses and submit via email. Each participant opted to answer all questions on their own time, in their own setting, and in their own writing. Participants were told they did not have to answer all questions if they chose not to. Other than those instructions, I left everything open for each participant to interpret the question in their own way. This allowed for honest, open responses. I also saved all documents involved in this study through an audit trail. I followed all steps outlined by Walden University's IRB to maintain reliability and validity in this study. While these results do not represent all special education teachers working with adolescents with ASD and anxiety in the classroom, I do believe I was able to gather enough data to show common themes. When I recruited on social media, I know I included participant data from various geographic

locations across the United States, rather than just one main location. This diversity allowed the results to answer the research question thoroughly. I believe if this study was replicated, we would even more details about special education teachers working with adolescents with ASD and anxiety.

Recommendations

There is a need for continued research to support special education teachers who work with adolescents with ASD and anxiety in the classroom. According to Ehrenreich-May et al. (2020) 1 in 68 adolescents in the United States are currently diagnosed with ASD. Based on the research discussed in Chapter 2, more adolescents with ASD are exhibiting negative anxious behaviors within the classroom setting. With results from 10 special education teachers, it was clear that training for all educators to support adolescents with ASD and anxiety is crucial, yet training resources and topics are limited. Through the literature review and the results of the interview questions, special education teachers can gain a higher level of knowledge to work with adolescents with ASD and anxiety. Participants explained they were able to implement the CBT intervention effectively when the right training was involved. Special education teachers require specific training to conduct appropriate interventions and strategies for adolescents with ASD and anxiety. Training does not have to occur only in the classroom setting with licensed teachers. I recommend that training in the topic of ASD, anxiety, and CBT interventions be provided to all individuals involved in the adolescent's academic career. By including general education teachers, parents, administrators, and other colleagues, special education teachers will also require additional time to incorporate collaboration

about the adolescent and their needs. As per the literature, collaboration is key to providing appropriate support to adolescents with ASD and anxiety in multiple settings. All participants in this study collaborate, however, some indicated that they need more support in this area.

Implications

The need for this study was significant as there was limited research on special education teachers receiving training and utilizing specific interventions in the classroom setting for adolescents with ASD and anxiety. By conducting this qualitative action research study, I believe I was able to provide insight into this topic and potentially provide positive social change on various levels. The results from this study may encourage more teachers to learn and train to support adolescents with ASD within their classroom. As multiple participants explained, training for general education teachers as well as special education teachers is crucial for adolescent support. Likewise, data from this study may encourage administrators to support their teachers by providing specific training opportunities and time for collaboration with colleagues. Furthermore, I believe that parents of adolescents with ASD and anxiety may also benefit from the positive support provided in the classroom setting. A few participants specifically mentioned that they collaborate with parents, therefore, including parents in their adolescent's education is significant. Finally, I believe that this study will make an impact in research within the field of special education. As a former special education teacher, I witnessed an increase in adolescents with ASD showing negative anxious behaviors in the classroom setting.

As special education teachers face many challenges in the classroom, I hope that this study provides positive social change for all involved.

Conclusion

Approximately 40% of individuals with ASD experience at least one type of anxiety disorder, including general anxiety disorder and obsessive–compulsive disorder (Walsh et al., 2018; Zaboski & Storch, 2018). Anxious behaviors in adolescents with ASD can be different than typically developing peers also experiencing anxiety (Kim et al., 2021). Research in this area revealed that CBT interventions provided by training professionals can significantly improve negative anxious behaviors in adolescents with ASD. With adolescents spending most of their time in a classroom setting, special education teachers are often expected to support those with ASD and anxiety. To provide the right intervention for adolescents with ASD in the classroom, special education teachers would require training first.

In conducting this study, I wanted to know how special education teachers perceive their knowledge and skills when working with adolescents with ASD and anxiety. I also wanted to know if special education teachers are provided specific training in this area. Through the qualitative results that emerged, each special education teacher views their knowledge of ASD differently. Most participants felt they are well educated and have an above average level of knowledge, while other participants felt they can improve their understanding of ASD and anxiety. Similarly, those with a high level of knowledge were also more likely to implement interventions to support the adolescents in their classroom. With training, all educators are expected to participate in programs that

are required, however, not all trainings address the topic of ASD. Only 50% of participants have received specific training to work with adolescents with ASD. After conducting this study, I would recommend that more training opportunities in this area should be offered to all educators.

In conclusion, adolescents with ASD and anxiety struggled to succeed in a classroom setting. Trained special education teachers can help alleviate those negative anxious behaviors with the right support and intervention. The evidence from the literature review and the results of this study suggest that special education teachers become trained to work with adolescents with ASD. Furthermore, special education teachers need to collaborate with other teachers, administrators, and parents to ensure the adolescent is getting all the support they need. I hope the results from this study will encourage future researchers to investigate this topic. All educators need to be supported so they can create a successful learning environment for all of their students.

References

- Abbasian, G. R., & Esmalee, M. K. (2018). Peer-coaching, EFL teachers' professional identity development and students' academic achievements. *Theory and Practice in Language Studies*, 8(1), 150–163. <https://doi.org/10.17507/tpls.0801.19>
- Adams, D., Clark, M., & Keen, D. (2019). Using self-report to explore the relationship between anxiety and quality of life in children on the autism spectrum. *Autism Research*, 12(10), 1505–1515. <https://doi.org/10.1002/aur.2155>
- Adams, D., MacDonald, L., & Keen, D. (2019). Teacher responses to anxiety-related behaviours in students on the autism spectrum. *Research in Developmental Disabilities*, 86, 11-19. <https://doi.org/10.1016/j.ridd.2018.12.009>
- Adams, D., Simpson, K., & Keen, D. (2018). School-related anxiety symptomatology in a community sample of primary-school-aged children on the autism spectrum. *Journal of School Psychology*, 70, 64-73. <https://doi.org/10.1016/j.jsp.2018.07.003>
- Adams, D., Young, K., & Keen, D. (2019). Anxiety in children with autism at school: A systematic review. *Review Journal of Autism and Developmental Disorders*, 6(3), 274–288. <https://doi.org/10.1007/s40489-019-00172-z>
- American Psychiatric Association. (2016). *Diagnostic and statistical manual of mental disorders* (5th ed.).
- Bakar, N. A., Raihan, N. Z., & Zamri, N. (2020). Teachers' level of knowledge, training and competency in teaching Autistic children in NASOM. *PalArch's Journal of Archaeology of Egypt/Egyptology*, 17(10), 82–94.

- Bandura, A. (1976). *Social learning theory*. Prentice-Hall.
- Bandura, A. (1978). The self system in reciprocal determinism. *American Psychologist*, 33(4), 344–358. <https://doi.org/10.1037/0003-066x.33.4.344>
- Bandura, A., & Walters, R. H. (1977). *Social learning theory* (Vol. 1). Prentice-Hall.
- Bemmer, E. R., Boulton, K. A., Thomas, E. E., Larke, B., Lah, S., Hickie, I. B., & Guastella, A. J. (2020). Modified CBT for social anxiety and social functioning in young adults with autism spectrum disorder. *Molecular Autism*. Advance online publication. <https://doi.org/10.21203/rs.3.rs-41506/v2>
- Bernhardt, S. (2019). *Anxiety and behavior: Brief cognitive behavioral therapy in school with a ten-year-old boy using the coping cat program* [Doctoral dissertation, Minnesota State University]. Dissertations, Theses, and Projects, 160. <https://red.mnstate.edu/thesis/160>
- Bolourian, Y., Stavropoulos, K. K., & Blacher, J. (2019). Autism in the classroom: Educational issues across the lifespan. In M. Fitzgerald (Ed.), *Autism spectrum disorders: Advances at the end of the second decade of the 21st century*. IntechOpen. <https://doi.org/10.5772/intechopen.84790>
- Briot, K., Jean, F., Jouni, A., Geoffray, M.-M., Ly-Le Moal, M., Umbricht, D., Chatham, C., Murtagh, L., Delorme, R., Bouvard, M., Leboyer, M., & Amestoy, A. (2020). Social anxiety in children and adolescents with autism spectrum disorders contribute to impairments in social communication and social motivation. *Frontiers in Psychiatry*, 11, 710. <https://doi.org/10.3389/fpsy.2020.00710>
- Burkhart, K., Knox, M., & Hunter, K. (2018). Cognitive-behavioral therapy in the

treatment of internalizing disorders in high-functioning youth with autism spectrum disorder. *Journal of Contemporary Psychotherapy*, 48(3), 155–163.

<https://doi.org/10.1007/s10879-017-9374-7>

Carruthers, S., Kent, R., Hollocks, M. J., & Simonoff, E. (2020). Brief report: Testing the psychometric properties of the Spence children's anxiety scale and the screen for child anxiety related emotional disorders in autism spectrum disorder. *Journal of Autism and Developmental Disorders*, 50(7), 2625–2632.

<https://doi.org/10.1007/s10803-018-3774-8>

Delli, C. K. S., Polychronopoulou, S. A., Kolaitis, G. A., & Antoniou, A. S. G. (2018). Review of interventions for the management of anxiety symptoms in children with ASD. *Neuroscience & Biobehavioral Reviews*, 95, 449–463.

<https://doi.org/10.1016/j.neubiorev.2018.10.023>

Ehrenreich-May, J., Simpson, G., Stewart, L. M., Kennedy, S. M., Rowley, A. N., Beaumont, A., Alessandri, M., Storch, E. A., Laugeson, E. A., Frankel, F. D., & Wood, J. J. (2020). Treatment of anxiety in older adolescents and young adults with autism spectrum disorders: A pilot study. *Bulletin of the Menninger Clinic*, 84(2), 105–136. <https://doi.org/10.1521/bumc.2020.84.03>

Factor, R. S., Moody, C. T., Sung, K. Y., & Laugeson, E. A. (2022). Improving social anxiety and social responsiveness in autism spectrum disorder through PEERS®. *Evidence-Based Practice in Child and Adolescent Mental Health*, 7(1), 142–159.

<https://doi.org/10.1080/23794925.2021.2013138>

Fast, M. (2018). Best practices for children and youth with autism spectrum disorder: A

resource guide for community partners. Brock University *Education MRP*.

<http://hdl.handle.net/10464/13586>

- Fraser, D. W., Marder, T. J., deBettencourt, L. U., Myers, L. A., Kalymon, K. M., & Harrell, R. M. (2020). Using a mixed-reality environment to train special educators working with students with autism spectrum disorder to implement discrete trial teaching. *Focus on Autism and Other Developmental Disabilities*, 35(1), 3-14. <https://doi.org/10.1177/1088357619844696>
- Gill, A. (2021). Professional Development and Special Education: A Comparison of Special Education And General Education Teachers' Experiences.
- Grygas Coogle, C., Ottley, J. R., Rahn, N. L., & Storie, S. (2018). Bug-in-ear eCoaching: Impacts on novice early childhood special education teachers. *Journal of Early Intervention*, 40(1), 87-103. <https://doi.org/10.1177/1053815117748692>
- Hartjen, R. H. (1974). *Implications of Bandura's Observational Learning Theory for a Competency Based Teacher Education Model*.
- Ho, B. P., Stephenson, J., & Carter, M. (2018). Cognitive-behavioral approaches for children with autism spectrum disorder: A trend analysis. *Research in Autism Spectrum Disorders*, 45, 27-41. <https://doi.org/10.1016/j.rasd.2017.10.003>
- Hollocks, M. J., Lerh, J. W., Magiati, I., Meiser-Stedman, R., & Brugha, T. S. (2019). Anxiety and depression in adults with autism spectrum disorder: a systematic review and meta-analysis. *Psychological medicine*, 49(4), 559-572. <https://doi.org/10.1017/s0033291718002283>
- Horan, M., & Merrigan, C. (2019). Teachers' perceptions of the effect of professional

development on their efficacy to teach pupils with ASD in special classes.

REACH: Journal of Inclusive Education in Ireland, 32(1), 34-49.

Horsburgh, J., & Ippolito, K. (2018). A skill to be worked at: using social learning theory to explore the process of learning from role models in clinical settings. *BMC medical education*, 18(1), 156. <https://doi.org/10.1186/s12909-018-1251-x>

Hossain, M. M., Khan, N., Sultana, A., Ma, P., McKyer, E. L. J., Ahmed, H. U., & Purohit, N. (2020). Prevalence of comorbid psychiatric disorders among people with autism spectrum disorder: An umbrella review of systematic reviews and meta-analyses. *Psychiatry Research*, 112922.

<https://doi.org/10.31124/advance.11497014.v2>

Hsiao, Y. J., & Sorensen Petersen, S. (2019). Evidence-based practices provided in teacher education and in-service training programs for special education teachers of students with autism spectrum disorders. *Teacher Education and Special Education*, 42(3), 193-208. <https://doi.org/10.1177/0888406418758464>

Ileri, N. W., White, S. W., & Mbwayo, A. W. (2019). Treating anxiety and social deficits in children with autism spectrum disorder in two schools in Nairobi, Kenya. *Journal of autism and developmental disorders*, 49(8), 3309-3315.

<https://doi.org/10.1007/s10803-019-04045-6>

Jackson, L. D. (2021). *The Special Education Teachers' Perception of Professional Development and the Alignment to Inclusive Teaching Practices* (Doctoral dissertation, Houston Baptist University).

Kalvin, C. B., Jordan, R. P., Rowley, S. N., Weis, A., Wood, K. S., Wood, J. J., Ibrahim,

- K. & Sukhodolsky, D. G. (2020). Conducting CBT for Anxiety in Children with Autism Spectrum Disorder During COVID-19 Pandemic. *Journal of Autism and Developmental Disorders*, 1-9. <https://doi.org/10.1007/s10803-020-04845-1>
- Keshav, N. U., Vahabzadeh, A., Abdus-Sabur, R., Huey, K., Salisbury, J. P., Liu, R., & Sahin, N. (2018). Longitudinal socio-emotional learning intervention for autism via smartglasses: Qualitative school teacher descriptions of practicality, usability, and efficacy in general and special education classroom settings. *Education Sciences*, 8(3), 107. <https://doi.org/10.3390/educsci8030107>
- Kester, K. R., & Lucyshyn, J. M. (2019). Co-creating a school-based Facing Your Fears anxiety treatment for children with autism spectrum disorder: A model for school psychology. *Psychology in the Schools*, 56(5), 824-839. <https://doi.org/10.1002/pits.22234>
- Kilburn, T. R., Sørensen, M. J., Thastum, M., Rapee, R. M., Rask, C. U., Arendt, K. B., & Thomsen, P. H. (2018). Rationale and design for cognitive behavioral therapy for anxiety disorders in children with autism spectrum disorder: a study protocol of a randomized controlled trial. *Trials*, 19(1), 210. <https://doi.org/10.1186/s13063-018-2591-x>
- Kim, S. Y., Kim, Y. A., Song, D. Y., Bong, G., Kim, J. M., Kim, J. H., & Yoo, H. J. (2021). State and Trait Anxiety of Adolescents with Autism Spectrum Disorders. *Psychiatry investigation*, 18(3), 257. <https://doi.org/10.30773/pi.2020.0328>
- Kim, S. K., McKay, D., Ehrenreich-May, J., Wood, J., & Storch, E. A. (2020). Assessing treatment efficacy by examining relationships between age groups of children

with autism spectrum disorder and clinical anxiety symptoms: Prediction by correspondence analysis. *Journal of affective disorders*, 265, 645-650.

<https://doi.org/10.1016/j.jad.2019.11.107>

Kirsch, A. C., Huebner, A. R., Mehta, S. Q., Howie, F. R., Weaver, A. L., Myers, S. M., Voigt, R. G., & Katusic, S. K. (2020). Association of comorbid mood and anxiety disorders with autism spectrum disorder. *JAMA pediatrics*, 174(1), 63-70.

<https://doi.org/10.1001/jamapediatrics.2019.4368>

Lake, J. K., Tablon Modica, P., Chan, V., & Weiss, J. A. (2020). Considering efficacy and effectiveness trials of cognitive behavioral therapy among youth with autism: A systematic review. *Autism*, 24(7), 1590-1606.

<https://doi.org/10.1177/1362361320918754>

Lau, B. Y., Leong, R., Uljarevic, M., Lerh, J. W., Rodgers, J., Hollocks, M. J., South, M., McConachie, H., Ozsivadjian, A., Van Hecke, A. V., Libove, R., Hardan, A., Leekam, S., Simonoff., & Magiati, I. (2020). Anxiety in young people with autism spectrum disorder: Common and autism-related anxiety experiences and their associations with individual characteristics. *Autism*, 24(5), 1111-1126.

<https://doi.org/10.1177/1362361319886246>

Lietz, P., Kos, J., Dix, K., Trevitt, J., Uljarevic, M., & O'Grady, E. (2018). Protocol for a systematic review: Interventions for anxiety in school-aged children with autism spectrum disorder (ASD): a mixed-methods systematic review. *The Campbell Collaboration*, 14(1), 1-48.

<https://doi.org/10.1002/cl2.217>

Link, S. (2019). Teaching Students with Autism. *Salem Press Encyclopedia*.

- Mahdi, M., Jhavar, S., Bennett, S. D., & Shafran, R. (2019). Cognitive behavioral therapy for childhood anxiety disorders: What happens to comorbid mood and behavioral disorders? A systematic review. *Journal of affective disorders*, 251, 141-148. <https://doi.org/10.1016/j.jad.2019.03.041>
- Mertler, C. A. (2020). *Action Research: Improving schools and empowering educators*. Thousand Oaks, CA: Sage Publications.
- Mohajan, H. K. (2018). Qualitative research methodology in social sciences and related subjects. *Journal of Economic Development, Environment and People*, 7(1), 23-48. <https://doi.org/10.26458/jedep.v7i1.571>
- Morse, B. A. B., Carman, J. P., & Zint, M. T. (2019). Fostering environmental behaviors through observational learning. *Journal of Sustainable Tourism*, 27(10), 1530–1552. <https://doi.org/10.1080/09669582.2019.1647219>
- Moser, A., & Korstjens, I. (2018). Series: Practical guidance to qualitative research. Part 3: Sampling, data collection and analysis. *European journal of general practice*, 24(1), 9-18. <https://doi.org/10.1080/13814788.2017.1375091>
- Mrstik, S. L., Vasquez, E., & Pearl, C. (2018). The effects of mentor instruction on teaching visual supports to novice, special education teachers. *International Journal of Instruction*, 11(1), 411-424. <https://doi.org/10.12973/iji.2018.11128a>
- Nordh, M., Wahlund, T., Jolstedt, M., Sahlin, H., Bjureberg, J., Ahlen, J., Lalouni, M., Salomonsson, S., Vigerland, S., Lavner, M., Ost, L. G., Lenhard, F., Jesser, J., Mataiz-Cols, D., Jogstrom, J., & Serlachius, E. (2021). Therapist-guided internet-delivered cognitive behavioral therapy vs internet-delivered supportive therapy

for children and adolescents with social anxiety disorder: a randomized clinical trial. *JAMA psychiatry*, 78(7), 705-713.

<https://doi.org/10.1001/jamapsychiatry.2021.0469>

Olsen, N. L. (2018). Elevated Anxiety in Youth with Autism Spectrum Disorder and the Implications of Using Cognitive Behavioral Therapies as an Effective Treatment Plan.

Patriquin, M. A. (2019). Evidence-based treatment and conceptualization of autism spectrum disorder: Emotion regulation, social impairment, and anxiety as targets. *Bulletin of the Menninger Clinic*, 83(3), 199-204.

<https://doi.org/10.1521/bumc.2019.83.3.199>

Perihan, C., Bicer, A., & Bocanegra, J. (2021). Assessment and treatment of anxiety in children with autism spectrum disorder in school settings: a systematic review and Meta-Analysis. *School Mental Health*, 1-12. <https://doi.org/10.1007/s12310-021-09461-7>

Pickard, K., Blakeley-Smith, A., Boles, R., Duncan, A., Keefer, A., O'Kelley, S., & Reaven, J. (2020). Examining the sustained use of a cognitive behavioral therapy program for youth with autism spectrum disorder and co-occurring anxiety. *Research in Autism Spectrum Disorders*, 73, 101532.

<https://doi.org/10.1016/j.rasd.2020.101532>

Ponterotto, J. G. (2006). Brief note on the origins, evolution, and meaning of the qualitative research concept thick description. *The qualitative report*, 11(3), 538-549. <https://doi.org/10.46743/2160-3715/2006.1666>

- Preece, D., & Howley, M. (2018). An approach to supporting young people with autism spectrum disorder and high anxiety to re-engage with formal education—the impact on young people and their families. *International Journal of Adolescence and Youth*, 23(4), 468-481. <https://doi.org/10.1080/02673843.2018.1433695>
- Ramey, C. L. (2021). *STEMulating Conversations: Triadic Factors Involved with African American Youths' STEM Pursuits* [Doctoral dissertation, Texas Tech University].
- Reaven, J., Moody, E. J., Grofer Klinger, L., Keefer, A., Duncan, A., O'Kelley, S., Meyer, A., Hepburn, S., & Blakeley-Smith, A. (2018). Training clinicians to deliver group CBT to manage anxiety in youth with ASD: Results of a multisite trial. *Journal of consulting and clinical psychology*, 86(3), 205-217. <https://doi.org/10.1037/ccp0000285>
- Rodgers, J., & Ofield, A. (2018). Understanding, recognising and treating co-occurring anxiety in autism. *Current Developmental Disorders Reports*, 5(1), 58-64. <https://doi.org/10.1007/s40474-018-0132-7>
- Schles, R. A., & Robertson, R. E. (2019). The role of performance feedback and implementation of evidence-based practices for preservice special education teachers and student outcomes: A review of the literature. *Teacher Education and Special Education*, 42(1), 36-48. <https://doi.org/10.1177/0888406417736571>
- Sehlin, H. (2021). Internet-based support and coaching-Exploring the feasibility of an intervention for young people with ADHD and autism spectrum disorder.
- Shrotryia, V. K., & Dhanda, U. (2019). Content validity of assessment instrument for employee engagement. *Sage Open*, 9(1), 2158244018821751.

<https://doi.org/10.1177/2158244018821751>

- Simpson, L. A., Maffini, C. S., & Schuck, R. K. (2019). Examining Use of School Personnel in CBT Interventions for Anxiety in Students with ASD. *Education and Training in Autism and Developmental Disabilities, 54*(3), 301-312.
- Sklar, V. L. H. (2020). *Adapted Cognitive Behavioral Therapy for School-Aged Children with Autism Spectrum Disorders and Interfering Anxiety: Impact on Caregiver-Defined Goals* [Doctoral dissertation, University of California, Los Angeles].
- Solish, A., Klemencic, N., Ritzema, A., Nolan, V., Pilkington, M., Anagnostou, E., & Brian, J. (2020). Effectiveness of a modified group cognitive behavioral therapy program for anxiety in children with ASD delivered in a community context. *Molecular autism, 11*(1), 1-11. <https://doi.org/10.1186/s13229-020-00341-6>
- Spain, D., & Happé, F. (2020). How to optimise cognitive behaviour therapy (CBT) for people with autism spectrum disorders (ASD): a delphi study. *Journal of Rational-Emotive & Cognitive-Behavior Therapy, 38*(2), 184-208. <https://doi.org/10.1007/s10942-019-00335-1>
- Syriopoulou-Delli, C. K., Polychronopoulou, S. A., Kolaitis, G. A., & Antoniou, A. S. G. (2020). Review of Interventions for Inclusion of Children with ASD and Anxiety in Education. *Journal of Educational and Developmental Psychology, 10*(1). Chicago. <https://doi.org/10.5539/jedp.v10n1p1>
- Syriopoulou-Delli, C. K., Polychronopoulou, S. A., Kolaitis, G. A., & Antoniou, A. S. G. (2019). Views of teachers on anxiety symptoms in students with autism spectrum disorder. *Journal of autism and developmental disorders, 49*(2), 704-720.

<https://doi.org/10.1007/s10803-018-3752-1>

Walsh, C. E., Moody, E., Blakeley-Smith, A., Duncan, A., Hepburn, S., Keefer, A., Klinger, L., Meyer, A., O'Kelley, S., & Reaven, J. (2018). The relationship between treatment acceptability and youth outcome in group CBT for youth with ASD and anxiety. *Journal of Contemporary Psychotherapy*, 48(3), 123-132.

<https://doi.org/10.1007/s10879-018-9380-4>

White, S. W., Simmons, G. L., Gotham, K. O., Conner, C. M., Smith, I. C., Beck, K. B., & Mazefsky, C. A. (2018). Psychosocial treatments targeting anxiety and depression in adolescents and adults on the autism spectrum: Review of the latest research and recommended future directions. *Current psychiatry reports*, 20(10),

82. <https://doi.org/10.1007/s11920-018-0949-0>

Wijnhoven, L. A., Engels, R. C., Onghena, P., Otten, R., & Creemers, D. H. (2021). The additive effect of CBT elements on the video game 'Mindlight' in decreasing anxiety symptoms of children with autism spectrum disorder. *Journal of Autism and Developmental Disorders*, 1-19. <https://doi.org/10.1007/s10803-021-04927-8>

Wildt, M. (2018). Strategies for Reducing Anxiety Symptoms in Children and Adolescents with Autism Spectrum Disorders.

Wood, J. J., Kendall, P. C., Wood, K. S., Kerns, C. M., Seltzer, M., Small, B. J., Lewin, A. B., & Storch, E. A. (2019). Cognitive-behavioral treatments for anxiety in children with autism spectrum disorder: A randomized clinical trial. *Jama Psychiatry*, 77(5), 474-483. <https://doi.org/10.1001/jamapsychiatry.2019.4160>

Young, K. (2018). CO-CREATE: Teachers' voices to inform special education teacher

education. *Issues in educational research*, 28(1), 220-236.

Zaboski, B. A. and Storch, E. A. (2018). Comorbid autism spectrum disorder and anxiety disorders: a brief review. *Future Neurology*, 13(1), 31-37.

<https://doi.org/10.2217/fnl-2017-0030>

Appendix A: Interview and Survey Questions for Special Education Teachers

This section contains the ten semi-structured interview questions and the yes/no survey questions that were sent to each participant after consent was gained.

Interview Questions for Special Education Teachers:

1. How would you describe your knowledge and understanding of the behaviors of adolescents with ASD and anxiety in a classroom setting?
2. How would you describe your ability to work with adolescents with ASD and anxiety in your classroom?
3. How would you describe your knowledge and understanding of cognitive-behavioral interventions in the classroom setting?
4. How would you describe your ability to implement a cognitive-behavioral intervention for adolescents with ASD and anxiety in your classroom?
5. Have you received training to work with adolescents with ASD and anxiety?
 - a. If yes, please explain the training.
 - b. If not, do you think training about working with adolescents with ASD and anxiety is important? Please explain.
6. What types of training have you participated in over the past 12 months?
7. What are the training topics that you have participated in over the past 12 months?
8. Do you participate in training provided by your administration, training provided outside of your work setting, or both? Please explain.
9. Do you collaborate with others when working with adolescents with ASD and anxiety in the classroom?

- a. If yes, who do you collaborate with and how often do you collaborate?
 - b. If no, please explain your thoughts on collaboration.
10. What training topics would you like to see in the future to support you as a teacher working with adolescents with ASD and anxiety?

Questionnaire for Modified CBT-based Intervention:

1. What intervention are you utilizing with your student population?
2. How long do you implement your intervention with students?
3. Does your intervention address supporting students when dealing with negative thoughts and behaviors?
4. Have you developed a strong, trusting relationship between yourself and the student?
5. Have you collaborated with the student, parents, and other educators while using this intervention?
6. Have you and your student established goals for this intervention?
7. Are you focusing on current problem thoughts and behaviors with this intervention?
8. Is each intervention session structured with clear objectives and goals?
9. Are students able to identify, evaluate, and respond to their negative thoughts and beliefs?
10. What types of strategies are being used to implement cognitive-behavioral support?