THE RELATIONSHIP BETWEEN TEACHER EXPERIENCE AND TEACHER ATTITUDE TOWARD ATTENTION DEFICIT HYPERACTIVITY DISORDER (ADHD)

by

Keisha M. McHargue

Liberty University

A Dissertation Presented in Partial Fulfillment

Of the Requirements for the Degree

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ABSTRACT

This study examined the strength and direction of the relationship between teachers' years of experience and their attitudes toward attention deficit hyperactivity disorder (ADHD). A correlational design was used with the predictor variable being teachers' years of experience teaching at a K-12 public school. The criterion variable was teachers' attitudes toward ADHD. Previous research indicated that students with ADHD perform lower than their typically developing peers, in part, because the behaviors that students with ADHD exhibit are difficult for teachers to manage. The added challenge of teaching students with ADHD has the potential to create negative perceptions toward students with ADHD and lower teacher self-efficacy about their ability to teach these students. The Scale of ADHD-Specific Attitudes (SASA) survey was sent to public school teachers in a Midwestern state. Data was collected during a two-week window, and the results were analyzed using the Pearson's correlation coefficient to determine whether to accept or reject the null hypothesis. A convenience sample of 112 participants was used in this study. The results of the study indicated that teachers' years of experience were positively correlated to teachers' attitudes toward teaching students with ADHD; however, the findings were not significant. This information may be beneficial in determining future teacher education and training at the pre-service and in-service levels. Further research into teachers' attitudes toward ADHD is suggested. Continued research related to how teacher experience and other demographic variables influence teacher attitudes toward ADHD would add to the body of literature.

Keywords: Attention Deficit Hyperactivity Disorder (ADHD), attitude, teacher experience, self-efficacy, affective beliefs, cognitive beliefs, perceived control

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List of Abbreviations

American Psychiatric Association (APA)

Attention Deficit Hyperactivity Disorder (ADHD)

Center for Disease Control (CDC)

Diagnostic and Statistical Manual, 5th Edition (DSM-V)

Individuals with Disabilities Education Act (IDEA)

National Center for Education Statistics (NCES)

National Defense Education Act (NDEA)

National Institute of Mental Health (NIMH)

Scale of ADHD-Specific Attitudes (SASA)

United States Department of Health and Human Services (USDHHS)

CHAPTER ONE: INTRODUCTION

Overview

Teachers' attitudes are partially attributed to their self-efficacy about their classroom management and instructional effectiveness (Ajzen, 2002; Klassen & Chiu, 2010). As teachers gain more experience in the classroom, their self-efficacy improves; however, new teachers may have more exposure to students with attention deficit hyperactivity disorder (ADHD). This, in turn, may counteract assumptions about how teaching experience relates to teachers' attitudes toward ADHD. The purpose of this study is to determine the relationship between teachers' years of experience and their attitudes toward teaching students with ADHD. This chapter provides background information on the history of ADHD and its impact on student achievement. Information is provided on how ADHD influences student learning and teacher behavior. The need for further research into the topic of teacher experience and teacher attitudes toward ADHD is clarified.

Background

One in eleven students are affected by attention deficit hyperactivity disorder (ADHD) within the United States (CDC, 2017). This calculates out to approximately two students in every classroom. Students with ADHD are confronted with numerous challenges that lead to academic underachievement (Martin, Collie, & Burns, 2017). According to the DSM-V, ADHD is diagnosed when children show a persistent pattern of inattention, hyperactivity, or impulsivity in two or more contexts (American Psychological Association, 2013).

Historical Overview

Although the clinical definition of ADHD is fairly new to the medical world, descriptions of students with inattention and hyperactivity began in the 1800s when the cultural focus was on

knowledge and reasoning (Hinshaw & Scheffler, 2014). At this same time, compulsory education laws took effect and required students to mold into society's normative expectation of the acceptable student (Hinshaw & Scheffler, 2014). Students were required to sit still and listen to the teacher for extended periods of time.

Due to this shift in childhood expectations, by the early 1900s, researchers in the United States began to describe the symptoms of ADHD as a cause for concern within the academic environment (CDC, 2017). By 1937, Bradley published an article in the *Journal of Psychiatry* communicating the results of the stimulant Benzedrine on school performance. He found that half of the children within the study demonstrated motivation to work, a more placid demeanor, and increased academic achievement (Singh, 2008). His work would be the springboard for further research on how stimulants impacted students with ADHD.

Following World War II, the National Defense Education Act (NDEA) focused on the mental health of children as it related to national security (Singh, 2008). During this time, the National Institute for Mental Health was also created (Singh, 2008). As a result, experts in mental health such as school psychologists, guidance counselors, and social workers became personnel found within school systems (Singh, 2008). This increased concern about mental health coincided with Lauffer's revelation about ADHD-like behaviors in children (Singh, 2008). Lauffer termed the symptoms demonstrated as hyperkinetic disorder of childhood. While this term was the first to allude to hyperactivity, the accepted term of the time remained minimal brain dysfunction (Singh, 2008).

In 1961, Ritalin became the accepted drug for minimal brain dysfunction and was approved by the Food and Drug Administration (Hinshaw & Scheffler, 2014). This jump-started the federal government allocating funds to study the effect of other stimulants on the symptom of

hyperactivity (CDC, 2017). Controversy arose rapidly when a *Washington Post* article came out reporting that between 5 and 10% of children in Omaha, Nebraska were being treated with Ritalin by 1970 (Hinshaw & Scheffler, 2014). This controversy, along with resistance to accept ADHD as a legitimate diagnosis, would result in polarized beliefs about the needs of students with ADHD, the diagnosis, and the appropriateness of using stimulants to medicate youth (Hinshaw & Scheffler, 2014).

The Education for All Handicapped Children Act of 1975 was the starting point of legal requirements to provide appropriate education to all students. By 1991, the Individuals with Disabilities Education Act (IDEA) included ADHD for some students as "other health impaired," while others qualified for services under Section 504 of the Rehabilitation Act. School districts and teachers would be required to meet the instructional needs of students that were diagnosed with ADHD (Hinshaw & Scheffler, 2014).

Societal Impact

Worldwide, over the past two decades, there has been a rapid expansion of ADHD diagnoses. Presently, within the United States, over 6.1 million students have been diagnosed with ADHD, and while the diagnosis often occurs in early to middle childhood, 50%-70% of adolescents still show signs of ADHD as they enter secondary education (CDC, 2017; Martin et al., 2017). Furthermore, new research has indicated that two-thirds of children diagnosed with ADHD will retain their symptoms into adulthood (Frazier, Youngstrom, Glutting, & Watkins, 2007). Once a person diagnosed with ADHD enters adulthood, if their educational achievement does not provide them with the opportunity for continued education or quality job placement, adulthood can be challenging (Daley & Birchwood, 2010). Adults with ADHD are 10-14%

more likely to be unemployed, have 33% fewer earnings, and are 15% more likely to receive social assistance (Hinshaw & Scheffler, 2014).

The repercussions of adult ADHD put an importance on meeting the needs of students with ADHD during their K-12 education. Due to the high incidence of ADHD diagnoses, it is estimated that teachers will regularly interact with students struggling with the academic, behavioral, and social challenges caused by ADHD (Gibbs, Mercer, & Carrington, 2016; Martin et al., 2017; Ogg, McMahon, Dedrick, & Mendez, 2013). The classroom setting requires students to demonstrate the ability to self-regulate their behavior and process information for extended periods of time (Imeraj et al., 2016). This high level of academic expectation can exacerbate the problematic behaviors that students with ADHD demonstrate (Imeraj et al., 2013).

The inclusion of students with ADHD in the classroom can prove challenging for both students and teachers. Ohan, Visser, Strain, and Allen (2011) reported that teaching students with ADHD left teachers feeling stressed and less confident about managing their classrooms. This lack of teacher self-efficacy can result in less effective teaching practices and lower student achievement (Herman, Hickman-Rosa, & Reinke, 2018). Liang and Gao (2016) found that teachers' confidence was low because of the compounded demands that occur when teaching in an integrated classroom. Related to teacher confidence, Bekle (2004) reported that teachers' confidence in the classroom was influenced by the amount of training they received related to teaching students with ADHD. The unrest that teachers feel when handling the externalizing behaviors of students with ADHD is likely related to the knowledge that teachers have about the instructional and management strategies necessary to meet the students' needs. Previous research has indicated that as teachers gain more experience, their knowledge about ADHD increases;

however, teachers' attitudes are multidimensional and are not as easily measured (Anderson, Watt, & Noble, 2012; Kern, Zaytoon, Seabi, & Vorster, 2015; Kos, Richdale, & Jackson, 2004).

Theoretical Construct

Attitude is generally defined as an evaluative stance about a particular entity and is difficult to quantify because, generally, people do not have only one attitude about a specific object (Ajzen, 2001; Eagly & Chaiken, 2007). To measure attitude, multiple components need to be considered. The most commonly used model of attitude is the tripartite model. This model uses the components cognition, affect, and behavior to further quantify attitude (Breckler, 1984; Eagly & Chaiken, 2007; & van Aalderen-Smeets, Walma van der Molen, and Asma, 2012). Van Aalderen-Smeets et al. (2012) restructured this traditional approach to defining attitude and modified it to include perceived control, rather than behavior, as the third construct that makes up attitude.

Though understanding the complexity of teachers' attitudes toward students with ADHD is important, it is also critical to comprehend how teachers behave as a result of their attitudes. The theory of planned behavior states that people will act in way that corresponds to their intentions and their beliefs about their control over a specific behavior (Ajzen, 2001). Prior to the development of the theory of planned behavior, it was proposed that if a person had a favorable attitude then he or she would act in a favorable way; however, it is now believed that a person's attitude does not guarantee that a person will act in a certain way.

Ajzen (2002) used the theory of planned behavior to indicate that a person's perceived control and self-efficacy are critical components to the development of a person's attitude toward a specific object. When considering teachers' attitudes toward students with ADHD, their perceived control could be impacted by student behavior within the classroom, required

curriculum pacing, and school-wide expectations that are out of the teachers' control. In addition, a student with ADHD's behavior may further impact a teachers' self-efficacy and beliefs about his or her abilities within the classroom. Teachers with high self-efficacy have been shown to demonstrate better classroom management skills and greater job satisfaction, whereas teachers with low self-efficacy have weaker rapport with students and are less likely to increase student achievement (Klassen & Chiu, 2010).

Teachers' attitudes play an integral part in the achievement of students (Moore, Russell, Arnell, & Ford, 2017). By focusing on the theory of planned behavior as a framework for evaluating the complexity of attitude, research can better predict the behavior teachers will demonstrate toward students with ADHD.

Problem Statement

Within the last 30 years, research around teachers' knowledge and attitudes toward attention deficit hyperactivity disorder (ADHD) has evolved. Jerome, Gordon, and Hustler (1994) created a 20-question instrument to study the knowledge Canadian and American teachers had about ADHD. That measurement tool became foundational to the development of other measurement tools to gain further insight into teacher knowledge about ADHD (e.g. Anderson et al., 2012; Bekle, 2004; Ohan, Cormier, Hepp, Visser, & Strain, 2008).

As research about teachers' knowledge of ADHD became saturated, attention shifted to research focused on teachers' attitudes toward ADHD. Eisenberg & Schneider (2007) used regression analyses to understand the relationship between students with ADHD's performance and teacher perceptions of student behavior and ability. The study indicated that teacher perceptions toward students with ADHD were substantially more negative than could be explained by assessment scores and other factors. Ohan et al.'s (2008) and (2011) studies

involved vignettes to gain perspective on how teachers would respond to questions related to students who were perceived as having ADHD versus not having ADHD. As research progressed, Honkasilta, Vehkakoski, and Vehmas (2016) and Kendall (2016) determined that student interviews should be used to gain an understanding of students with ADHD's perceptions of how their teachers viewed and responded to them. They found that negative attitudes toward students with ADHD can have negative effects on students' self-esteem, motivation, and performance.

Bekle (2004) was the first research found that tried to quantify teacher attitudes toward students with ADHD. Bekle (2004) asked about attitude by adding one 7-point Likert style question to Jerome et al.'s (1994) 20 question instrument. The findings of this study indicated that as knowledge increases, attitude increases as well. While using different formats to study the variables, Ohan et al. (2008) and Anderson et al. (2012) found that as teachers gain experience, they demonstrate mixed feelings about teaching students with ADHD. Mulholland, Cumming, and Jung's (2015) study was the only study to indicate a negative relationship between teaching experience and teacher attitudes toward students with ADHD. This study was pivotal in research related to teachers' attitudes toward teaching students with ADHD because it was the first to implement an instrument that was specifically designed to measure attitudes about ADHD.

Research attempting to understand teachers' attitudes toward students with ADHD has had mixed results. When adding in the demographic variable of teaching experience, the research demonstrates a clear need for further clarification. While Mulholland (2016) created a new instrument to measure attitudes toward ADHD, this instrument has yet to be validated by other researchers. The high rate of ADHD diagnoses means that teachers will continue to need to accommodate for the academic, behavioral, and social needs of the students with ADHD in their

classrooms. This can put added stress on the teacher, decrease teacher self-efficacy, and ultimately decrease the teacher's attitude toward teaching students with ADHD. The problem is that due to a gap in literature related to teachers' years of experience and their attitudes toward ADHD further research is needed (Anderson et al., 2012; Mulholland, et al. 2015; Mulholland, 2016). Furthermore, the newly developed instrument by Mulholland et al. (2015) needs further investigation into teachers' years of experience. As quoted by Mulholland et al. (2015) "Feelings about teaching students who exhibit ADHD-type behaviors showed that the number of years a teacher has been teaching has a significant effect on the dependent variable…The significance of .03 illustrates that the relationship should be further investigated" (p. 30).

Purpose Statement

The purpose of this study is to examine the strength and direction of the relationship between teachers' years of experience and their attitudes toward ADHD using a correlational design. A correlational design is appropriate for this study because analysis of a relationship between two variables is needed (Gall, Gall, & Borg, 2007). The predictor variable is the years of teaching experience of full-time K-12 public education teachers. A school year, as defined by the National Center for Educational Statistics (2015), is 180 school days or 1080 hours. The criterion variable is teacher attitudes toward Attention Deficit Hyperactivity Disorder (ADHD). Teacher attitude is defined as cognitive beliefs, affective states, and perceived control as referenced by van Aalderen-Smeets et al.'s (2012) modified tripartite model of attitude. ADHD is defined as a neurological disorder that is characterized by motivation and executive functioning disorders (Daley & Birchwood, 2010; Martin, 2014). The population of the study is the K-12 full-time public education teachers in a Midwestern state during the 2018-2019 school year.

Significance of the Study

When accounting for intellectual ability, students with attention deficit hyperactivity disorder (ADHD) perform up to one standard deviation below their peers (Bussing et al., 2012; DuPaul et al., 2006). Glock and Kovacs (2013) indicated that students with emotional and behavioral disorders, including ADHD, perform worse in school than their typically developing peers, in part, because these students are challenging for teachers to manage and instruct. For this reason, it is especially important to understand the beliefs that teachers hold about these students (Glock & Kovacs, 2013). When specifically focusing on students with ADHD, the discrepancy in achievement suggests a need to assess teachers' perceptions of students with ADHD and provide training to teachers to decrease the potential negative beliefs that teachers hold about students with ADHD (Moore et al., 2017). Previous research has shown that teacher beliefs are correlated to student achievement (e.g. Eisenberg & Schneider, 2007; Herman et al., 2018; Klassen & Chiu, 2010). Understanding how teachers' attitudes relate specifically to students with ADHD is the first step toward understanding whether and how these attitudes affect the educational disparities that are evident in students with ADHD's achievements. Furthermore, investigating demographic predictors, such as years of teaching experience, may provide insight into how negative attitudes can be prevented through more teacher education and training at the pre-service and in-service levels (Glock & Kovacs, 2013; Murdock-Perriera & Sedlacek, 2018).

This study may validate multiple aspects of attitude research. The premise of this study is to understand the relationship between teachers' attitudes toward students with ADHD and teachers' years of experience. In order to do this, a restructured approach to the tripartite model of attitude will be used (van Aalderen-Smeets et al., 2012). Few studies have been conducted

with a focus on perceived control rather than behavior as a construct of attitude (Mulholland et al., 2015; van Aalderen-Smeets et al., 2012). In addition to the theoretical support that this research seeks to enhance, this study may help to validate the Scale of ADHD-Specific Attitudes (SASA). Mulholland's (2012) newly developed attitude measure needs further validation and is the first known instrument that asks questions specifically related to teachers' beliefs about teaching students with ADHD.

By analyzing the relationships that emerge from the data, researchers may be able to make decisions about what steps to take within the realm of ADHD research, attitude research, and teacher experience research. The information gained from this study will also provide further understanding about the potential relationship between teaching experience and teacher attitudes toward students. Depending on the results of the study, recommendations for further research into teacher preparation courses or professional development for in-service teachers may be beneficial to understand the need for training to support and manage students with ADHD.

Research Questions

RQ1: Is there a significant relationship between the years of teaching experience of K-12 public education teachers and their attitudes toward Attention Deficit Hyperactivity Disorder (ADHD).

RQ2: Is there a significant relationship between the years of teaching experience of K-12 public education teachers and their feelings about teaching students who exhibit ADHD-type behaviors?

RQ3: Is there a significant relationship between the years of teaching experience of K-12 public education teachers and their knowledge and training related to ADHD?

RQ4: Is there a significant relationship between the years of teaching experience of K-12 public education teachers and their desire for better training related to ADHD?

RQ5: Is there a significant relationship between the years of teaching experience of K-12 public education teachers and their beliefs about ADHD and its associated behaviors?

Definitions

1. *Affective beliefs* - Affective beliefs are the emotions that a person holds about a topic (van Aalderen-Smeets et al., 2012).
2. *At-risk* – At-risk is defined as an increased likelihood of students displaying disruptive behavior, lower academic achievement, and an enhanced probability of grade retention (Martin et al., 2017).
3. *Attention deficit hyperactivity disorder (ADHD)* - ADHD is defined as a neurological disorder that is characterized by motivation and executive functioning disorders (Daley & Birchwood, 2010; Martin, 2014).
4. *Attitude* - Attitude is defined as cognitive beliefs, affective states, and perceived control as referenced by van Aalderen-Smeets et al.'s (2012) modified tripartite model of attitude.
5. *Cognitive beliefs* - Cognitive beliefs is defined by van Aalderen-Smeets et al. (2012) as the thoughts and beliefs a person has about a specific topic.
6. *Contextual factors* - The beliefs or feelings that an individual has about external factors that are closely related to an individual's sense of control (van Aalderen-Smeets et al., 2012).
7. *Perceived control* - Perceived control relates to a person's self-efficacy and contextual dependency (van Aalderen-Smeets et al., 2012).

8. *Scale of ADHD-specific Attitude (SASA)* - A Likert-style survey that assesses the three constructs of van Aalderen-Smeets et al. (2012) attitude framework (cognitive beliefs, affective beliefs, and perceived control) as they relate specifically to ADHD (Mulholland, 2016).
9. *School year* - A school year is 180 school days or 1,080 hours as defined National Center for Educational Statistics (2015).
10. *Self-efficacy* - An individual's beliefs about his or her capabilities to perform a certain behavior (Bandura, 1997). Self-efficacy is a concept of perceived control within the Theory of Planned Behavior (van Aalderen-Smeets et al., 2012).
11. *Self-fulfilling prophecy* – Bell, Long, Garvan, and Bussing (2011) identified self-fulfilling prophecy as when an individual begins to accept the beliefs of others as true, and as a result, the person performs up to or down to the expectations of others.
12. *Stigma* - Stigma is a set of negative beliefs held by a person or group of people (Bell et al., 2011).
13. *Teacher experience* - Teacher experience relates to the number of school years a teacher has taught full-time in a K-12 public school (National Center for Educational Statistics, 2015).

CHAPTER TWO: LITERATURE REVIEW

Overview

This chapter begins by detailing the history and evolution of research on attitude and its relationship to education. Discussion about the importance of a new theory related to the constructs of attitude is presented. Literature that supports and has guided the study is presented in-depth and descriptions of previously related research are presented. The purpose of this chapter is to provide the reader with a thorough understanding of current research and to give context to the present study.

Theoretical Framework

The concept of attitude has been referenced as far back as Greek philosophy. Greek philosophers mentioned the aspects of feeling, acting, and knowing to define reactions that people had to their experiences (Breckler, 1984). The notion of attitude has continued to evolve and was foundational to many social psychological studies (Breckler, 1984). Attitude, as defined by Eagly and Chaiken (2007), is "a psychological tendency that is expressed by evaluating a particular entity with some degree of favor or disfavor" (p. 582). Ajzen's (2001) definition elaborated further to discuss the binary nature of attitude using terms such as "harmful-beneficial," "pleasant-unpleasant," and "good-bad" (p. 28). What all definitions of attitude have in common is an attitude object that is the focus of a person's evaluative stance.

The complexity of attitude, however, cannot be taken lightly. While Ajzen (2001) classified attitudes in a favor or disfavor nature, human beings often do not hold only one attitude about a specific object. When people hold two different attitudes about an object, one attitude is often explicit while the other is a habitual, or implicit, response (Ajzen, 2001). Attitude is a result of an evaluative reaction and can occur immediately and

subconsciously with the likelihood of negative information superseding the positive information coming in (Ajzen, 2001). The degree to which a person sees an object or event as favorable or unfavorable also adds to the complexity of pinpointing a person's attitude about the object. While attitudes are susceptible to change, strong attitudes tend to be stable and are limited to further outside influence (Ajzen, 2001; van Aalderen-Smeets et al., 2012).

Furthermore, attitude is not a one-dimensional concept, but rather is multi-dimensional with subcomponents that contribute to the evaluative judgments a person makes about an attitude object (Ajzen, 2001). For this reason, attitude is not measured unitarily but requires various subcomponents to be analyzed to determine a person's level of favor or disfavor toward a specific object (van Aalderen-Smeets et al., 2012). Most commonly used is the tripartite model of attitude which consists of three components: cognition, affect, and behavior (Breckler, 1984; Eagly & Chaiken, 2007; & van Aalderen-Smeets, 2012). The first component, cognition, is defined as the thoughts and beliefs a person has about the attitude object (van Aalderen-Smeets, 2012). The second component, affect, is the feelings and moods that a person has toward an object, and the third component, behavior, refers to a person's responses, intentions, or actions toward the object (Eagly & Chaiken, 2007; van Aalderen-Smeets et al., 2012).

Eagly and Chaiken (2007) discussed the conflicting beliefs of which of the three components is foundational to a person's attitude development. According to Eagly and Chaiken (2007), while some researchers favor affect, others endorse cognition as the core component of attitude. Though there is no consensus on which component weighs more heavily, Ajzen (2001) determined that people differ in their approach to developing their attitudes and lean more heavily on cognition or affect depending on the particular attitude object. Behavior, though

considered an essential aspect of attitude formulation, has not been discussed as a core component of a person's attitude (Ajzen, 2001; Eagly & Chaiken, 2007).

Cognition, affect, and behavior generally are positively correlated (Breckler, 1984). Breckler (1984) determined a moderate correlation between these three components when determining the validity of the tripartite model of attitude. Because behavior has not been determined a core component of attitude, and yet, attitude can still be used to determine behavioral intentions, a discussion about the theory of planned behavior is essential to gain an insight into the relationship between attitude and a person's behavior.

Theory of Planned Behavior

The theory of planned behavior (Ajzen, 1985) evolved from the theory of reasoned action (Ajzen & Fishbein, 1980) and has developed into an influential framework for studying human behavior (Ajzen, 2002). Within the theory of planned behavior, human behaviors are influenced by three main factors: behavioral beliefs, beliefs about the consequences or characteristics of the behavior; normative beliefs, beliefs about the expectations of other people; and control beliefs, beliefs about factors that may impede the intention of the behavior (Ajzen, 2002). According to the theory of planned behavior, people will act (behave) in a way that corresponds with their intentions and their beliefs about their control over the specific behavior (Ajzen, 2001).

Prior to the development of the theory of planned behavior, Ajzen and Fishbein (1977) proposed that a person's actions are directly related to his or her attitudes and that attitudes are held based upon how a person perceives an object within their world. Additionally, when a favorable attitude is held, a favorable behavior is likely to be performed, and an unfavorable behavior is unlikely (Ajzen & Fishbein, 1977). However, a person's attitude does not guarantee a corresponding behavior to occur. Rather, attitude corresponds to a person's intention, and that

intention along with perceived norms may influence the likelihood of a person demonstrating a behavior (Ajzen & Fishbein, 1977).

Perceived behavioral control. Although a person's intentions are likely to play a major role in his or her demonstrated behavior, nonvolitional elements, such as perceived control (controllability) and a person's self-efficacy, are critical factors that influence behavior (Ajzen, 2002). Controllability within the theory of planned behavior is the degree that a person feels confident in performing a behavior with consideration to his or her resources and his or her beliefs about overcoming the obstacles he or she may face (Ajzen, 2002). Ajzen (2002) claimed that when a person believes he or she has the required resources and will face few obstacles, he or she has a higher confidence in his or her ability to perform a behavior, and therefore, demonstrates a higher level of perceived control (Ajzen, 2002). However, when a person believes that he or she lacks resources or is likely to face several obstacles, he or she perceives the performance of a behavior as challenging and will demonstrate a low level of perceived control (Ajzen, 2002). A high level of perceived control is likely to increase a person's intention to perform a behavior which will, in turn, enhance his or her motivation (Ajzen, 2002).

Another aspect of the theory of planned behavior that has been found to account for a large variance in a person's intentions is a person's perceived self-efficacy (Ajzen, 2002). Perceived self-efficacy is a person's beliefs about their own abilities to successfully perform a certain behavior (Ajzen, 2002). While research has indicated that perceived self-efficacy may be more important in determining a person's intentions, a model that includes both self-efficacy and controllability as separate variables of perceived behavioral control provides greater insight into the likelihood of a person demonstrating a specified behavior (Ajzen, 2002).

Modified Tripartite Model

Previous research has indicated that cognition and affect are essential factors for measuring a person's attitude toward a specific object; however, a third component of the tripartite model, behavior, is vague in its correlation to the development of a person's attitude (Ajzen, 2002; van Aalderen-Smeets, 2012). Rather, behavioral intentions indicate the likelihood that a person will perform a specific behavior, and therefore, behavior is actually an outcome of attitude and not a construct of attitude (van Aalderen-Smeets et al., 2012). For this reason, van Aalderen-Smeets et al. (2012) argued that behavior is conceptually different than attitude and should not be used as a component to determine attitude. Instead, van Aalderen-Smeets et al. (2012) proposed replacing behavior in the original tripartite model with perceived control.

Perceived control is made up of two sub-constructs that align with Ajzen's (1985) theory of planned behavior: self-efficacy and contextual factors, also known as controllability (van Aalderen-Smeets et al., 2012). In previous studies of attitude, self-efficacy was not considered a component of attitude; however, by incorporating the theory of planned behavior into a modified tripartite model of attitude, self-efficacy becomes one factor within the concept of perceived control and works to influence behavioral intentions (van Aalderen-Smeets et al., 2012).

The theory of planned behavior has allowed for a conceptual advancement in the understanding of the constructs that make up attitude. Van Aalderen-Smeets et al.'s (2012) adoption of the theory of planned behavior as the basis of their restructuring of a model for attitude has opened a door for further research into self-efficacy and controllability. Within the context of teacher attitudes, the modified tripartite model provides an opportunity for researchers to understand how teachers' perceived control relates to teachers' attitudes. Due to the recent development of the modified tripartite model of attitude, new instruments, such as Mulholland's

(2016) Scale of ADHD-Specific Attitudes, are being developed. Further validation of these instruments is important to the advancement of understanding the complexity of attitude and its effect on teachers' behaviors.

Related Literature

Research around attitude had been fairly stable for some time, but with the development of a new model for attitude comes the need to further investigate how this model will aid researchers in adding to the body of literature. One area that has been a focus of study in educational research for 30 years, attention deficit hyperactivity disorder (ADHD), can benefit from new research regarding understanding teachers' attitudes toward this developmental disorder. Within this section, information will be presented about ADHD, including the academic and behavioral challenges that students with ADHD face. Previous research regarding teachers' knowledge and attitudes toward ADHD will be expanded upon, and the effects of teacher attitudes toward students will be emphasized.

Attention Deficit Hyperactivity Disorder

Attention Deficit Hyperactivity Disorder (ADHD) is one of the most common psychiatric disorders in children (Imeraj et al., 2013). According to parent reports, over 6.4 million children within the United States have at some point been diagnosed with ADHD by a healthcare provider (National Institute of Mental Health, 2014). Furthermore, the prevalence of ADHD diagnoses varies widely across states with Nevada reporting less than a 5% occurrence and several states, including multiple Midwestern states, reporting that more than 11% of children have been diagnosed with ADHD (CDC, 2017). Martin et al. (2017) cited that ADHD diagnoses included approximately 3-5% of students worldwide with a male to female ratio of 3:1. With a diagnosis

rate at this level, at least one student in every classroom will be impacted by ADHD (Bussing et al., 2012).

Attention Deficit Hyperactivity Disorder (ADHD) is classified as a neurobiological condition that causes delayed development within the prefrontal cortex (Daley & Birchwood, 2010). Hinshaw and Scheffler (2014) reported that brain research has suggested that the prefrontal cortex development of children with ADHD can be delayed by up to three years. Neuro-imaging depicted that the prefrontal cortex size is smaller for students with ADHD and does not reach its maximum thickness until age 11, whereas a typically developing child's brain reaches this developmental stage by age 8 (Daley & Birchwood, 2010; Hinshaw & Scheffler, 2014). A smaller prefrontal cortex can lead to deficits in working memory, self-regulation of emotion and motivation, and decreased inhibition (Bekle, 2004; Hinshaw & Scheffler, 2014). When working memory and inhibition are impacted, issues with inattentiveness, disruption, planning, and organization are likely to occur (Daley & Birchwood, 2010). ADHD does not only affect the prefrontal cortex; however, brain science has indicated that the problems a person with ADHD faces are the result of a condition that is spread throughout the brain (Hinshaw & Scheffler, 2014). While studies vary on the different causes of ADHD, executive function deficits and the compounded nature of several attention deficit symptoms may be the leading factors for academic challenges in students with ADHD (Daley & Birchwood, 2010).

ADHD is a complex disorder that affects diagnosed students differently. It manifests as symptoms of hyperactivity, impulsivity, and inattention which has led to an identification of subtypes to address the varying symptoms that are displayed (Daley & Birchwood, 2010; Sherman, Rasmussen, & Baydala, 2008). The subtypes of ADHD, as classified by the American

Psychiatric Association's Diagnostic and Statistical Manual 5th edition (DSM-V), are predominantly inattentive, hyperactive and impulsive, or a combination of both (APA, 2013).

Students with ADHD vary in the severity of their hyperactivity, impulsivity, and inattention. The interaction between these three dimensions results in the need to pay attention to each student's complex combination of behaviors. Symptoms of hyperactivity include increased disorganization, troubles staying seated, fidgeting, and noisiness (Kos, Richdale, & Hay, 2006; Raggi & Chronis, 2006). Students who are hyperactive are also likely to demonstrate impulsive behaviors, such as poor planning, blurting, starting tasks without needed information, and trouble completing long-term tasks (Raggi & Chronis, 2006). Like hyperactivity and impulsivity, inattention can immediately impact students' academic performance. Inattentiveness has shown to be the greatest factor in academic underachievement for students with ADHD (Tymms & Merrel, 2011). Students who are predominantly inattentive may have troubles following directions, staying on task, and completing work (Kos et al., 2006). Due to their inattention, these students may forget to complete and turn in work, may lose assignments, and shift activities frequently. The lack of attention to classroom instruction often leads students with symptoms of inattention to miss essential information and fall behind their peers (Tymms & Merrell, 2011; Raggi & Chronis, 2006).

Each student with ADHD will have varying levels of these three components. In order to be diagnosed with ADHD, a child must demonstrate six of nine symptoms of inattentiveness, six of nine symptoms of hyperactivity and impulsivity, or demonstrate symptoms of both sets of diagnostic symptoms (APA, 2013). These symptoms must also impact at least two settings and be present by the time the child reaches 12 years of age (Lawrence et al., 2017).

As stated previously, children and adolescents with ADHD struggle academically. Symptomatic behaviors include failure to complete work, switching tasks often, and distractibility which results in the unlikelihood of listening to instructions (DuPaul, Weyandt, & Janusis, 2011; Evans, Langberg, Egan, & Molitor, 2014; Kent et al., 2011). ADHD causes students to struggle with homework completion and comprehension of content (Raggi & Chronis, 2006). This, coupled with a lack of attention to detail and poor study skills, creates the perfect conditions for students with ADHD to fall behind academically (DuPaul et al., 2011; Evans et al., 2014).

Academic achievement. When considering academic achievement, the gap between students with ADHD and their comparable peers is startling. Bekle (2004) estimated that 95% of students with ADHD experience academic underachievement. Frazier et al. (2007) corroborated this prediction by stating that poor academic performance is one of the most evident outcomes of ADHD. A diagnosis of ADHD often results in students demonstrating lower academic achievement and lower GPA. An increase in retention rates and special education referrals, as well as, an increased probability of dropping out of school has also been shown to correlate to an ADHD diagnosis (Bussing et al., 2012; Kent et al., 2011; Major, Martinussen, & Wiener, 2013). Kent et al. (2011) determined that students with ADHD achieved an average of five to nine points lower on a 100-point scale GPA.

When comparing students diagnosed with ADHD to their intellectually equivalent peers, students with ADHD have demonstrated poorer academic achievement than would have originally been predicted (Bussing et al., 2012). The factors that lead to poor academic achievement for students with ADHD include failure to complete homework, lower comprehension of material, poor study habits, a lack of preparation for class, disruptive

behaviors, peer conflicts, and conflicts with their teachers (Raggi & Chronis, 2006). This low academic achievement may also be a result of the decreased engagement and reduced motivation of students with ADHD (Martin, Collie, & Burns, 2017). Major et al. (2013) predicted that problems with attention early in students with ADHD's academic careers can lead to missing out on essential skills that result in a lack of proficiency on classroom tasks. Beyond proficiency, the behaviors that students with ADHD demonstrate have been shown to lead to poorer outcomes in school exclusion, work completion, grade repetition, and transiency between different school systems (Martin, 2014).

Beyond classroom performance, Daley and Birchwood (2010) and Langberg, Molina, Arnold, Epstein, and Altaye (2011) cited that ADHD is also linked to significantly lower reading and mathematics standardized test scores. When accounting for intellectual ability, students with ADHD still demonstrated an achievement level that was up to one standard deviation below their like-ability peers (Bussing et al., 2012; DuPaul et al., 2006). Frazier et al. (2007) claimed that these lower achievement scores cannot be only attributed to contextual factors and are likely to be the result of real deficits in learning that have compounded due to a lack of adequate learning conditions.

While a higher proportion of students are diagnosed with ADHD during elementary school, the impact of an ADHD diagnosis on early adolescents is resounding. Bussing et al. (2012) and Langberg et al. (2011) determined that the academic difficulties that students experience in elementary school create a wider gap in achievement by middle school. Furthermore, Kent et al. (2011) provided research that implied that by adolescence, students with ADHD were four to five times more likely to be enrolled in lower level classes and

still hold lower GPAs. It was also determined that in core content areas failure of a course was three to five times more likely for adolescents with ADHD (Kent et al., 2011).

Behavioral challenges. Students with ADHD are classified as an academically at-risk group within education. This is due in part because of the academic challenges they face, but also because of the high levels of disruptive classroom behavior they display (Martin et al., 2017). Children with ADHD often demonstrate off-task behavior, less attention to established rules, less likelihood of returning to a task once interrupted, and a decreased ability to be flexible when shifting tasks throughout the day (Raggi & Chronis, 2006).

These struggles also spill over into a student with ADHD's social context. Children with ADHD have troubles maintaining eye contact, not interrupting others, and understanding another person's personal space (Lawrence et al., 2017). Cognitively, due to the academic and behavioral challenges they face, students with ADHD may lower their personal expectations, persevere less, and become discouraged about completing tasks. They tend to have less enjoyment in learning than their peers and prefer to complete easy tasks over the challenging tasks they may face (Raggi & Chronis, 2006).

The behaviors that students with ADHD display are not only challenging to the students with ADHD but also to his or her teachers and peers. Lawrence et al. (2017) found that teachers feel challenged when needing to interact with students with ADHD to keep them on task, minimize classroom interruptions, and optimize their learning. Peers often viewed students with ADHD negatively due to the classroom disruptions, but also because they feared that students with ADHD may have compromised their personal performance on group tasks (Ogg et al., 2013).

One contributing factor to underachievement for adolescents may be the high rate of attendance issues. Adolescents that were diagnosed with ADHD as children, were significantly absent and tardy more often than their peers (Kent et al., 2011). Students with ADHD on average were absent 26 days per school year which is double the absences of their non-ADHD peers (Kent et al., 2011, p. 459). In a study conducted by Kent et al. (2011), it was determined that the absenteeism displayed resulted in lower academic achievement and an increased likelihood of risky behavior. The high rate of absenteeism, likelihood to engage in risky behavior, and the struggles within the classroom environment compound to result in a dropout rate 8.1 times higher for adolescents with ADHD (Daley & Birchwood, 2010; Kent et al., 2011, p. 460). Research indicated that this underachievement and likelihood of dropping out continues into adulthood. Daley and Birchwood (2010) found that adults that were diagnosed with ADHD were less likely to complete a bachelor's degree or other postgraduate degree compared to controls within the study.

Comorbidity. A compounding factor to the academic and behavioral challenges that students with ADHD face is that ADHD is correlated to other academic and behavioral disorders. Students with ADHD are at an enhanced risk to be diagnosed with disorders such as oppositional defiance, learning disabilities, and depression (Daley & Birchwood, 2010; Dekkers et al., 2017). Meinzer et al. (2013) stated that 50-80% of people who are diagnosed with ADHD display symptoms of other psychosocial impairments by the time they reach adolescence. This aligns with the APA's (2013) statistics that of people diagnosed with ADHD, 33% have anxiety disorders, 25% have depression, and 55% have oppositional defiant disorder. Mulholland (2016) discussed that students with ADHD are also three times more likely to have a learning disability

than children without an ADHD diagnosis and that approximately 45% of students with ADHD have a co-morbid learning disability in reading, writing, or mathematics.

ADHD's inclination to be co-morbid emphasizes a further need to decrease symptoms and provide quality interventions for students within the classroom setting. Major et al. (2013) determined that attention problems that begin during early childhood relate to future academic underachievement. The researchers claimed that students with ADHD are impaired in the domains of academics, peer relationships, and mental health (Major et al., 2013). Martin et al. (2017) corroborated this finding by stating that students with ADHD are classified as academically at-risk. At-risk, as defined by Martin et al. (2017), includes an increased likelihood for disruptive behavior, lower academic achievement, and an enhanced probability of grade retention.

Classroom environment. According to Anderson, Watt, and Noble (2012) the behaviors and academic challenges that students with ADHD face are more noticeable in the classroom setting. Imeraj et al. (2013) agree with Anderson et al. (2012) by stating that the classroom is the predominant place for students with ADHD to demonstrate problematic behaviors. Students with ADHD are forced into an environment that conflicts with the symptoms that these students exhibit (Anderson et al., 2012; Hinshaw & Scheffler, 2014). Specifically, the challenges students with ADHD face impact academic achievement due to the structure of the classroom setting. The classroom environment requires that students demonstrate motivation, ability to process information, and self-regulation (Imeraj et al., 2016). These expectations can be demanding for students who lack the executive functioning to demonstrate attention and impulsivity control. Additionally, the classroom environment expectations remain challenging for students with ADHD due to the difficulties they face following directions, completing

schoolwork on time, taking turns, listening to others, and contributing appropriately to classroom games and discussions (Bussing et al., 2012; Daley & Birchwood, 2010).

The classroom setting is also very demanding in its requirements for students to regulate their behavior, be self-motivated, and process information independently (Imaraj et al. 2013). These expectations can be challenging for students with ADHD because they often have skill deficits in these areas (Imeraj et al. 2016). Kos et al. (2006) described students with ADHD's tendency to be disorganized. In an environment where students need to be able to demonstrate independence, disorganization can be a major cause of behavioral interruptions and academic challenges within the classroom. Furthermore, Imeraj et al. (2016) found that children spent an average of 12% of their day in idle time. This unstructured time can be challenging for students with ADHD because of their troubles with self-regulation and their likelihood to demonstrate hyperactive behaviors. All these factors combined can lead to an environment that limits students with ADHD's ability to see success within an academic setting.

Interventions for Students with ADHD

With a high rate of diagnoses of ADHD for students and the increased likelihood of co-morbid disorders, appropriate interventions are essential to helping students with ADHD find academic success. Moore, Russell, Arnold, and Ford (2017) studied the interventions provided for students with ADHD. They found that teachers reported using strategies that focused on the specific skills that were underdeveloped for students with ADHD. Strategies used to help students with ADHD included academic, behavioral, environmental, and medical interventions.

Academic. The academic interventions that students with ADHD receive focus primarily on manipulating the instructional conditions to improve behavioral and academic outcomes (Raggi & Chronis, 2006). These academic interventions may include reducing a task's length,

chunking that task into smaller parts, giving explicit instruction, and modifying the delivery of instruction to meet the individual student's learning style (Raggi & Chronis, 2006). Bussing et al. (2012) stated that it is imperative that academic interventions incorporate techniques that are proven effective for students with ADHD such as scaffolding instruction and teaching self-regulation skills. They go on to indicate that is it essential for students to receive assistance with organizational skills and classroom skills, such as note-taking, to experience long-term academic success. Ogg et al. (2013) also emphasized the need to provide explicit teaching that focuses on giving students with ADHD skills that enable them to improve their academic performance.

Behavioral. While academic interventions focus on the specific skill gaps that students have as related to their self-regulation and content gaps, behavioral interventions are the primary focus of most interventions provided to students with ADHD. Much research has been done related to improving student motivation. Morsink et al. (2017) found that most of the research related to motivation has focused on extrinsic factors and reinforcement of task performance. Although performance-based rewards do have more of an impact on the students with ADHD compared to their peers, students with ADHD may need more frequent and larger rewards to maintain their personal motivation to complete tasks and follow through with instructions (Morsink et al., 2017).

In addition to a rewards-based system for students with ADHD, the use of relationship-based strategies to promote academic and non-academic student behavior is effective (Honkasilta, Vehkakoski, & Vehma, 2016). Honkasilta et al. (2016) found that when teachers use strategies such as discussion, hinting, and meaningful praise rather than punishments or reprimands, student behavior improved. In other words, when teachers use reactive classroom management strategies, students with ADHD's disruptions and misbehavior increased and

quality of schoolwork decreased (Honkasilta et al., 2016). Reactive strategies were also unsuccessful in helping students to develop a sense of responsibility toward completing work and decreased their sense of connectedness to their peers (Honkasilta et al., 2016).

Environmental. While putting academic and behavioral interventions in place for students with ADHD is important, without making strategic changes to the students' environments, students with ADHD will continue to struggle. Raggi and Chronis (2006) indicated that the environmental interventions needed include increasing structure and organization of the classroom, creating manageable goals, and increasing interest-based learning to sustain attention. By improving the structure of the classroom, the predictability of what is coming next also improves. This can be done by posting a daily schedule and classroom rules, giving clear instructions, and developing special routines for classroom transitions (Gibbs et al., 2016; Imeraj et al., 2016; Raggi & Chronis, 2006).

In addition, increasing positive student-teacher relationships and positive student-peer relationships is an effective strategy to help students feel motivated and safe in the classroom. To aid in this development, positive interactions from adults and social skills training should be provided to students with ADHD (Moore et al., 2017). Teachers should model positive interactions with students with ADHD and demonstrate patience, clarity, and acceptance when interacting with students (Bekle, 2004).

Medical. Beyond classroom interventions, medical intervention can be an effective way to help students with ADHD experience success. Kern, Zaytoon, Seabi, and Vorster (2015) indicated that of students who take medicine to help manage symptoms of ADHD, 70% to 90% of children responded positively. The medications usually involve using stimulants to impact the central nervous system and allow students to focus and control their hyperactivity and

impulsivity throughout the day. Medical interventions were the most referenced intervention when interviewing teachers about what they understood about students with ADHD (Anderson et al., 2012; Moore et al., 2017).

Identifying and Teaching Students with ADHD

ADHD negatively impacts children's chances of school success (Ohan et al., 2011). As evidenced by the types of interventions teachers provide to students with ADHD, teachers play an integral role in the academic and behavioral success of these students. Teachers are also one of the primary referral sources for diagnosing students with ADHD due to the amount of time they spend with students and the information they have related to student performance (Anderson et al., 2012; Liang & Gao, 2016). Teachers often identify students prior to an ADHD diagnosis and recommend students suspected of having ADHD for evaluation and treatment. Due to their role in student diagnoses, teachers must be able to recognize the need to provide interventions and accommodations to these students. Teachers need to be familiar with academic, behavioral, and environmental interventions and implement the interventions that are appropriate for the student's specific needs (Bekle, 2004). Once diagnosed, teachers of students with ADHD are tasked with continuing to implement research-based interventions and evaluating student progress as related to the interventions established (Anderson et al., 2012).

Beyond the structured interventions put in place, teachers work to improve students' social development which is imperative to helping students with ADHD experience success at school (Gibbs et al., 2016). Martin et al. (2016) found that positive teacher-student relationships led to an increase in academic achievement. Teachers are tasked with finding ways to foster positive relationships that promote appropriate social skills for students with ADHD (Martin et al., 2016). Teachers who work with students with ADHD need to demonstrate patience,

consistency, acceptance, and clarity in their interactions with their students. The roles that teachers play can be a challenging and taxing aspect of educating students with ADHD because the many behaviors demonstrated may influence a teacher's ability to complete the daily tasks planned for the day (Zee, de Jong, & Koomen, 2016).

Teacher Knowledge of Attention Deficit Hyperactivity Disorder

According to Anderson et al. (2012), teachers' knowledge and attitudes toward students with ADHD are likely to affect the behavior and learning performances of students within their classrooms. Since teachers are often the primary identifiers of students with ADHD, a lack of knowledge about ADHD may cause teachers to over refer or to miss significant behaviors of a student who may need further evaluation (Ohan et al., 2008). Previous research related to teachers' knowledge about ADHD has used subscales to measure the different types of knowledge that teachers have. By using subscales to determine teacher knowledge, researchers have been able to determine gaps in teachers' knowledge about ADHD (Anderson et al., 2012). Anderson et al. (2012) define knowledge as "the extent of information about an issue that can be recalled" (p. 514). Knowledge can be perceived or objective and can determine teachers' decisions and behaviors toward students with ADHD (Anderson et al., 2012).

Previous studies. Within the last 30 years, research around teachers' knowledge and attitudes toward ADHD has evolved. Jerome et al. (1994) created a 20-question instrument to study the knowledge Canadian and American teachers had about ADHD. Jerome et al.'s (1994) knowledge survey consisted of 20 true/false questions. The researchers determined that teachers accurately answered 77.5% of the questions correctly. By 1999, Jerome, Washington, Laine, and Segal used the same instrument to analyze the difference between pre-service and in-service teachers' knowledge about ADHD and had similar results. That measurement tool became

foundational to the development of other measurement tools to gain further insight into teacher knowledge about ADHD (e.g. Anderson et al., 2012; Kos et al., 2004; Ohan et al., 2008). Ohan et al. (2008) also used Jerome et al.'s (1994) questions and replicated the study with teachers answering 76% of the questions correctly. Ohan et al. (2008) stated that the teachers' knowledge of ADHD was well above chance, and teachers answered correctly on questions related to knowledge and to misconceptions. Areas of strength for teacher knowledge about ADHD were the symptoms and diagnostic criteria; however, treatment options was a weaker area of teacher knowledge (Sciutto et al., 2000; West, Taylor, Houghton, Hudyma, 2005). While consistency among the research is encouraging, research about ADHD has been ongoing and teacher knowledge has not demonstrated growth over the past 20 years (Ohan et al., 2008).

Teaching experience. While research about the strengths and weaknesses toward the areas of teacher knowledge appear to be consistent, the results of whether teaching experience influences teachers' knowledge about ADHD is somewhat conflicted. Most studies have found a correlation between teaching experience and teacher knowledge about ADHD (e.g. Anderson et al., 2012; Jerome et al., 1997; Kos et al., 2004). Jerome et al. (1994) determined that within their sample of Canadian teachers, teaching experience was directly correlated to ADHD knowledge. Kos et al. (2004) validated this finding by citing that teachers with experience scored 60.7% correct on their survey versus 52.6% for pre-service teachers. Anderson et al. (2012) also found that in-service teachers had higher total knowledge of ADHD than pre-service teachers. These results suggest that important knowledge about students with ADHD is gained within the classroom rather than through university courses (Anderson et al., 2012; Kos et al., 2004). Mulholland et al.'s (2015) recent study also corroborated previous research stating that

teaching experience as measured in years was a significant predictor of teacher knowledge of ADHD.

Sciutto et al. (2000), on the other hand, determined that the number of students with ADHD that a teacher has interacted with throughout his or her career likely contributed to his or her knowledge about ADHD. While this finding validates the above research, it also provides a basis for an argument that exposure, not necessarily experience, is the key element toward determining the strength of knowledge that a teacher has about ADHD. Bell et al. (2011) was the only study found that determined that teaching experience was not related to teachers' ADHD knowledge. Bell et al. (2011) argued that within their study, younger teachers had more knowledge about ADHD than more experienced teachers. They went on to state that they believed that exposure to students with ADHD, more than teaching experience, may be a better predictor of teacher knowledge.

Kern et al. (2015) and Lawrence et al. (2017) both stated that teachers gain knowledge and training about ADHD from informal channels rather than formal education. Lawrence et al. (2017) reported that teachers felt that their training related to teaching students with ADHD was inadequate and that many teachers indicated that further training was necessary. Considering that teachers are often the first people to notice symptoms of hyperactivity and inattention and that teacher knowledge can influence how students with ADHD are taught, information about providing teachers with further training related to ADHD is essential (Kern et al., 2015; Kos et al., 2004).

Teacher Attitudes toward Attention Deficit Hyperactivity Disorder

While there is strong research regarding teachers' knowledge about ADHD, research that has been conducted in regard to how teachers' knowledge relates to their attitudes toward

students with ADHD has been conflicted (Lawrence et al., 2017; Mulholland et al., 2015). Bekle (2004) originally asked about attitude by adding one question to Jerome et al.'s (1994) 20 question instrument. Bekle (2004) found that there was a significant correlation to teacher knowledge and teacher attitudes toward ADHD. Bell et al. (2011) later reported a similar finding, stating that as teachers' knowledge about ADHD improves their attitudes toward students with ADHD also improves. Anderson et al.'s (2012) research, however, provided inconsistency to these findings. Their results showed that as teachers gain knowledge about ADHD, they develop less favorable affect but more positive behaviors toward students with ADHD. Conflicting with the previous research, more recent studies by Liang & Gao (2016) and Mulholland et al. (2015) indicated that as teachers' knowledge about ADHD improved, their attitude toward ADHD decreased.

While research analyzing teachers' attitudes toward students with ADHD has been reported as studied, Mulholland (2016) argued that most studies demonstrated some kind of issue related to the measurement of attitude. Some only looked at teacher knowledge, some had issues with the conceptual framework of the instrument used, and some focused only on a specific aspect of attitude rather than attitude in its entirety (Mulholland, 2016). Originally, researchers such as Sciutto, Terjesen, and Frank (2000) reported connections to self-efficacy and teacher attitudes while only using an instrument intended to measure knowledge about ADHD. Bekle (2004) attempted to improve the measurement of attitude using one Likert-style 7-point scale. This overall attitude toward ADHD would only be able to report favorable or unfavorable beliefs about students with ADHD (Anderson et al., 2012). Ohan et al. (2008) and Ohan et al. (2011) used vignettes, while Liang & Gao (2016) used a semi-structured interview to determine attitudes of teachers toward students with ADHD. Though the qualitative nature of these

processes provided information about teachers' attitudes, data could not be collected to determine relationships between teacher attitudes and other variables.

Anderson et al. (2012) was the first study to incorporate the tripartite model of attitude as the theoretical framework that helped develop the questions asked of teachers about their attitudes toward teaching students with ADHD. Anderson et al.'s (2012) study consisted of a global attitude scale, open-ended responses related to stereotypical beliefs, teaching beliefs, affect, and past behavior and four questions related to teachers' experience with ADHD. While Anderson et al.'s (2012) study was revolutionary in regard to quantifying an attitude toward ADHD measurement, the study's internal consistency and validity were not reported.

Mulholland (2016) developed an instrument called the Scale of ADHD-Specific Attitudes (SASA). This measurement tool also used a tripartite model of attitude; however, Mulholland (2016) chose to align the measurement tool with van Aalderen-Smeets et al.'s (2012) modified tripartite model. The development of this instrument provided information about ADHD constructs as well as five specific factors related to attitudes toward ADHD. The SASA is a Likert-style survey which provides numerical data for overall attitude and breaks down data related to the independent factors associated with attitude toward ADHD.

Mulholland's (2016) study used the SASA instrument to analyze attitudes while looking at multiple predictor variables. One of the variables identified was teachers' experience with students with ADHD. The research indicated that there was a significant relationship between the number of years a teacher had been teaching and teacher attitudes toward ADHD.

Stigma. One thing that all research has in common is the belief that there is a correlation between attitudes and behavior. Specifically, researchers have found that teachers' knowledge about ADHD and their attitudes towards ADHD can influence their behaviors toward these

students (Mulholland et al., 2015). When positive, the correlation between attitudes and behavior can have a profound positive effect on student achievement, but when teachers hold stigmatized views about students with ADHD, student achievement outcomes can be negatively impacted (Eisenberg & Schneider, 2007). Stigma is a set of negative beliefs held by a person or group of people (Bell et al., 2011). Bell et al. (2011) noted that people are predisposed to notice differences between themselves and others, but when biases occur due to these observations, stigmatized views may result. When considering students with ADHD, the National Stigma Study polled the general public and found that nearly half of the respondents could not identify what ADHD was and 20% of respondents did not identify ADHD symptoms as a mental disorder (Bell et al., 2011).

The National Stigma Study was not the only study to find that students with ADHD are stigmatized. Bell et al. (2011) found that both teachers and parents had more negative expectations about academic outcomes for students with ADHD compared to their like-ability peers. Ohan et al. (2011) found that in-service and pre-service teachers had different reactions to students who they were told were labeled as ADHD. While Ohan et al.'s (2011) study found that teachers were more likely to take extra time and put forth extra effort to help students with ADHD, the label of ADHD decreased the teachers' academic expectations for that student. Kern et al. (2015) found that teachers often altered their approach to teaching students with ADHD once they were informed of the diagnosis. When teachers within Kern et al.'s (2015) study had incorrect perceptions of ADHD, they often changed their interactions with students diagnosed with ADHD, further stigmatizing the learner. Eisenberg and Schneider (2007) found that teachers perceived students with ADHD as performing poorer in reading and math. These negative perceptions were so profound that the assumptions about the students' ability could not

be validated even after accounting for assessment scores, perceived externalizing behaviors, and other contextual factors (Eisenberg & Schneider, 2007).

Stigma can impact students with ADHD in multiple ways. When teachers rate students differently based on this diagnosis, it can affect the teachers' and the students' behaviors which will play a role on the academic achievement of the student (Sherman et al., 2008). The stigmatized beliefs that a teacher holds due to the behaviors a student with ADHD demonstrates in class can lead a student to take an oppositional stance toward the teacher and a perception that the teacher is unfair and insensitive (Honkasilta et al., 2016). This perception and constant negative classroom interactions can lead students with ADHD to decrease their effort toward managing their behavior and complying with the classroom expectations and norms (Honkasilta et al., 2016).

Teacher beliefs. Not all beliefs teachers have toward students with ADHD are stigmatizing. Other beliefs relate to their confidence and thoughts about teaching students with ADHD. Anderson et al. (2012) found that when teachers had higher knowledge about the characteristics of ADHD, they felt less confident to teach students with ADHD. This conflicted with Bell et al.'s (2011) study that had data to support that as teachers are more knowledgeable about ADHD, they felt more competent in their ability to teach students with ADHD. While Bell et al. (2011) found that confidence is increased with knowledge about ADHD, it is apparent that there is a feeling of helplessness and frustration when teaching students with ADHD (Hong, 2008). Teachers have troubles distinguishing behaviors typical of students with ADHD from problematic behaviors of typically developing students and feel as though they are limited in their ability to control the classroom environment effectively (Hong, 2008). Furthermore, when teachers have a decreased level of confidence, there is a chance that this lack of efficacy in

teaching students with ADHD may limit teachers' effort and perseverance when working with students with ADHD (Ohan et al., 2011).

Teacher knowledge. Though much is known about teachers' knowledge about ADHD, a focus on how teachers' knowledge correlated to teachers' attitudes became a concentration of researchers. Ohan et al. (2008) found that teacher perceptions of ADHD were affected by teachers' knowledge of ADHD. Teachers often held negative feelings toward students with ADHD and experienced stress due to the behaviors exhibited in the classroom (Mulholland et al., 2015). In multiple studies, teachers cited that it was their lack of knowledge that made them feel frustrated when trying to manage students with ADHD in the classroom (Bekle, 2004; Hong, 2008; Liang & Gao, 2016). Bekle (2004) reported that teacher knowledge about ADHD was positively correlated to their attitudes toward ADHD. Teachers were also found to demonstrate more helpful behaviors and implement interventions more effectively when they demonstrated average to high knowledge about ADHD (Anderson et al., 2012; Ohan et al., 2008). Sherman et al. (2008) concurred with these findings by stating that when teachers are knowledgeable, they understand the appropriateness of necessary interventions and implement the interventions into the classroom in a way that can impact students' behavior and educational outcomes.

Teaching experience. As previously stated, knowledge about ADHD is correlated to teachers' experience and exposure to students with ADHD. This experience gives teachers more confidence in adjusting lessons and materials, making appropriate instructional interventions, and managing student behavior. However, research related to the attitudes teachers hold toward students with ADHD and its relationship to the number of years a teacher has been teaching is limited. The current research on the topic found that the number of years a teacher had been teaching had a significantly negative impact on the attitudes that teachers hold toward students

with ADHD (Mulholland et al., 2015). Mulholland et al. (2015) provided the possible explanation that as teachers become more experienced, they become less tolerant of behaviors that disrupt their class. These results contest the results researchers obtained when studying how teaching experience relates to teacher knowledge and how teacher knowledge relates to teacher confidence in teaching students with ADHD. For this reason, further studies need to be conducted to provide clarification on how teaching experience relates to teachers' attitudes toward students with ADHD.

Teacher Self-Efficacy

Teacher attitudes are often times a reflection of teachers' self-efficacy. Teacher self-efficacy, as defined by Klassen and Chiu (2010), is "the beliefs that teachers hold about their capability to influence student learning" (p. 741). Holzberger, Phillip, and Kunter (2013) reinforced this definition but added that self-efficacy also relates to teachers' beliefs that they can effectively teach difficult students. Teacher self-efficacy impacts teachers' behaviors, and as a result, student motivation and achievement are also affected (Holzberger et al., 2013; Klassen & Chiu, 2010). Teachers with high self-efficacy demonstrate strong classroom management skills, use effective teaching practices, and set higher learning goals for their students. Whereas, teachers with low self-efficacy have been found to have a substandard rapport with students and are less effective practitioners. Klassen and Chiu (2010) explained that low teacher self-efficacy correlates with higher levels of stress and lower job satisfaction.

Teacher self-efficacy is believed to be related to teaching experience. During the early years of a teacher's career, a teacher's self-efficacy more readily changes; however, as teachers gain experience, a profile of their self-efficacy becomes established (Klassen & Chiu, 2010). In 2010, the average teacher had approximately 14 years of experience (Klassen & Chiu,

2010). While further teaching experience solidifies teachers' belief in their abilities, contextual factors, such as the behaviors of a student with ADHD, can change a teacher's self-efficacy over time (Klassen & Chiu, 2010).

Student Self-Efficacy

Students with ADHD present many challenges to a classroom dynamic, and for this reason, it is not surprising that teachers' attitudes toward students with ADHD may be negative. However, teachers' attitudes can play a major role in the self-efficacy and academic achievement of students with ADHD (Sherman et al., 2008). Self-efficacy is influential to a student's ability to self-regulate and to make choices that impact their academic achievement. Martin et al. (2016) stated that self-efficacy could predict higher achievement and that students with high self-efficacy showed greater engagement and academic achievement within school.

Compounding these findings, students with ADHD were more affected by self-efficacy than typically developing peers. Martin et al. (2016) went on to state that the positive effects of self-efficacy were significantly stronger for students with ADHD and that having positive self-efficacy may be a deciding factor for whether students with ADHD persevered when faced with academic challenges. Though self-efficacy is important, especially for students with ADHD, students with ADHD have been found to generally have lower self-efficacy and lack the relational support needed to improve their academic persistence (Martin et al., 2016). Eisenberg and Schneider (2007) stated that students' self-esteem is highly sensitive to the perceptions of the people around them, including their teachers. When a teacher holds a negative bias, even if not overtly expressed, students with ADHD can recognize those perceptions and demonstrate feelings of worthlessness, hopelessness, and isolation (Lawrence et al., 2017; USDHHS, 1999).

Expectancy effect. The negative expectations that teachers hold for students with ADHD can impact those students' self-esteem, motivation, and academic performance (Honkasilta et al., 2016). Murdock-Perriera and Sedlacek (2018) used the term "expectancy effect" to describe the phenomenon of teachers' beliefs affecting student outcomes. Teachers may respond differently to students based on the expectations they hold for them (Murdock-Perriera & Sedlacek, 2018). Bell et al. (2011) explained that students with ADHD internalize the negative perceptions others have about them. Bell et al. (2011) used the term "self-fulfilling prophecy" to describe when an individual begins to accept the beliefs of others as true, and as a result, the person performs up to or down to the expectations of others.

Children and adolescents are at a critical time in self-identity formation. The effects of teachers' perceptions may profoundly impact the likelihood that students embrace the expectations and beliefs of their teachers (Bell et al., 2011). Ohan et al. (2011) further explained that the negative expectations that teachers hold can increase the chances that students demonstrate the negative behaviors expected of them. Kendall (2016) stated that teachers often have negative beliefs about students with ADHD in regard to academic achievement, and this may impact the academic achievement of these students. Other researchers have stated that the label "ADHD" can have long-term academic consequences for students because of the extent that teachers' expectations impact the beliefs that students have about their ability to achieve (Murdock-Perriera & Sedlacek, 2018; Ohan et al., 2011).

Furthermore, teacher expectations can change teacher-to-student interactions. Research indicates that when teachers have low expectations of students, they receive fewer quality educational experiences (Murdock-Perriera & Sedlacek, 2018). Teachers may demand less of students with ADHD by calling on them less frequently, praising them less, and criticizing them

more than their typically developing peers (Bekle, 2004). These negative responses leave students with ADHD to feel isolated and incapable of experiencing success; however, when teachers maintain a positive attitude toward students with ADHD, the beliefs that teachers hold toward those students can have a profound impact on their academic success (Glock & Kovacs, 2013; Kendall, 2016; Murdock-Perriera & Sedlacek, 2018).

Summary

Recognition of the symptoms of Attention Deficit Hyperactivity Disorder (ADHD) within the United States began when compulsory education laws were established. Students were required to sit still in classrooms, maintain focus, and demonstrate self-regulation. The rapid rate of ADHD diagnoses indicates that students with ADHD will continue to be prevalent in public school classrooms. With pressure on educators to increase student achievement and perform on standardized assessments, the academic and behavioral struggles that students with ADHD face will continue to prove challenging for educators.

Teachers are required to manage multiple dynamics within the classroom and adding the demanding component of meeting the needs of students with ADHD can impact teachers' perceptions of these students. Teachers' knowledge about ADHD can benefit them in providing a learning environment that allows students with ADHD to succeed. While teachers' knowledge about ADHD increases with experience, there is little clarity about how experience is related to teachers' attitudes toward teaching students with ADHD. A newly developed instrument structured around a modified tripartite model of attitude may provide critical pieces of information into how the various constructs of attitude influence teacher behavior. Evidence suggests that teachers' attitudes affect student achievement. Although teachers may not explicitly indicate their beliefs about students, unconscious behaviors can influence student

perceptions and the climate of the classroom. Students with ADHD are receptive to the attitudes that their teachers hold about them; therefore, understanding teachers' attitudes toward ADHD is imperative to providing a learning environment that is appropriate for students with ADHD.

CHAPTER THREE: METHODS

Overview

The purpose of this study was to determine the relationship between teachers' years of experience and their attitude toward teaching students with attention deficit hyperactivity disorder (ADHD). Chapter Three will discuss the correlational design of the study and clarify the predictor and criterion variables that will be used. The research questions and null hypotheses will be presented to communicate to the reader the relationships being studied, and the participants and setting will provide clarification of the population to be used. The survey-style instrument and other measurements are communicated, and a detailed description of the procedure and data analysis is given for future replication.

Design

For this study a correlational design was used. The purpose of a correlational design is to analyze the strength and direction of a relationship between two or more quantitative variables (Gall et al., 2007). During a correlational design, no attempt is made to influence a group's behavior, and variables are not experimentally controlled or treated (Gall et al., 2007). A positive correlation occurs when the predictor variable and the criterion variable move in the same direction. A negative correlation occurs when the predictor variable either increases or decreases and the inverse occurs with the criterion variable (Warner, 2013).

The predictor variable was the years of teaching experience of full-time K-12 public education teachers. A year of teaching experience is defined as a teacher's successful completion of a school year 180 days or 1,080 hours while maintaining continuous employment (National Center for Educational Statistics, 2015). The criterion variable was teacher Attitude toward Attention Deficit Hyperactivity Disorder (ADHD). The concept of attitude is

multidimensional. In order to define teacher attitude toward ADHD, a tripartite model of attitude was used. The first construct of attitude was cognition. Cognition includes teachers' beliefs about how students ADHD impact the teaching process (Anderson et al., 2012). Teachers can have negative or positive beliefs about the impact children have on the teaching process. The second construct of attitude was affect, which refers to the emotions teachers have about teaching students with ADHD (Anderson et al., 2012). Teachers may experience positive affect when they see students with ADHD succeeding in their classes. Teachers may experience negative affect, however, when they are frustrated with teaching students with ADHD. The third construct of attitude was perceived control. Perceived control has two dimensions, self-efficacy and contextual dependency (van Aalderen-Smeets et al., 2012). Teachers may demonstrate positive perceived control when they feel as though they have choice in decision making when teaching students with ADHD. However, negative perceived control may be evident when a teacher does not have confidence in their teaching of students with ADHD, or they do not feel like they have control over their classroom environment or the decisions made that impact the classroom environment.

Research Questions

RQ1: Is there a significant relationship between the years of teaching experience of K-12 public education teachers and their attitude toward Attention Deficit Hyperactivity Disorder (ADHD)?

RQ2: Is there a significant relationship between the years of teaching experience of K-12 public education teachers and their feelings about teaching students who exhibit ADHD-type behaviors?

RQ3: Is there a significant relationship between the years of teaching experience of K-12 public education teachers and their knowledge and training related to ADHD?

RQ4: Is there a significant relationship between the years of teaching experience of K-12 public education teachers and their desire for better training related to ADHD?

RQ5: Is there a significant relationship between the years of teaching experience of K-12 public education teachers and their beliefs about ADHD and its associated behaviors?

Hypotheses

$H_0$1: There is no significant relationship between the years of teaching experience of K-12 public education teachers and their attitude toward ADHD.

$H_0$2: There is no significant relationship between the years of teaching experience of K-12 public education teachers and their feelings about teaching students who exhibit ADHD-type behaviors.

$H_0$3: There is no significant relationship between the years of teaching experience of K-12 public education teachers and their knowledge and training about ADHD.

$H_0$4: There is no significant relationship between the years of teaching experience of K-12 public education teachers and their desire for better training about ADHD.

$H_0$5: There is no significant relationship between the years of teaching experience of K-12 public education teachers and their beliefs about ADHD and its associated behaviors.

Participants and Setting

The population of the study included K-12 full-time public education teachers in the southwest region of a Midwest state during the 2018-2019 school year. This region primarily consists of rural community school districts with an average student to teacher ratio of 12:1. For this study, the population consisted of 43 school districts that are part of an education agency

determined by the state's Department of Education. From the population, a convenience sample of 500 teachers was taken from eight K-12 public school districts. The school districts within the sample were selected by the researcher and chosen because of their representation of the span of demographics within the population. See Table 1 for participating school district demographics.

Table 1

Sample School Districts' Demographic Distribution

School District	No. of Teachers	Rural, Town, or City	Student to Teacher Ratio	Student Ethnic Diversity	Free and Reduced Lunch	IEP	Average Teacher Experience
School #1	135	City	15:1	15.46%	40.10%	9.54%	15.0
School #2	123	Town	11:1	35.19%	58.20%	13.13%	13.2
School #3	101	Rural	10:1	9.62%	45.95%	5.33%	9.4
School #4	82	Rural	12:1	12.85%	64.70%	11.13%	14.7
School #5	37	Rural	10:1	5.79%	38.00%	7.30%	8.7
School #6	25	Rural	15:1	3.91%	46.40%	19.44%	11.4
School #7	18	Rural	12:1	6.55%	67.50%	5.43%	6.8
School #8	17	Rural	12:1	9.44%	66.90%	8.54%	14.5

[a]The category Student Ethnic Diversity gives the percentage of students who do not identify as Caucasian/Non-Hispanic. [b]Average Teacher Experience is measured in years.

A consent letter was sent to each school district's administrator. Consent was given by each participating school district to contact and obtain consent from the teachers within that district. After obtaining consent from teachers within each participating school district, 112 participants were included in the study. According to Gall et al. (2007), 66 participants are required for an alpha level of .05 and a statistical power of .7; therefore, the sample exceeded the required minimum for a medium effect size (p. 145). Of the participants to be surveyed, 17 were

male and 95 were female. The participants' ethnic background consisted of 111 Caucasian, 0 African American, 0 Hispanic, and 1 Other.

The average age range of the participants was 35 – 44 years old. The participants ranged in years of experience from 1 to 40 with the average years of experience being 14.88. The participants' primary area of teaching consisted of 89 general education teachers and 23 special education teachers.

Instrumentation

Scale for ADHD-Specific Attitudes (Criterion Variable)

The instrument used for the study, the Scale for ADHD-Specific Attitudes (SASA), was developed by Mulholland (2016) (see Appendix A for the instrument). The purpose of the SASA was to measure teachers' attitudes toward Attention Deficit Hyperactivity Disorder (ADHD). The SASA includes 30 questions using a 6-point Likert-style scale that ranged from strongly disagree to strongly agree. Responses were 1= strongly disagree, 2 = disagree, 3 = somewhat disagree, 4 = somewhat agree, 5 = agree, and 6 = strongly agree. A maximum score on the SASA is 180, and the instrument has a minimum score of 30. A score of 180 means that teachers had positive attitudes toward teaching students with ADHD, whereas a score of 30 means that teachers have negative attitudes toward teaching students with ADHD. This instrument is delivered in survey form and takes approximately 10 minutes to complete. For the purpose of this research, the researcher will score the participants' responses.

The SASA was developed because previous research suggested that teacher attitudes were measured; however, those studies primarily collected data on teacher knowledge rather than teacher attitudes (Anderson et al., 2012; Bekle, 2004; Sciutto et al., 2000), or used qualitative

methods such as vignettes or semi-structured interviews to determine teacher perception (Liang & Gao, 2016; Ohan, Cormier, Hepp, Visser, & Strain, 2008; and Ohan et al., 2011).

The SASA was created using a modified tripartite model of attitude created by van Aalderen-Smeets et al. (2012). The components of this model include cognitive beliefs, affective states, and perceived control. Cognitive beliefs, as defined by van Aalderen-Smeets et al. (2012), are the thoughts and beliefs a person has about a specific topic. Affective beliefs, on the other hand, are the emotions that a person holds about the topic being considered (van Aalderen-Smeets et al., 2012). These two components align with the traditional tripartite model of attitude (Rosenberg & Hovland, 1960). A study by van Aalderen-Smeets et al. (2012) argued that the third component of a traditional tripartite model of attitude, behavior, is conceptually different than attitude and is an outcome of attitude not part of what makes up a person's attitude itself. Van Aalderen-Smeets et al. (2012) instead replaced behavior with the perceived control component. Perceived control relates to a person's self-efficacy and contextual dependency (van Aalderen-Smeets et al., 2012). Table 2 provides a graphical representation of the questions and their alignment to the theoretical framework.

Table 2

Attitude Question Alignment to Theoretical Framework

	Attitude		Cognitive Beliefs		Affective States		Perceived Control	
	Professional	Personal	Perceived Relevance	Perceived Difficulty	Anxiety	Enjoyment	Self-Efficacy	Context Dependency
1a	x					x		
1b	x			x	x			
1c	x		x					x
1d		x	x					x
1e		x						x
1f		x						
1g	x					x		
1h		x	x					
2a		x	x					
2b		x	x					
2c		x	x					
2d		x						x
3a	x						x	
3b	x	x					x	
3c	x						x	
4a	x				x			
4b	x	x			x			
4c	x			x			x	
4d	x					x		
4e	x				x			
5a	x					x		
5b	x				x			
5c	x						x	
6a	x	x					x	
6b	x						x	
7a	x						x	
7b	x						x	
7c	x			x			x	
7d	x							

Mulholland (2016) conducted an exploratory factor analysis to determine the internal consistency and validity of the SASA. Results from the Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy yielded value of 0.832 (Mulholland, 2016). This value exceeds the minimum requirement of 0.6 and is considered meritorious which indicates the sampling was adequate (Kaiser, 1974). Furthermore, Mulholland's (2016) factor analysis determined that 65.03% of the variance could be explained by a four-factor structure (Mulholland, 2016). The four factors include feelings about teaching students who exhibit ADHD-type behaviors, knowledge and training, desire for better training, and beliefs about ADHD and its associated behaviors. The question alignment to the factors and the internal consistency of the factors and question alignment to the factors are displayed in Table 3 and Table 4.

Table 3

Internal Consistency of Factors within Survey of ADHD-Specific Attitudes

Subscale	Cronbach's α
Feelings about teaching students who exhibit ADHD-type behaviors	0.855
Knowledge and training	0.750
Desire for better training	0.697
Beliefs about ADHD and its associated behaviors	0.766

Note. All factors were beyond the 0.60 suggestion by Hair, Black, Babin, and Anderson (2010).

Table 4

Question Alignment to the Factors

Factors	Questions
Feelings about teaching students who exhibit ADHD-type behaviors	• Students who display ADHD-type behaviors cause me to experience stress. • Students who exhibit behaviors associated with ADHD interfere with my ability to effectively teach my class. • I find behaviors associated with ADHD irritating in the classroom. • I dislike teaching classes that contain students who display ADHD-type behaviors. • I find students who exhibit ADHD-type behaviors rude.
Knowledge and training	• I have received adequate professional development about managing ADHD-type behaviors. • I feel I am knowledgeable about ADHD-type behaviors and classroom interventions to manage behavior that are not conducive to effective learning. • I can effectively teach students who exhibit behaviors associated with ADHD.
Desire for better training	• I would like to have more information about classroom interventions to assist me with educating students who display ADHD-type behaviors. • I would like to know more about ADHD and its associated behaviors. • I want to be more effective teaching students who display ADHD-type behaviors.
Beliefs about ADHD and its associated behaviors	• Children who exhibit behaviors associated with ADHD misbehave because they don't want to follow the set rules. • I believe children who exhibit ADHD-type behaviors are deliberately misbehaving. • Students who exhibit ADHD-type behaviors but don't have a diagnosis have no excuse for their poor behavior.

The eigenvalues of the four factors ranged from 5.42 to 1.11, and the explained variance ranged from 28.55% and 5.81% (Mulholland, 2016, p. 114). The questions within the SASA included both positively and negatively worded questions with a near 50/50 split of the type of question wording.

The SASA was used by Mulholland, Cumming, and Jung (2015) prior to Mulholland's (2016) work to validate the instrument. While other researchers are conducting research using this tool, no other studies have been published exploring its effectiveness. Further validation of the instrument is needed to add to the credibility of this measurement tool. Written consent was obtained from the researcher to use this tool (see Appendix B for consent to use the instrument).

Teachers' Years of Experience (Predictor variable)

The second variable within this correlational study was teachers' years of experience. A year of experience is defined as teaching full-time during a contract year in a K-12 learning environment. Participants self-reported their years of experience within the demographics section of the digital survey. Teachers were informed that a year of experience is considered teaching full-time during a contract year in a K-12 learning environment.

Procedures

Prior to data collection, approval was obtained from the Liberty Institutional Review Board (IRB) (see Appendix C for IRB approval) and the individual school districts (see Appendix D for each participating district's approval). A list of superintendents' emails was obtained from the districts' central offices. Email contact was made with each superintendent in January 2019. Following email contact, superintendents were sent further information about the study and were asked to reply with their consent. Following consent, an online survey was sent to every full-time teacher in each participating school district (see Appendix E for survey

email). The online survey used Survey Monkey® software to collect data. An introductory page included directions, the amount of time to complete the survey, and the consent form (see Appendix F for introductory page). When teachers clicked on the survey link, the consent form came up for participants to read. Teachers had to click that they consented and submit prior to accessing the survey. In Mulholland's (2016) online survey there are two components: a basic demographics section and the Scale of ADHD-Specific Attitudes (SASA). The first section consisted of the demographics section. Standard demographic questions were asked with an additional question related to number of years teaching and a clarification statement of what constituted a year of teaching (see Appendix G for the demographic section of the survey). Following completion of the demographics section, the teachers clicked next to begin the SASA survey. The teachers were presented with a clarifying paragraph about attention deficit hyperactivity disorder (ADHD) (see Appendix H for clarifying paragraph). Teachers answered 30 Likert-style questions with a scale from 1 (strongly disagree) to 6 (strongly agree). Upon completion of the survey, teachers clicked the submit button to finish the survey (See Appendix I for the SASA survey). Teachers had 14 days to complete the survey. A reminder email about the approaching survey completion deadline was automatically sent to each teacher one week prior to the end survey window (see Appendix J for reminder email). The survey closed after the 14-day window. The data was exported to an Excel spreadsheet, edited for usability, and uploaded into the SPSS software.

Data Analysis

The focus of this study was to determine if there was a relationship between teachers' years of experience and their attitudes toward attention deficit hyperactivity disorder (ADHD). To analyze the data collected, the researcher screened for missing or incomplete data.

Demographic data and the Scale of ADHD-Specific Attitudes (SASA) data was entered in the SPSS®, a statistical analysis software. The researcher calculated each participant's individual score on the SASA.

After the data screening was complete, a Pearson product-moment correlation (*r*) was used to determine whether a relationship exists between the variables. Gall et al. (2007) stated that a Pearson product-moment correlation is calculated when both variables being compared are continuous. In this case, years of teaching experience and attitudes toward Attention Deficit Hyperactivity Disorder (ADHD) are both continuous variables and would meet Gall et al.'s (2007) criteria. The correlation coefficient (*r*) was used to determine if there was a significant relationship between teachers' years of teaching experience and their attitudes toward ADHD. A correlation coefficient ranges from -1.00 to +1.00. The further the value is from 0.00 the stronger the relationship is between the predictor variable and criterion variable. A value of 0.00 indicates that there is no relationship between the variables.

The Pearson product-moment correlation (*r*) requires three assumption tests. These tests are the assumption of bivariate outliers, the assumption of linearity, and the assumption of bivariate normal distribution (Warner, 2013). The assumption of bivariate outliers requires the use of a scatter plot between the predictor (teachers' years of experience) and criterion (teachers' attitudes toward ADHD) variables to determine extreme bivariate outliers. The assumption of linearity uses a scatter plot with a line of best fit to determine linearity of the data. The assumption of bivariate normal distribution also uses a scatter plot to ensure that the classic "cigar shape" of data is present. The following values were reported as part of the correlation design: descriptive statistics (*M, SD*), Number (*N)*, and Pearson's *r*, and p-value (*p*). A confidence interval of 95% was used to determine whether the null hypothesis should be

rejected. However, because these were five nulls, to protect against a Type I error a Bonferroni correction was calculated ($PC\alpha = EW\alpha/k = .05/5 = .01$). The alpha level was adjusted to .01. ($\alpha = 0.01$), which means that a ($p < 0.01$) would indicate a significant result.

CHAPTER FOUR: FINDINGS

Overview

The purpose of this study was to determine whether a relationship exists between teachers' years of experience and their attitudes toward attention deficit hyperactivity disorder (ADHD). Chapter Four will provide the research questions and null hypotheses. Descriptive statistics will be presented. The results section consists of five sections discussing the assumptions tests and correlational analysis of each null hypothesis. Additional analysis is also presented to assess the reliability of the instrument.

Research Questions

RQ1: Is there a significant relationship between the years of teaching experience of K-12 public education teachers and their attitudes toward Attention Deficit Hyperactivity Disorder (ADHD)?

RQ2: Is there a significant relationship between the years of teaching experience of K-12 public education teachers and their feelings about teaching students who exhibit ADHD-type behaviors?

RQ3: Is there a significant relationship between the years of teaching experience of K-12 public education teachers and their knowledge and training related to ADHD?

RQ4: Is there a significant relationship between the years of teaching experience of K-12 public education teachers and their desire for better training related to ADHD?

RQ5: Is there a significant relationship between the years of teaching experience of K-12 public education teachers and their beliefs about ADHD and its associated behaviors?

Null Hypotheses

$H_0$1: There is no significant relationship between the years of teaching experience of K-12 public education teachers and their attitudes toward ADHD.

$H_0$2: There is no significant relationship between the years of teaching experience of K-12 public education teachers and their feelings about teaching students who exhibit ADHD-type behaviors.

$H_0$3: There is no significant relationship between the years of teaching experience of K-12 public education teachers and their knowledge and training related to ADHD.

$H_0$4: There is no significant relationship between the years of teaching experience of K-12 public education teachers and their desire for better training related to ADHD.

$H_0$5: There is no significant relationship between the years of teaching experience of K-12 public education teachers and their beliefs about ADHD and its associated behaviors.

Descriptive Statistics

Prior to data analysis, descriptive statistics and data screening was conducted. Means and standard deviations for both the predictor variable (years of teaching experience) and for the five criterion variables (overall attitude, feelings about teaching students who exhibit ADHD-type behavior, knowledge and training, desire for better training, and beliefs about ADHD and its associated behaviors) can be found in Table 5.

Table 5

Descriptive Statistics of Variables

Variables	N	Mean	S.D.
Years of teaching experience	112	14.88	9.62
Teacher attitude	112	126.71	11.43
Feelings about teaching students who exhibit ADHD-type behaviors	112	4.07	0.70
Knowledge and training	112	3.99	0.71
Desire for better training	112	4.76	0.68
Beliefs about ADHD and its associated behaviors	112	5.07	0.68

[a] Teacher Attitude had a potential score of 30 – 180. [b] The factors making up Teacher Attitude had a potential score of 1-6.

Results

Data Screening

Data screening was done to check for missing data and inconsistencies in the data. Data screening was conducted in accordance to Warner's (2013, p. 132-137) recommendations. Missing data was deleted, and data was screened for impossible or extreme scores. One participant (Coded 122) consented to the study but did not complete the survey questions. Another student (Coded 62) was determined to have inconsistent data. Seven other participants (Coded 27, 34, 38, 40, 50, 64, and 82) completed the demographic questions, but did not answer the Scale of ADHD Specific Attitudes (SASA) questions. Due to the large number of missing scores for these participants, the information for the participants was removed from the data set leaving a total of 112 participants for the sample size.

Results for Null Hypothesis One

Assumption Tests. For Null Hypothesis One, three assumption tests must be met before running the Pearson's r. Pearson's r requires the data set to be screened for bivariate outliers, demonstrate linearity, and show normal bivariate distribution (Warner, 2013, p. 267-270) between the predictor variable *years of teaching experience* and the criterion variable *attitudes toward ADHD*. For the assumption of bivariate outliers, a scatterplot was used. No bivariate outliers were found. The scatterplot with a line of best fit was used to determine linearity. The assumption of linearity was met. The scatterplot was also used to determine bivariate normal distribution. The assumption of bivariate normal distribution was met. See Figure 1 for scatterplot between teachers' experience and teachers' attitudes.

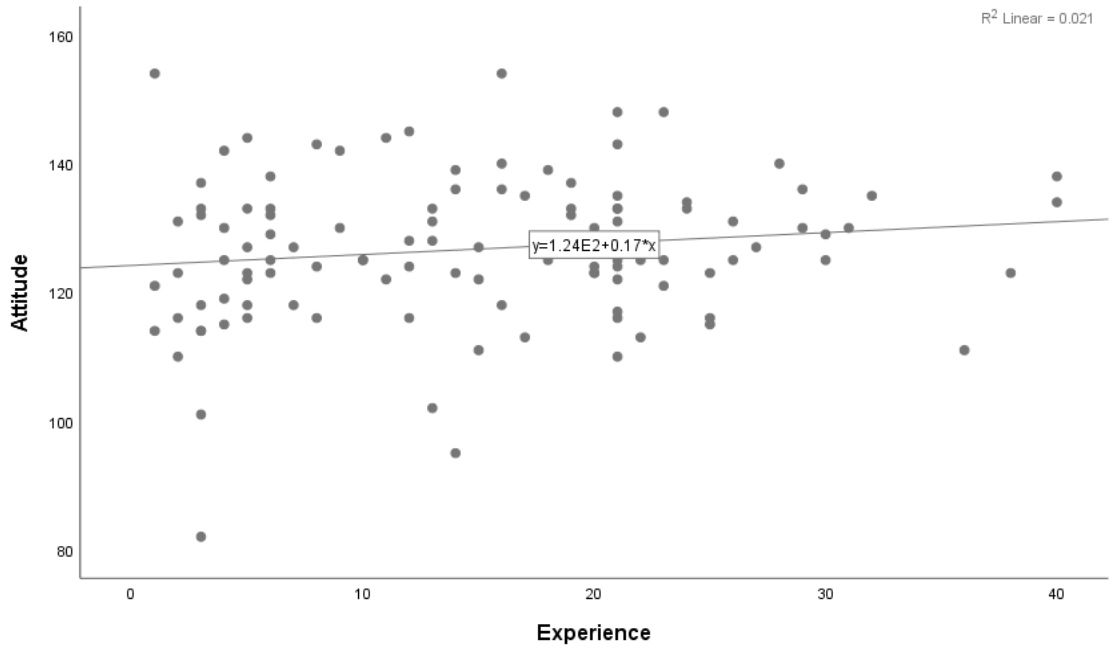

Figure 1. Scatterplot between Teachers' Experience and Teachers' Attitudes.

Correlation. A Pearson product-moment correlation (*r*) was performed to determine whether a relationship existed between *teachers' years of experience* and the criterion variable

attitudes toward ADHD. The correlation was originally set at an alpha level of .05; however, to protect against a Type I error, a Bonferroni correction was calculated (PCα = EWα/k = .05/5 = .01). The alpha level was adjusted to .01. The results of the analysis indicated that there was not a significant relationship between *teachers' years of experience* and their *attitudes toward ADHD*; therefore, the researcher failed to reject the null hypothesis where $r(110) = .143$, $p = .132$. The r^2 was .02 which indicated that 2% of the variance in attitude scores could be predicted from teachers' years of experience. The relationship between *teachers' years of experience* and *attitudes toward ADHD* was a positive relationship with medium strength ($r = .143$), yet the results were not significant.

Results for Null Hypothesis Two

Assumption Tests. For Null Hypothesis Two, three assumption tests must be met before running the Pearson's r. Pearson's r requires the data set to be screened for bivariate outliers, demonstrate linearity, and show normal bivariate distribution (Warner, 2013, p. 267-270) between the predictor variable *years of teaching experience* and the criterion variable *feelings about teaching students who exhibit ADHD-type behaviors*. For the assumption of bivariate outliers, a scatterplot was used. No bivariate outliers were found. The scatterplot with a line of best fit was used to determine linearity. The assumption of linearity was met. The scatterplot was also used to determine bivariate normal distribution. The assumption of bivariate normal distribution was met. See Figure 2 for scatterplot between teachers' experience and teachers' feelings toward ADHD.

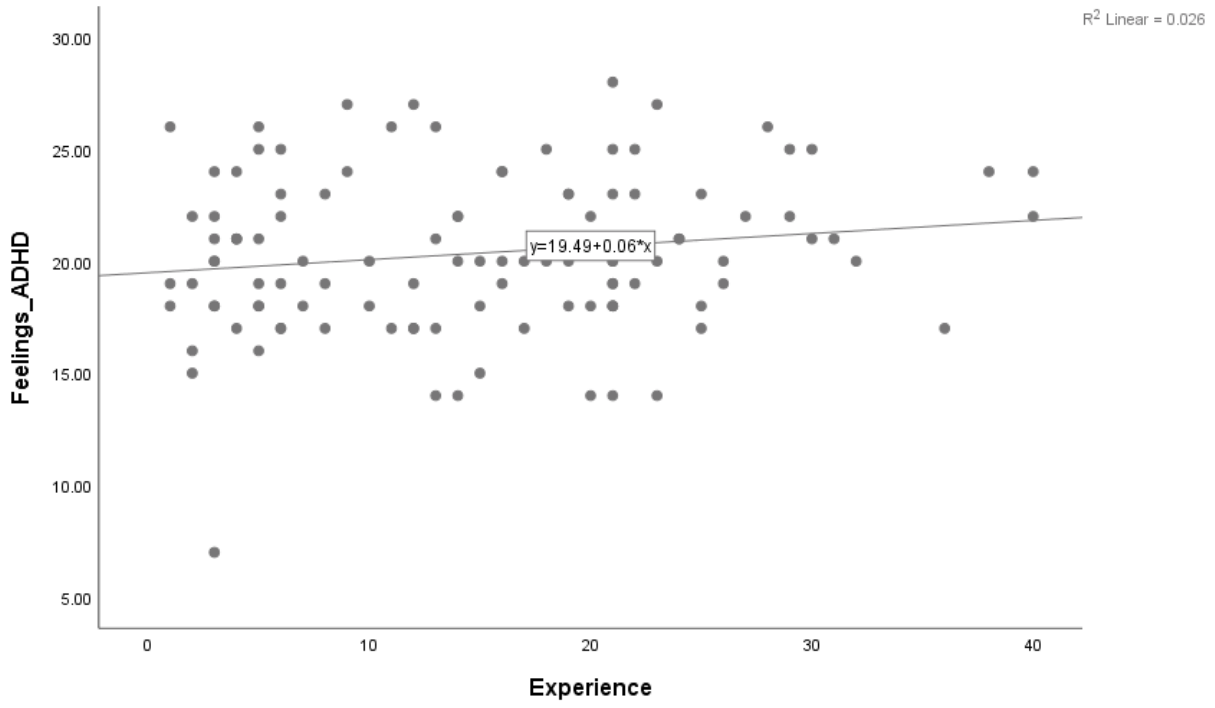

Figure 2. Scatterplot between Teachers' Experience and Teachers' Feelings toward ADHD.

Correlation. A Pearson product-moment correlation (*r*) was performed to determine whether a relationship existed between *teachers' years of experience* and the criterion variable *feelings about students who exhibit ADHD-type behaviors*. The correlation was originally set at an alpha level of .05; however, to protect against a Type I error, a Bonferroni correction was calculated (PCα = EWα/k = .05/5 = .01). The alpha level was adjusted to .01. The results of the analysis indicated that there was not a significant relationship between *teachers' years of experience* and their *feelings about teaching students who exhibit ADHD-type behaviors;* therefore, the researcher failed to reject the null hypothesis where $r(110) = .179$, $p = .060$. The r^2 was .03 which indicated that 3% of the variance in feelings about teaching students who exhibit ADHD-type behavior scores could be predicted from teachers' years of experience. The relationship between *teachers' years of experience* and *feelings about teaching students who*

exhibit ADHD-type behavior was a positive relationship with medium strength (r = .179), yet the results were not significant.

Results for Null Hypothesis Three

Assumption Tests. For Null Hypothesis Three, three assumption tests must be met before running the Pearson's r. Pearson's r requires the data set to be screened for bivariate outliers, demonstrate linearity, and show normal bivariate distribution (Warner, 2013, p. 267-270) between the predictor variable *years of teaching experience* and the criterion variable *knowledge and training*. For the assumption of bivariate outliers, a scatterplot was used. No bivariate outliers were found. The scatterplot with a line of best fit was used to determine linearity. The assumption of linearity was met. The scatterplot was also used to determine bivariate normal distribution. The assumption of bivariate normal distribution was met. See Figure 3 for scatterplot between teachers' experience and teachers' knowledge and training.

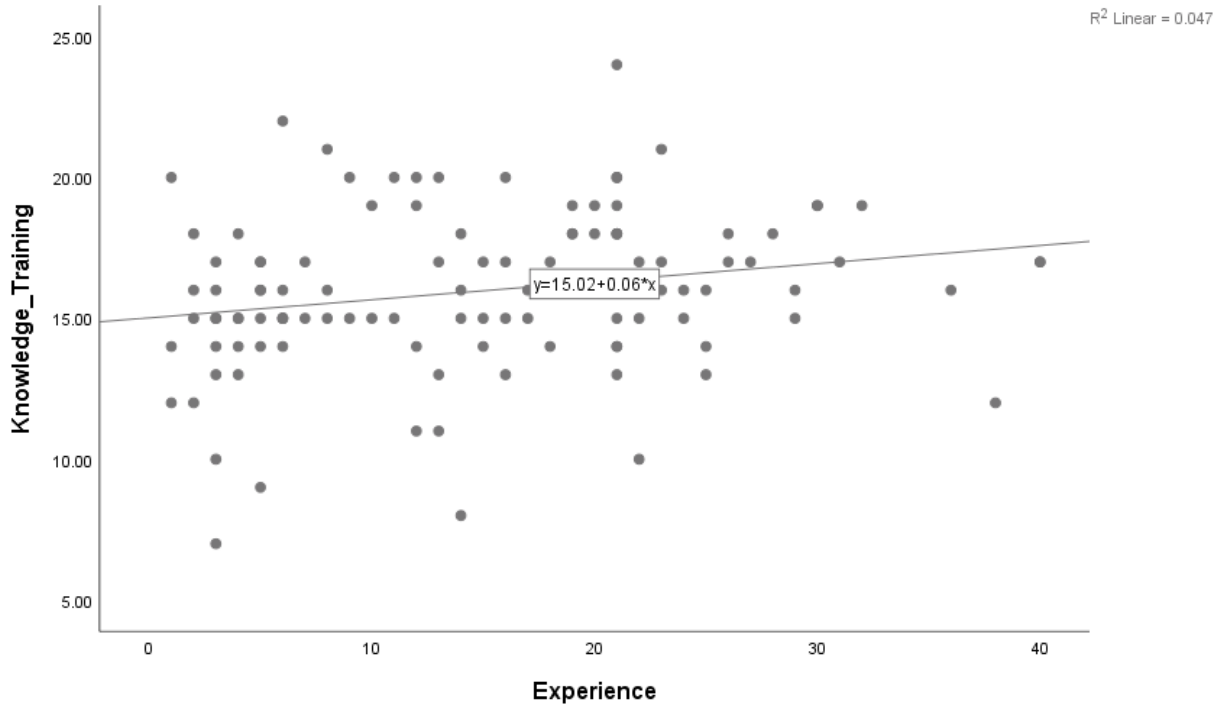

Figure 3. Scatterplot between Teachers' Experience and Teachers' Knowledge and Training.

Correlation. A Pearson product-moment correlation (*r*) was performed to determine whether a relationship existed between *teachers' years of experience* and the criterion variable *knowledge and training*. The correlation was originally set at an alpha level of .05; however, to protect against a Type I error, a Bonferroni correction was calculated ($PC\alpha = EW\alpha/k = .05/5 = .01$). The alpha level was adjusted to .01. The results of the analysis indicated that there was not a significant relationship between *teachers' years of experience* and their *knowledge and training about ADHD;* therefore, the researcher failed to reject the null hypothesis where $r(110) = .225$, $p = .017$. The r^2 was .05 which indicated that 5% of the variance in knowledge and training scores could be predicted from teachers' years of experience. The relationship between *teachers' years of experience* and their *knowledge and training about ADHD* was a positive relationship with medium to strong strength ($r = .225$). While the results failed to meet the significance threshold of $p < .01$, the p-value of .017 should be noted as to its closeness to the significance threshold.

Results for Null Hypothesis Four

Assumption Tests. For Null Hypothesis Four, three assumption tests must be met before running the Pearson's r. Pearson's r requires the data set to be screened for bivariate outliers, demonstrate linearity, and show normal bivariate distribution (Warner, 2013, p. 267-270) between the predictor variable *years of teaching experience* and the criterion variable *desire for better training*. For the assumption of bivariate outliers, a scatterplot was used. No bivariate outliers were found. The scatterplot with a line of best fit was used to determine linearity. The assumption of linearity was met. The scatterplot was also used to determine bivariate normal distribution. The assumption of bivariate normal distribution was met. See Figure 4 for scatterplot between teachers' experience and teachers' desire for training.

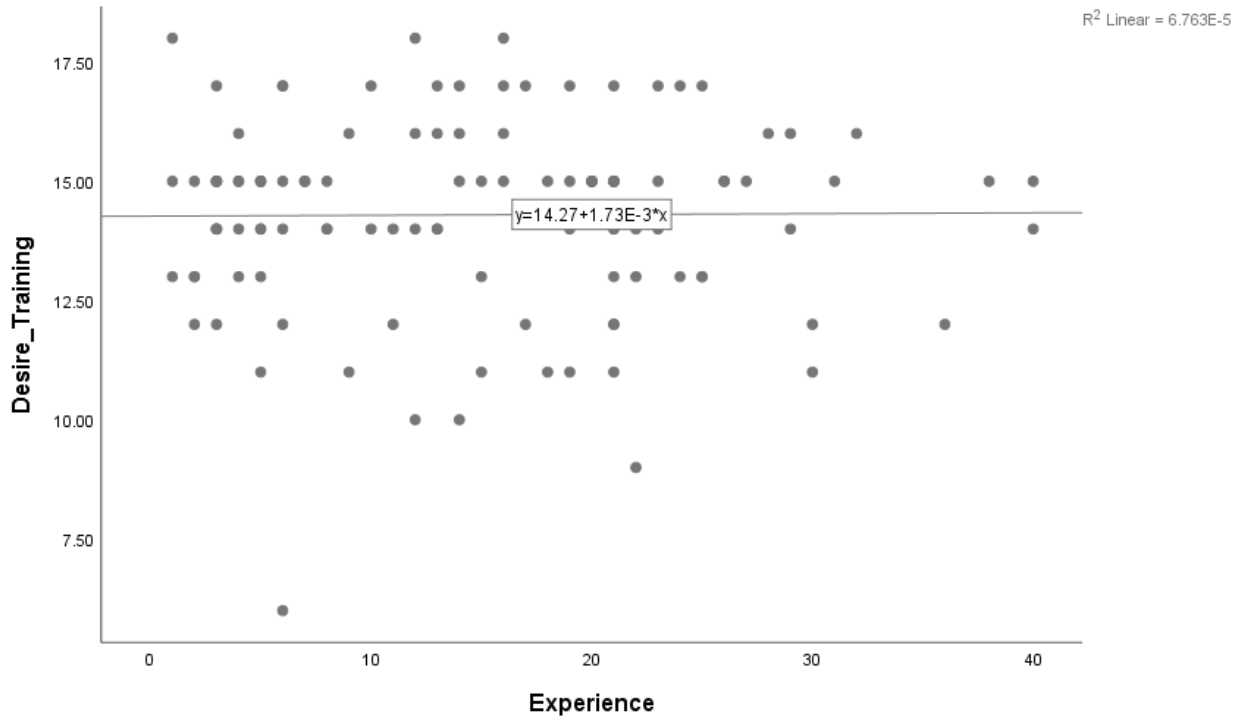

Figure 4. Scatterplot between Teachers' Experience and Teachers' Desire for Training.

Correlation. A Pearson product-moment correlation (*r*) was performed to determine whether a relationship existed between *teachers' years of experience* and the criterion variable *desire for better training*. The correlation was originally set at an alpha level of .05; however, to protect against a Type I error, a Bonferroni correction was calculated (PCα = EWα/k = .05/5 = .01). The alpha level was adjusted to .01. The results of the analysis indicated that there was not a significant relationship between *teachers' years of experience* and their *desire for better training;* therefore, the researcher failed to reject the null hypothesis where $r(110) = -.012$, $p = .899$. The r^2 was .000 which indicated that .000% of the variance in desire for better training scores could be predicted from teachers' years of experience. The relationship between *teachers' years of experience* and *desire for better training* was a negative relationship with weak strength ($r = -.012$). The results were not significant.

Results for Null Hypothesis Five

Assumption Tests. For Null Hypothesis Five, three assumption tests must be met before running the Pearson's r. Pearson's r requires the data set to be screened for bivariate outliers, demonstrate linearity, and show normal bivariate distribution (Warner, 2013, p. 267-270) between the predictor variable *years of teaching experience* and the criterion variable *beliefs about ADHD and its associated behaviors*. For the assumption of bivariate outliers, a scatterplot was used. No bivariate outliers were found. The scatterplot with a line of best fit was used to determine linearity. The assumption of linearity was met. The scatterplot was also used to determine bivariate normal distribution. The assumption of bivariate normal distribution was met. See Figure 5 for scatterplot between teachers' experience and teachers' beliefs about ADHD.

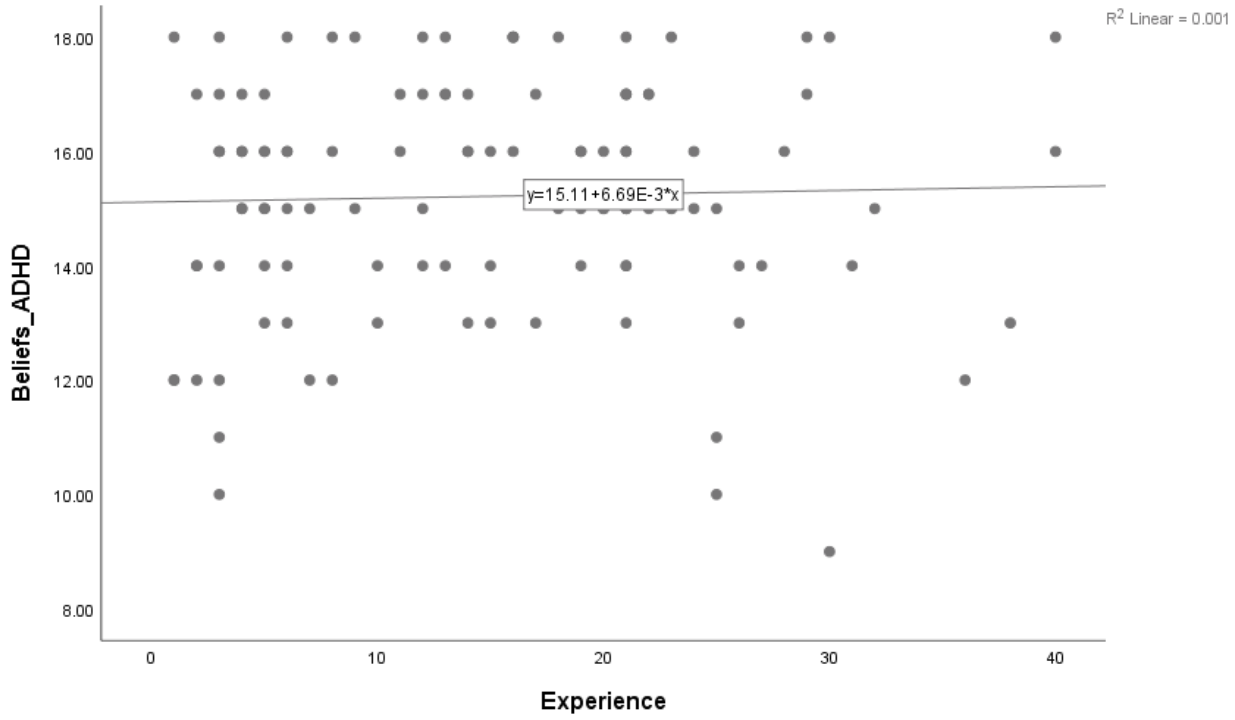

Figure 5. Scatterplot between Teachers' Experience and Teachers' Beliefs about ADHD.

Correlation. A Pearson product-moment correlation (*r*) was performed to determine whether a relationship existed between *teachers' years of experience* and the criterion variable *beliefs about ADHD and its associated behaviors*. The correlation was originally set at an alpha level of .05; however, to protect against a Type I error, a Bonferroni correction was calculated (PCα = EWα/k = .05/5 = .01). The alpha level was adjusted to .01. The results of the analysis indicated that there was not a significant relationship between *teachers' years of experience* and their *beliefs about ADHD and its associated behaviors;* therefore, the researcher failed to reject the null hypothesis where $r(110) = .008$, $p = .931$. The r^2 was .000 which indicated that .000% of the variance in beliefs about ADHD and its associated behaviors scores could be predicted from teachers' years of experience. The relationship between *teachers' years of experience* and *beliefs about ADHD and its associated behaviors* was a positive relationship with a very weak strength ($r = .008$). The results were not significant.

Additional Analysis

In addition to analysis of the data, reliability of the instrument was checked with Cronbach's alpha to assess the degree in which the responses were consistent across multiple test items (Warner, 2013). The additional analysis was necessary to further validate the instrument due to limited research tied to Mulholland et al.'s (2015) scale of ADHD-specific attitudes (SASA). Cronbach's alphas were calculated for the four reported factors: feelings about teaching students who exhibit ADHD-type behaviors, α = .827; knowledge and training about ADHD, α = .767; desire for better training about ADHD, α = .569; and beliefs about ADHD and its associated behaviors, α = .668. The overall instrument reliability, α = .803, was also calculated. These findings were compared to those reported by Mulholland et al. (2015) when the instrument was originally created. See Table 6 for reliability comparison.

Table 6

Reliability Comparison

Factors	Reported Reliability (Mulholland et al., 2015)	Calculated Reliability
Feelings about teaching students with ADHD-type behaviors	.855	.827
Knowledge and training	.750	.767
Desire for training	.697	.569
Beliefs about ADHD and its associated behaviors	.766	.668

Note. Required threshold for reliability is 0.60 (Hair et al., 2010).

Two factors, feelings about teaching students with ADHD-type behaviors and knowledge and training, demonstrated comparable reliability to Mulholland et al.'s (2015) calculations. However, the factors desire for training and beliefs about ADHD and its associated behaviors produced different levels of reliability from what was originally calculated. Furthermore, desire for training yielded an alpha level of 0.569 which does not meet Hair et al.'s (2010) reliability threshold of 0.60.

CHAPTER FIVE: CONCLUSIONS

Overview

The purpose of this study was to determine whether a relationship exists between teachers' years of experience and their attitudes toward attention deficit hyperactivity disorder (ADHD). Chapter Five will begin with a brief overview of the study conducted. Discussion about the five research questions and how the findings coincide or conflict with previous research is given. Information related to the implications of the study, limitations of the study, and recommendations for future research conclude the chapter.

Discussion

The purpose of this correlational study was to determine the relationship between teachers' years of experience and their attitudes toward attention deficit hyperactivity disorder (ADHD). The criterion variable, *attitude,* was analyzed as well as four factors designated by the instrument developers (Mulholland et al., 2015). The four factors, which were represented by null hypotheses two through five, include: *feelings about teaching students with ADHD-type behaviors, knowledge and training, desire for better training,* and *beliefs about ADHD and its associated behaviors.*

The study utilized the Scale for ADHD-Specific Attitudes (SASA) developed by Mulholland, Cumming, and Jung (2015) to examine teachers' attitudes toward teaching students with ADHD. The instrument was developed to fill needs within ADHD and attitude research by adopting a theoretical framework that focuses on cognition, affect, and *perceived control*, rather than teachers' behavior, as the working definition of attitude. Furthermore, the questions were written to focus on ADHD only and how students' behavior and teachers' training influence teachers' attitudes toward ADHD. The SASA was used to answer the following overarching

research question: Is there a significant relationship between the years of teaching experience of K-12 public education teachers and their attitudes toward Attention Deficit Hyperactivity Disorder (ADHD)?

Pearson product-moment correlations (*r*) were used in this study with the predictor variable being *teachers' years of experience* and the criterion variables being *overall attitudes, feelings about teaching students with ADHD-type behaviors, knowledge and training, desire for better training,* and *beliefs about ADHD and its associated behaviors.* It was appropriate to run multiple correlations because there was one predictor variable and multiple criterion variables. In addition, the researcher sought "to measure the degree and direction of the relationship between two or more variables and to explore possible causal factors" (Gall, Gall, & Borg, 2007, p. 336).

Research Question One

The first research question looked at teachers' years of experience and their attitudes toward teaching students with ADHD. A year of experience was defined as teaching full-time during a contract year in a K-12 learning environment. The variable attitude was defined as teachers' cognitive beliefs, affective states, and perceived control as referenced by van Aalderen-Smeets et al.'s (2012) modified tripartite model of attitude.

There was not a significant relationship found between teachers' years of experience and their attitudes toward ADHD. Research related to teacher attitudes toward ADHD is limited and conflicted. When using the same instrument as this study, Mulholland et al.'s (2015) statistical analysis showed that teachers' years of experience had a significant negative impact on their attitudes toward students with ADHD. Mulholland et al. (2015) explained that as teachers gain

experience in the classroom, their expectations might change, and therefore, they may be less tolerant of the behaviors that students with ADHD demonstrate within the classroom.

However, Mulholland et al.'s (2015) results on the relationship between teachers' years of experience and their attitudes toward ADHD conflict with the results researchers have reported on the correlation between teachers' years of experience, knowledge, and confidence in teaching students with ADHD. Several researchers have found that there is a correlation between teachers' years of experience and their knowledge about ADHD (e.g. Anderson et al., 2012; Jerome et al., 1997; Kos et al., 2004). Teacher knowledge about ADHD is also correlated to teachers' confidence in teaching students with ADHD. If teachers feel more confident in handling behaviors of students with ADHD, their attitudes toward teaching students with ADHD would improve. In the current study, a significant relationship was not found between teachers' years of experience and their attitudes toward ADHD; however, the data did indicate a positive relationship with medium strength where $r = .143$. These findings align more closely to Anderson et al.'s (2012) findings and do not validate Mulholland et al.'s (2015) findings with the same instrument.

Research Question Two

Mulholland et al. (2015) divided attitude into four factors. The first factor was feelings toward teaching students with ADHD-type behaviors. Therefore, the second research question looked at teachers' years of experience and its relationship to teachers' feelings toward teaching students with ADHD-type behaviors. There was not a significant relationship found between teachers' years of experience and their feelings toward teaching students with ADHD-type behaviors.

Anderson et al. (2012) found that as teachers gain knowledge they begin to develop a decreasingly favorable affect, but also show more positive behaviors and interactions toward students with ADHD. This finding about teachers' feelings toward teaching students with ADHD shows a negative relationship between teacher experience and feelings toward teaching students with ADHD. Mulholland et al. (2015) also indicated that teachers develop negative feelings toward students with ADHD because they experience stress when trying to manage the behaviors that are exhibited in the classroom. While not directly related to teachers' experience, several studies validate the premise that teachers frequently feel frustrated while instructing in a classroom that contains students with ADHD (e.g. Bekle, 2004; Hong, 2008; Liang & Gao, 2015).

The present study found that teachers reported a mean score of 4.07 out of 6 in the category feelings toward teaching students with ADHD. This indicates that teachers somewhat agreed with questions related to positive feelings about teaching students with ADHD. This finding aligns with previous research about teachers sometimes feeling frustrated with managing the behaviors students with ADHD display in the classroom. The relationship between teachers' years of experience and feelings toward teaching students with ADHD-type behaviors was a positive relationship with medium strength (r = .179). This contradicts Anderson et al.'s (2012) finding that as teachers gain knowledge about teaching students with ADHD, they develop a less favorable affect.

Research Question Three

The second factor that constitutes attitude identified by Mulholland et al. (2015) was teachers' knowledge and training about ADHD. A third research question was developed to determine the relationship between teachers' years of experience and their knowledge and

training about ADHD. There was not a significant relationship found between teachers' years of experience and teachers' knowledge and training about ADHD; however, there was a positive relationship with medium to large strength *(r* = .225), and the p-value was near the significance threshold.

While still not a significant finding, the relationship between teachers' years of experience and their knowledge and training aligned with previous research. Several studies have found that there is a relationship between teachers' years of experience and their knowledge and training related to ADHD (e.g. Anderson et al., 2012; Jerome et al., 1997; Kos et al., 2004). The instrument developers, Mulholland et al. (2015), also corroborated previous research by determining that years of experience was a significant predictor of teacher knowledge about ADHD. Bekle (2004), Hong (2008), and Liang and Gao (2016) all cited that when teachers believe they have a lack of knowledge about ADHD, they feel frustrated trying to manage behaviors in the classroom. This information is significant because Anderson et al. (2012) and Ohan et al. (2008) indicated that when teachers demonstrated average to high knowledge about ADHD, they were more likely to provide helpful behaviors and implement interventions to help students with ADHD. Sherman et al. (2008) also emphasized the importance of teacher knowledge about ADHD because when teachers are knowledgeable about ADHD they are more likely to implement appropriate interventions to impact student behavior and educational achievement.

While most researchers agree that teachers' years of experience have a positive relationship to their knowledge and training related to ADHD, not all research agrees that experience correlates to knowledge and training. Sciutto et al. (2000) found that exposure to students with ADHD more than years of experience influenced teachers' knowledge about

ADHD. Bell et al.'s (2011) research actually found that less experienced teachers demonstrated more knowledge about ADHD. Bell et al. (2011), however, agreed with Sciutto et al. (2000) that the likely contributor to teacher knowledge was, in fact, exposure to students with ADHD rather than teachers' years of experience.

The current study found that teachers somewhat agreed that they had appropriate knowledge and training related to ADHD (M = 3.99). This validates aligns with previous research indicating that teachers often feel that they have the knowledge and training necessary to effectively teach students with ADHD. When considering teachers' years of experience as it relates to knowledge and training about ADHD, the current study found that there was a positive relationship with medium strength (r = .225) which reinforces several studies that align teachers' experience with teachers' knowledge about ADHD. However, the relationship was not significant which may necessitate a closer look into Sciutto et al.'s (2000) and Bell et al.'s (2008) beliefs that exposure, not years of experience, may be more strongly related to teachers' knowledge about ADHD.

Research Question Four

The third factor referenced by Mulholland et al. (2015) was desire for better training about ADHD. This factor led to a fourth research question related to determining the relationship between teachers' years of experience and their desire for better training about ADHD. There was not a significant relationship found between teachers' years of experience and their desire for better training. The relationship was negative (r = -.012), which indicates a slightly inverse relationship between experience and desire for training.

Lawrence et al. (2017) indicated that teachers felt their training was inadequate and further training was necessary. This study's finding that participants agreed that they desired

further training ($M = 4.76$) coincides with Lawrence et al.'s (2017) research. Kern et al. (2015) and Lawrence et al. (2017) also stated that most of what teachers knew about ADHD was gained from informal learning rather than professional development or previous education. This aligns with Sciutto et al.'s (2000) belief that teachers gain more knowledge from exposure to students with ADHD rather than years of teaching experience.

This study found that there was an inverse relationship between experience and desire for training. This could be due to teachers' increase beliefs about their knowledge about ADHD and their experience. As teachers gain experience they indicate more confidence in their knowledge about ADHD. If they are more knowledgeable about ADHD, then they may desire less training about the topic. Though the inverse relationship is understandable, the strength of the relationship was weak ($r = -.012$), so other unincluded influences might further explain a teacher's desire for further training about ADHD.

Research Question Five

The final factor included in Mulholland et al.'s (2015) Scale of ADHD-Specific Attitudes (SASA) was beliefs about ADHD and its associated behaviors. This factor was used in the fifth research question examining the relationship between teachers' years of experience and their beliefs about ADHD and its associated behaviors. There was not a significant relationship found between teachers' years of experience and their beliefs about ADHD and its associated behaviors. The strength of the relationship was very weak ($r = .008$); however, the study did indicate that the participants' beliefs about ADHD were favorable ($M = 5.07$).

The finding that the participants had favorable beliefs about ADHD and its associated behaviors is encouraging. Ohan et al. (2011) stated that when teachers have negative beliefs about students with ADHD, they demonstrate negative expectations which can increase the

likelihood for negative behaviors. Kendall (2016) discussed the academic ramifications of negative beliefs. She reported that when teachers demonstrate negative beliefs about students with ADHD, those beliefs may have an impact on the academic achievement of those students. Ohan et al.'s (2011) research agrees with Kendall (2016). The label of "ADHD" and the stigma that comes with it has the potential for long-term negative academic consequences if teachers' beliefs impact their expectations for students with ADHD (Ohan et al., 2011). However, Kendall (2016) and Sherman et al. (2008) report that that when teachers maintain positive beliefs about students with ADHD, those beliefs can have a positive impact on the students' academic success.

Implications

Studies have shown that teacher attitudes impact students' academic and behavioral outcomes, and that students with ADHD are especially perceptive to teacher beliefs (Bell et al., 2011; Eisenberg & Schneider, 2007; Mulholland et al., 2015). Most research related to attitude toward ADHD has focused on a single Likert-style question or used an interview format. Few have used a survey that focused specifically on attitude toward ADHD. This study added to the body of literature by examining the relationship between teachers' years of experience and their attitudes toward ADHD.

The number of students diagnosed with ADHD has continued to increase overtime, and it is estimated that teachers will regularly interact with students who display ADHD-type behaviors (Gibbs et al., 2016; Martin et al., 2017; Ogg et al., 2013). This inclusion of students with ADHD into the classroom can be challenging for both students and teachers. According to Ohan et al. (2011), teachers reported feeling stressed and less confident about their classroom management when they had students with ADHD in their classroom. Liang and Gao (2016), also, found that teachers' confidence about teaching and managing their classroom was low due to the demands

of teaching in an integrated classroom. This study helped to identify what components of attitude toward ADHD were influenced by teachers' years of experience. Teachers' feelings about teaching students with ADHD-type behaviors and teachers' knowledge and training related to ADHD appeared to be most correlated to teachers' years of experience. This suggests that teachers' years of experience leads to an increase in their knowledge and training about ADHD, and therefore, teachers' self-efficacy about teaching students with ADHD also increases.

Finally, this study further validated the reliability of the instrument Scale of ADHD-Specific Attitudes (SASA). Using Cronbach Alpha scores for each factor, the factors remained consistent when comparing this study's findings to Mulholland et al.'s (2015) reported results. See the Reliability Comparison chart in Table 6 of the result section.

The factor Desire for Training remained weak and should be interpreted with caution. This may be due to the low number of questions within the survey that aligned to this factor. One question within the factor Desire for Training focused primarily on the desire to be more effective rather than the desire for more information. This question had the lowest Cronbach's Alpha score of .565 when originally calculated by Mulholland et al. (2015) as part of their factor analysis. The desire to be more effective may consist of multiple other facets that may influence the participants' interpretation of the question and their responses. This subjectivity may hamper its alignment to the other questions within this factor.

Limitations

As is the case for most research scenarios, there were limitations to the study. First, the study's sample size (N = 112) and demographics were limited. Participants from eight rural public schools in the southwest region of a Midwest state were invited to participate. The participants were primarily Caucasian (99.1%) with one participant indicating Other for his or

her ethnic background. Females dominated the response rate with 84.8% of the responses, while only 15.2% of the participants were male. This study also limited participants to public school teachers. Teachers from private schools, charter schools, and other forms of education were not invited to participate.

In addition to demographic limitations, the use of a survey to collect data introduces limitations as well. One limitation of using a survey is that the participants may have felt the need to provide what they considered the right answer rather than their personal beliefs about ADHD. Survey answer options also may be interpreted differently by each respondent leading to data that doesn't clearly represent what the question intended to ask. Lastly, due to some participants leaving survey questions incomplete, non-response bias may be introduced.

Recommendations for Future Research

The following list indicates recommendations for future research

(a) Follow up research should be conducted with different samples. It would benefit the generalizability of the findings if the data could be replicated in different areas of the country, different sizes of communities, and different demographics.

(b) It is recommended that further research be conducted with the use of the Scale of ADHD-Specific Attitudes (SASA). By conducting further research using this instrument, analysis of findings can be analyzed for consistency.

(c) Due to the medium to large strength of the relationship between teachers' years of experience and teachers' beliefs about their knowledge and training. Replicating this study to determine if a significant relationship exists between these two variables would be beneficial.

(d) Teachers' years of experience demonstrated a medium strength correlation to knowledge and training; however, the finding was insignificant. It may be beneficial to investigate teachers' exposure to ADHD, rather than experience, as it correlates to knowledge and training.

(e) This study found that though teacher experience was positively correlated to knowledge and training, it was negatively correlated to desire for better training. It would be advantageous to study the interaction between teachers' beliefs about their knowledge and training and their desire for better training when considering teachers' years of experience.

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APPENDICES

Appendix A: Scale for ADHD-Specific Attitudes (SASA)

The Scale for ADHD-Specific Attitudes has been removed from this publication due to copyright. You can access the survey from the following publication.

Mulholland, S. M., Cumming, T. M., & Jung, J. Y. (2015). Teacher attitudes towards students who exhibit ADHD-type behaviors. *Australasian Journal of Special Education*, *39*(1), 15-36.

Appendix B: Permission to Use the Scale for ADHD-Specific Attitudes

MK

McHargue, Keisha
Tue 5/29, 10:19 PM

Sarah,
My name is Keisha McHargue. I am a doctoral candidate at Liberty University in Lynchburg, Virginia, USA. I found your research and publication discussing the validity of the ASKAT measurement tool. My dissertation topic revolves around comparing general education teachers' and special education teachers' attitudes about ADHD students. I was struggling to find an instrument that would work for my study until I found yours. I am in the very early stages of dissertation development, but wanted to reach out to you about permission to use your ASKAT to conduct research in the future.

I watched your 3 minute thesis tonight. I was so energized by your enthusiasm. I look forward to your reply.
Keisha McHargue

Get Outlook for iOS

SM

Sarah Mulholland <mulhollandsarahm@gmail.com>
Thu 5/31, 1:46 AM

> Hi Keisha,
> Thank you for your kind words, it is a lovely compliment.
> I am happy for you to use the ASKAT in your research.
> Kind Regards,
> Sarah Mulholland

...

Appendix C: IRB Approval

LIBERTY UNIVERSITY.
INSTITUTIONAL REVIEW BOARD

March 14, 2019

Keisha McHargue
IRB Exemption 3705.031419: The Relationship Between Teachers' Years of Experience and Attitude Toward Attention Deficit Hyperactivity Disorder (ADHD)

Dear Keisha McHargue,

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

Your study falls under exemption category 46.101(b)(2), which identifies specific situations in which human participants research is exempt from the policy set forth in 45 CFR 46:101(b):

> (2) Research that only includes interactions involving educational tests (cognitive, diagnostic, aptitude, achievement), survey procedures, interview procedures, or observation of public behavior (including visual or auditory recording) if at least one of the following criteria is met:
>
> > (i) The information obtained is recorded by the investigator in such a manner that the identity of the human subjects cannot readily be ascertained, directly or through identifiers linked to the subjects.

Please note that this exemption only applies to your current research application, and any changes to your protocol must be reported to the Liberty IRB for verification of continued exemption status. You may report these changes by submitting a change in protocol form or a new application to the IRB and referencing the above IRB Exemption number.

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

Sincerely,

[redacted]

Administrative Chair of Institutional Research
Research Ethics Office

LIBERTY
UNIVERSITY.
Liberty University | Training Champions for Christ since 1971

Appendix D: Participating Districts' Approvals

Official Permission Email Template:

On Tue, Feb 5, 2019, 8:14 PM McHargue, Keisha <kmchargue@liberty.edu wrote:
Dear Administrator:

I am conducting research as part of the requirements for a doctoral degree. The title of my research project is The Relationship between Teacher Experience and Teacher Attitude toward ADHD, and the purpose of my research is to fill a gap in the literature related to teacher attitudes toward ADHD.

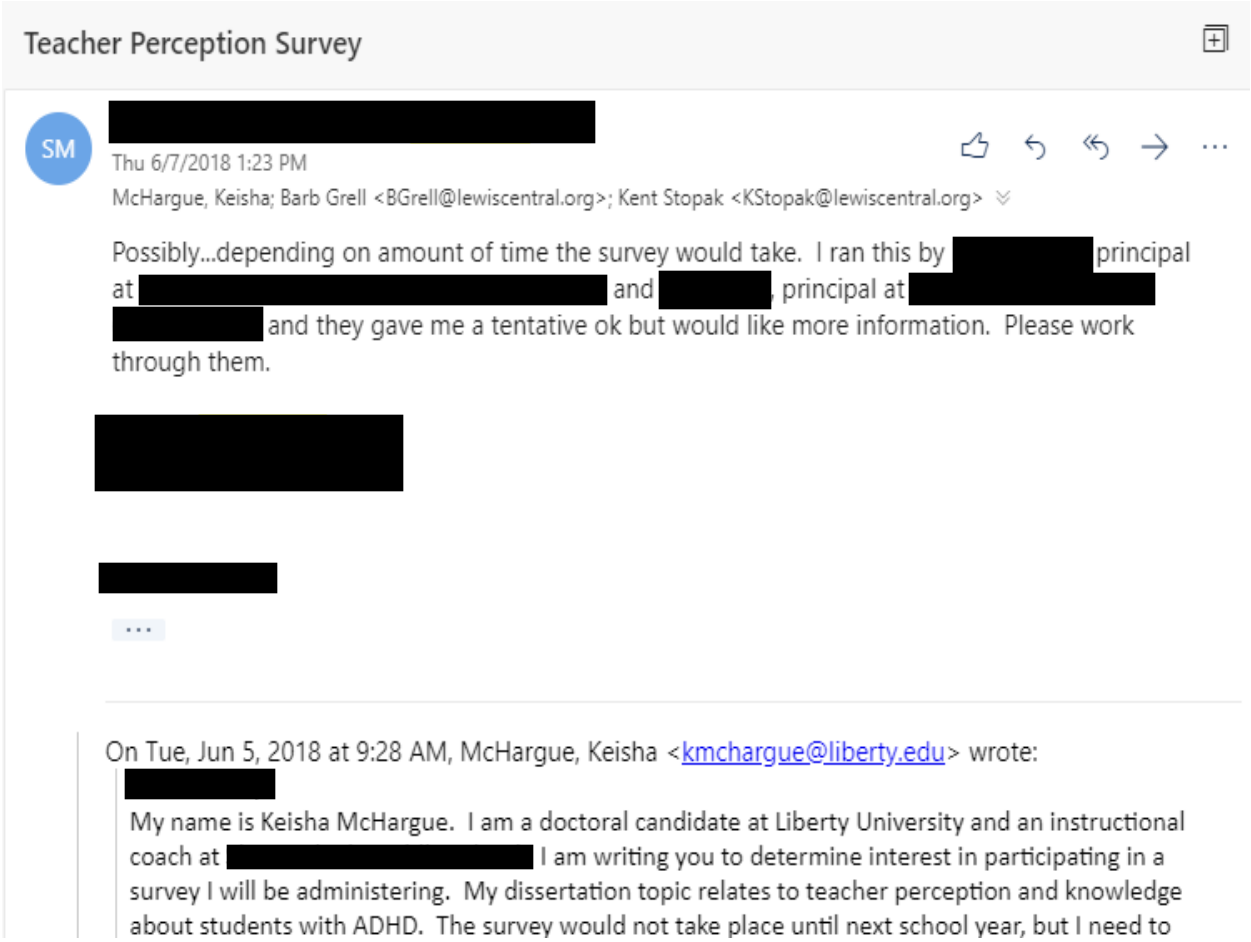
I am writing to request your official permission to contact members of your staff to invite them to participate in my research study.

Participants will be asked to click on a link provided to complete a survey. Participants will be presented with informed consent information prior to participating. The survey will take approximately 10 minutes. Taking part in this study is completely voluntary, and participants are welcome to discontinue participation at any time.

Thank you for considering my request. If you choose to grant permission, please respond to this email with consent.

Sincerely,
Keisha McHargue
Doctoral Candidate
Instructional Coach

School District #1



Teacher Perception Survey

SM [redacted]

Thu 6/7/2018 1:23 PM

McHargue, Keisha; Barb Grell <BGrell@lewiscentral.org>; Kent Stopak <KStopak@lewiscentral.org>

Possibly...depending on amount of time the survey would take. I ran this by [redacted] principal at [redacted] and [redacted], principal at [redacted] and they gave me a tentative ok but would like more information. Please work through them.

[redacted]

[redacted]

...

On Tue, Jun 5, 2018 at 9:28 AM, McHargue, Keisha <kmchargue@liberty.edu> wrote:

[redacted]

My name is Keisha McHargue. I am a doctoral candidate at Liberty University and an instructional coach at [redacted] I am writing you to determine interest in participating in a survey I will be administering. My dissertation topic relates to teacher perception and knowledge about students with ADHD. The survey would not take place until next school year, but I need to

Teacher Perception Survey

SM [redacted]

Thu 6/7/2018 1:23 PM

McHargue, Keisha; Barb Grell <BGrell@lewiscentral.org>; Kent Stopak <KStopak@lewiscentral.org>

Possibly...depending on amount of time the survey would take. I ran this by [redacted] principal at [redacted] and [redacted], principal at [redacted] and they gave me a tentative ok but would like more information. Please work through them.

[redacted]

[redacted]

...

On Tue, Jun 5, 2018 at 9:28 AM, McHargue, Keisha <kmchargue@liberty.edu> wrote:

[redacted]

My name is Keisha McHargue. I am a doctoral candidate at Liberty University and an instructional coach at [redacted]. I am writing you to determine interest in participating in a survey I will be administering. My dissertation topic relates to teacher perception and knowledge about students with ADHD. The survey would not take place until next school year, but I need to gain preliminary interest to develop my initial data pool. Would Lewis Central CSD possibly be interested in participating in this survey?

Thank you for your consideration.

Keisha McHargue, Ed.S.

--

[redacted]

Dreams Do Not Need Permission or Approval

Teacher Perception Survey

SM [redacted]

Thu 6/7/2018 1:23 PM

McHargue, Keisha; Barb Grell <BGrell@lewiscentral.org>; Kent Stopak <KStopak@lewiscentral.org>

Possibly...depending on amount of time the survey would take. I ran this by [redacted] principal at [redacted] and [redacted], principal at [redacted] and they gave me a tentative ok but would like more information. Please work through them.

[redacted]

[redacted]

...

On Tue, Jun 5, 2018 at 9:28 AM, McHargue, Keisha <kmchargue@liberty.edu> wrote:

[redacted]

My name is Keisha McHargue. I am a doctoral candidate at Liberty University and an instructional coach at [redacted]. I am writing you to determine interest in participating in a survey I will be administering. My dissertation topic relates to teacher perception and knowledge about students with ADHD. The survey would not take place until next school year, but I need to

Teacher Perception Survey

GB [redacted]

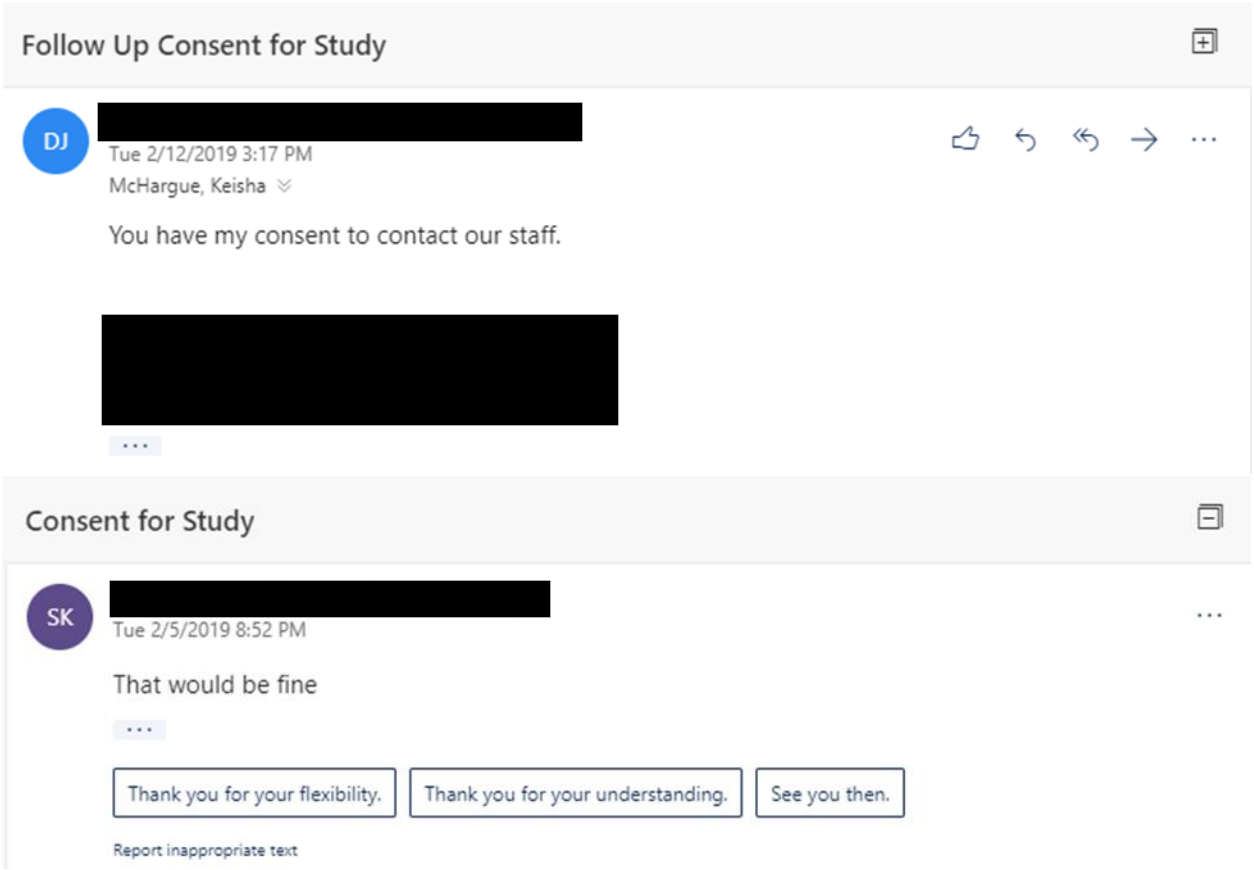
Fri 6/8/2018 10:00 AM

McHargue, Keisha; kstopak@lewiscentral.org

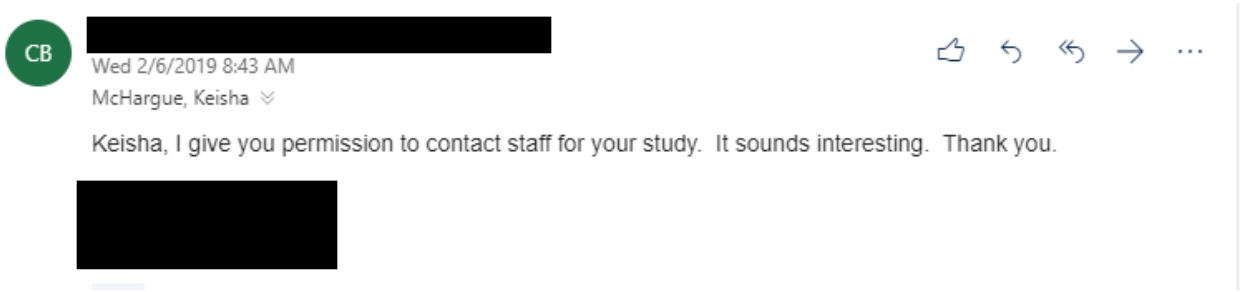
Hi Keisha,
Thanks for the information. I would be willing to have teachers particpate in the survey. Let me know when you have approval.

Thanks,
[redacted]

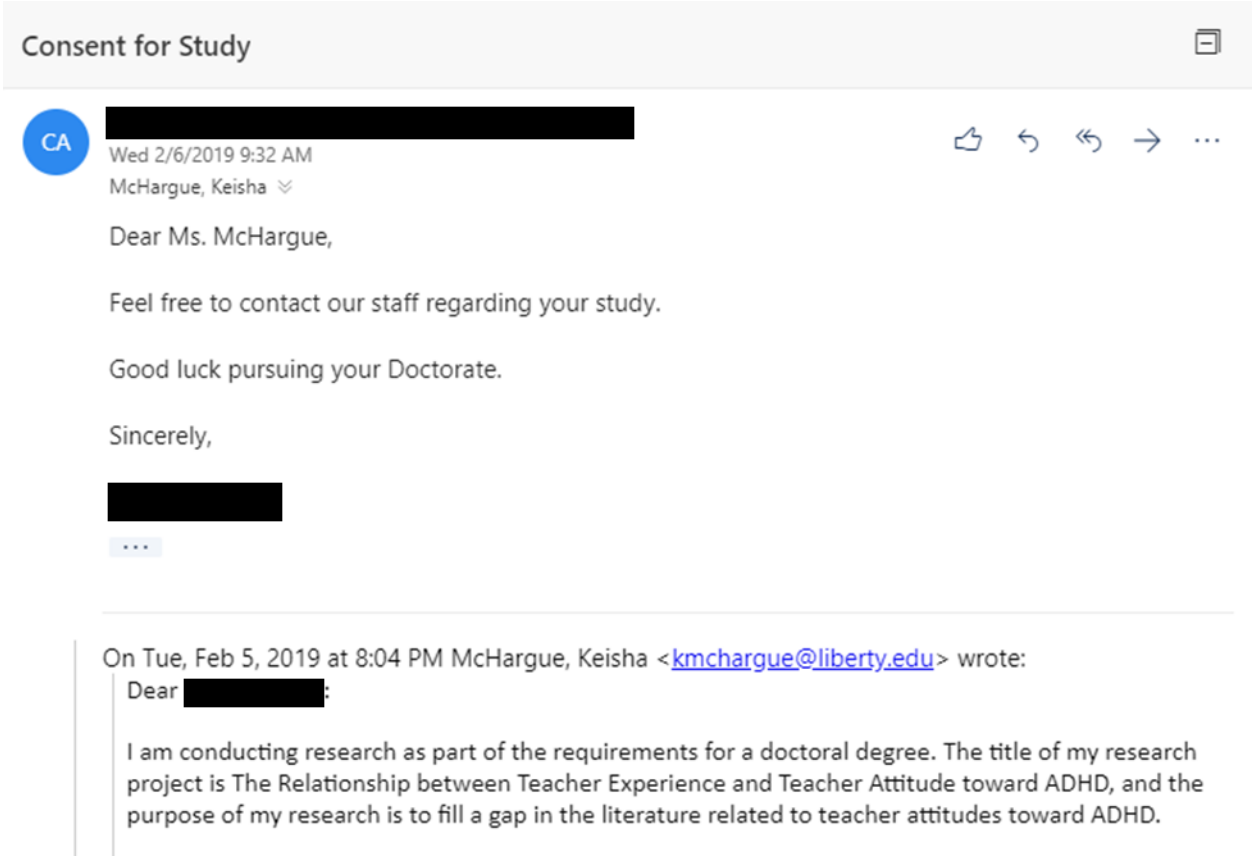
[redacted]



School District #2



School District #3



Consent for Study

CA [redacted]

Wed 2/6/2019 9:32 AM

McHargue, Keisha

Dear Ms. McHargue,

Feel free to contact our staff regarding your study.

Good luck pursuing your Doctorate.

Sincerely,

[redacted]

...

On Tue, Feb 5, 2019 at 8:04 PM McHargue, Keisha <kmchargue@liberty.edu> wrote:

Dear [redacted]:

I am conducting research as part of the requirements for a doctoral degree. The title of my research project is The Relationship between Teacher Experience and Teacher Attitude toward ADHD, and the purpose of my research is to fill a gap in the literature related to teacher attitudes toward ADHD.

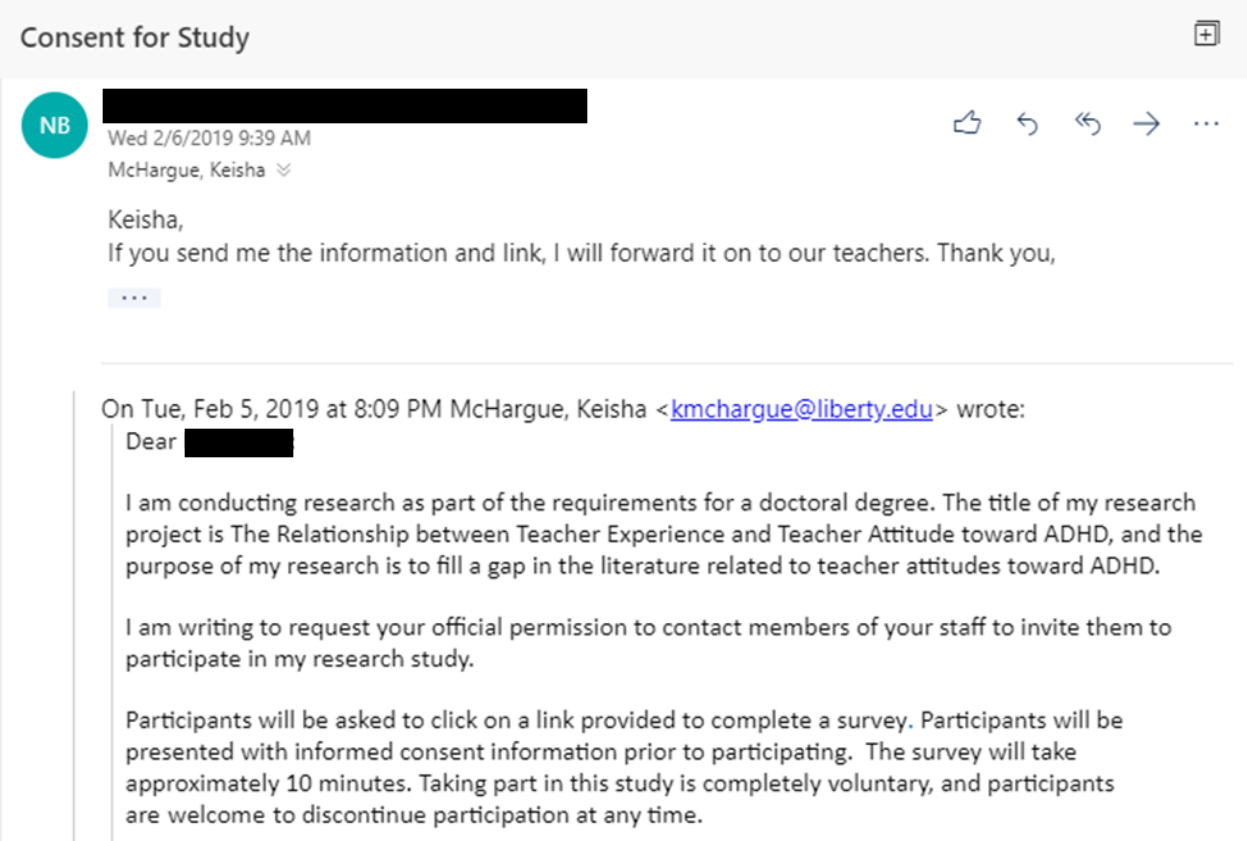
I am writing to request your official permission to contact members of your staff to invite them to participate in my research study.

Participants will be asked to click on a link provided to complete a survey. Participants will be presented with informed consent information prior to participating. The survey will take approximately 10 minutes. Taking part in this study is completely voluntary, and participants are welcome to discontinue participation at any time.

Thank you for considering my request. If you choose to grant permission, please respond to this email with consent.

Sincerely,
Keisha McHargue
Doctoral Candidate
Instructional Coach

School District #4



Consent for Study

NB [redacted]
Wed 2/6/2019 9:39 AM
McHargue, Keisha

Keisha,
If you send me the information and link, I will forward it on to our teachers. Thank you,

...

On Tue, Feb 5, 2019 at 8:09 PM McHargue, Keisha <kmchargue@liberty.edu> wrote:

Dear [redacted]

I am conducting research as part of the requirements for a doctoral degree. The title of my research project is The Relationship between Teacher Experience and Teacher Attitude toward ADHD, and the purpose of my research is to fill a gap in the literature related to teacher attitudes toward ADHD.

I am writing to request your official permission to contact members of your staff to invite them to participate in my research study.

Participants will be asked to click on a link provided to complete a survey. Participants will be presented with informed consent information prior to participating. The survey will take approximately 10 minutes. Taking part in this study is completely voluntary, and participants are welcome to discontinue participation at any time.

Consent for Study

NB [redacted]

Wed 2/6/2019 9:39 AM

McHargue, Keisha

Keisha,
If you send me the information and link, I will forward it on to our teachers. Thank you,

...

On Tue, Feb 5, 2019 at 8:09 PM McHargue, Keisha <kmchargue@liberty.edu> wrote:

Dear [redacted]:

I am conducting research as part of the requirements for a doctoral degree. The title of my research project is The Relationship between Teacher Experience and Teacher Attitude toward ADHD, and the purpose of my research is to fill a gap in the literature related to teacher attitudes toward ADHD.

I am writing to request your official permission to contact members of your staff to invite them to participate in my research study.

Participants will be asked to click on a link provided to complete a survey. Participants will be presented with informed consent information prior to participating. The survey will take approximately 10 minutes. Taking part in this study is completely voluntary, and participants are welcome to discontinue participation at any time.

Thank you for considering my request. If you choose to grant permission, please respond to this email with consent.

Sincerely,
Keisha McHargue
Doctoral Candidate
Instructional Coach

--

[redacted]

School District #5

Consent for Study

MW [redacted]
Wed 2/6/2019 6:42 AM
McHargue, Keisha

Keisha,

Yes you can contact my teachers. If you send link/info to me I can get it out to them. Good luck with your research:)

...

On Tue, Feb 5, 2019 at 8:11 PM McHargue, Keisha <kmchargue@liberty.edu> wrote:

Dear [redacted]:

I am conducting research as part of the requirements for a doctoral degree. The title of my research project is The Relationship between Teacher Experience and Teacher Attitude toward ADHD, and the purpose of my research is to fill a gap in the literature related to teacher attitudes toward ADHD.

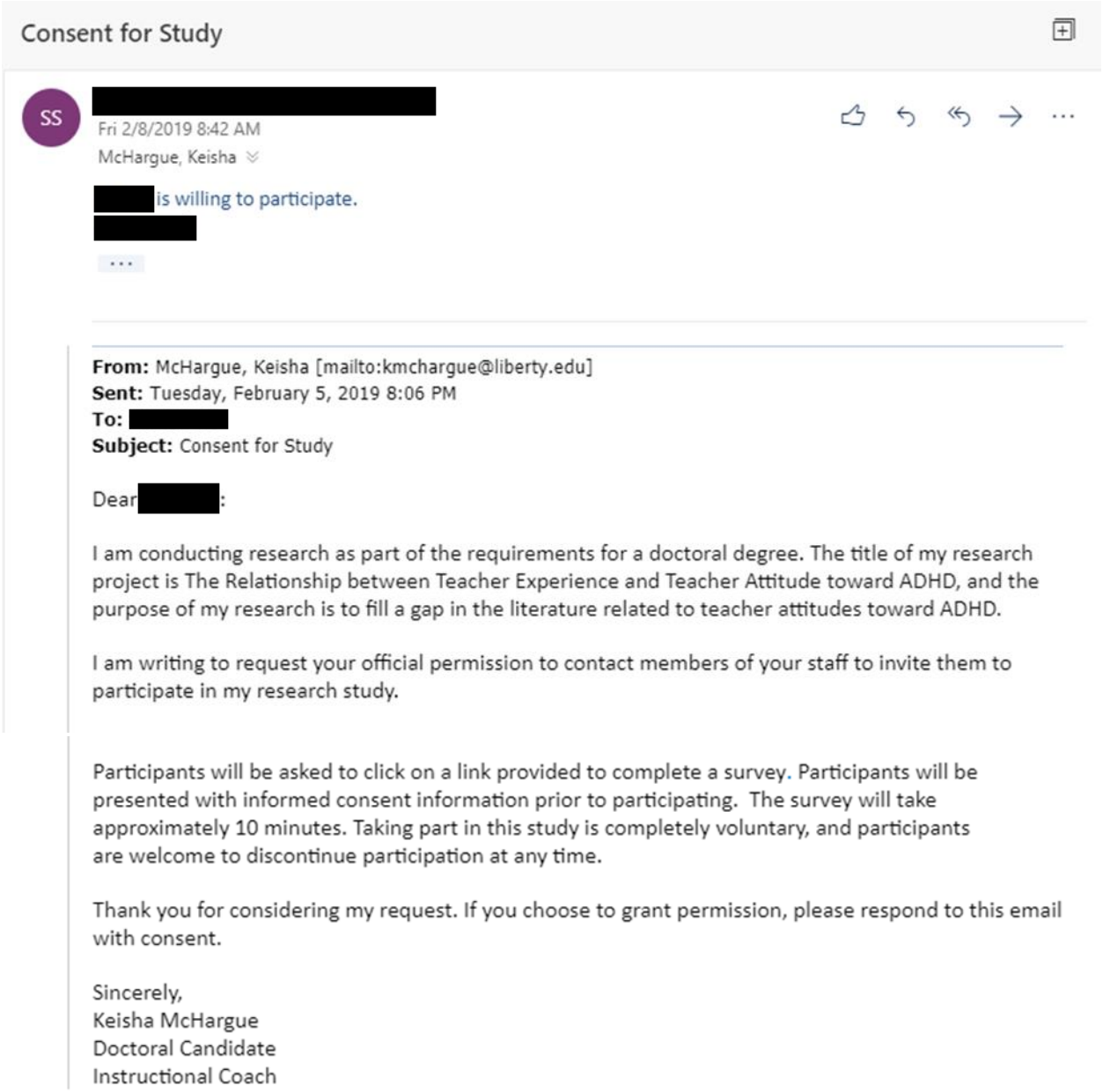
I am writing to request your official permission to contact members of your staff to invite them to participate in my research study.

Participants will be asked to click on a link provided to complete a survey. Participants will be presented with informed consent information prior to participating. The survey will take approximately 10 minutes. Taking part in this study is completely voluntary, and participants are welcome to discontinue participation at any time.

Thank you for considering my request. If you choose to grant permission, please respond to this email with consent.

Sincerely,
Keisha McHargue
Doctoral Candidate
Instructional Coach

School District #6



Consent for Study

SS [redacted]
Fri 2/8/2019 8:42 AM
McHargue, Keisha

[redacted] is willing to participate.
[redacted]

...

From: McHargue, Keisha [mailto:kmchargue@liberty.edu]
Sent: Tuesday, February 5, 2019 8:06 PM
To: [redacted]
Subject: Consent for Study

Dear [redacted]:

I am conducting research as part of the requirements for a doctoral degree. The title of my research project is The Relationship between Teacher Experience and Teacher Attitude toward ADHD, and the purpose of my research is to fill a gap in the literature related to teacher attitudes toward ADHD.

I am writing to request your official permission to contact members of your staff to invite them to participate in my research study.

Participants will be asked to click on a link provided to complete a survey. Participants will be presented with informed consent information prior to participating. The survey will take approximately 10 minutes. Taking part in this study is completely voluntary, and participants are welcome to discontinue participation at any time.

Thank you for considering my request. If you choose to grant permission, please respond to this email with consent.

Sincerely,
Keisha McHargue
Doctoral Candidate
Instructional Coach

School District #7

Consent for Study

JT [redacted]

Fri 2/8/2019 9:14 AM

McHargue, Keisha

Keisha,

You are welcome to contact our staff with your survey. Good luck!

[redacted]

...

On Tue, Feb 5, 2019 at 7:59 PM McHargue, Keisha <kmchargue@liberty.edu> wrote:

Dear [redacted]:

I am conducting research as part of the requirements for a doctoral degree. The title of my research project is The Relationship between Teacher Experience and Teacher Attitude toward ADHD, and the purpose of my research is to fill a gap in the literature related to teacher attitudes toward ADHD.

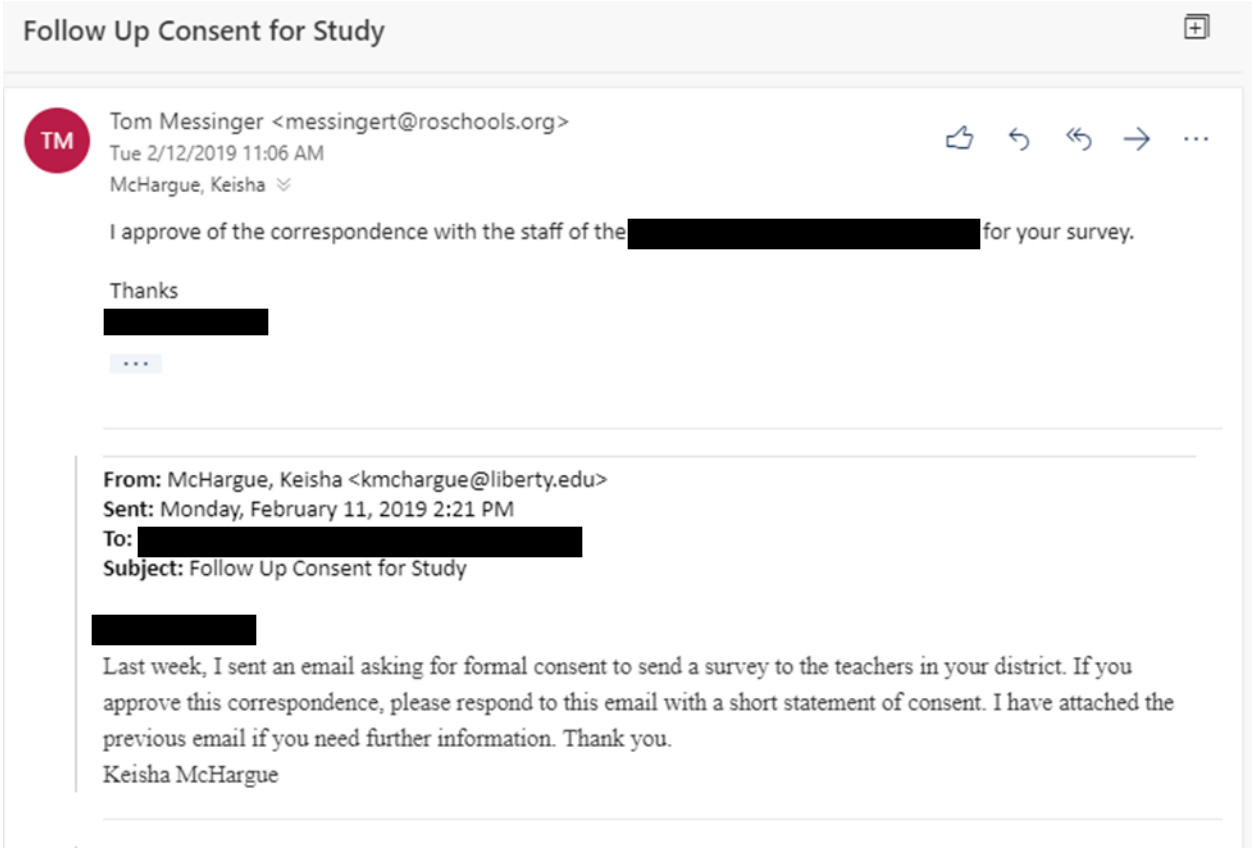
I am writing to request your official permission to contact members of your staff to invite them to participate in my research study.

Participants will be asked to click on a link provided to complete a survey. Participants will be presented with informed consent information prior to participating. The survey will take approximately 10 minutes. Taking part in this study is completely voluntary, and participants are welcome to discontinue participation at any time.

Thank you for considering my request. If you choose to grant permission, please respond to this email with consent.

Sincerely,
Keisha McHargue
Doctoral Candidate
Instructional Coach

School District #8



Follow Up Consent for Study

TM

Tom Messinger <messingert@roschools.org>
Tue 2/12/2019 11:06 AM
McHargue, Keisha

I approve of the correspondence with the staff of the [redacted] for your survey.

Thanks
[redacted]

...

From: McHargue, Keisha <kmchargue@liberty.edu>
Sent: Monday, February 11, 2019 2:21 PM
To: [redacted]
Subject: Follow Up Consent for Study

[redacted]

Last week, I sent an email asking for formal consent to send a survey to the teachers in your district. If you approve this correspondence, please respond to this email with a short statement of consent. I have attached the previous email if you need further information. Thank you.
Keisha McHargue

From: McHargue, Keisha <kmchargue@liberty.edu>
Sent: Tuesday, February 5, 2019 8:08 PM
To: messingert@roschools.org
Subject: Consent for Study

Dear Mr. Messinger:

I am conducting research as part of the requirements for a doctoral degree. The title of my research project is The Relationship between Teacher Experience and Teacher Attitude toward ADHD, and the purpose of my research is to fill a gap in the literature related to teacher attitudes toward ADHD.

I am writing to request your official permission to contact members of your staff to invite them to participate in my research study.

Participants will be asked to click on a link provided to complete a survey. Participants will be presented with informed consent information prior to participating. The survey will take approximately 10 minutes. Taking part in this study is completely voluntary, and participants are welcome to discontinue participation at any time.

Thank you for considering my request. If you choose to grant permission, please respond to this email with consent.

Sincerely,

Keisha McHargue
Doctoral Candidate

Instructional Coach

Appendix E: Survey Email

Dear Participant:

As a doctoral candidate in the School of Education at Liberty University, I am conducting research as part of the requirements for a doctoral degree. The purpose of my research is to determine if there is a relationship between teachers' years of experience and their attitudes toward ADHD. I am writing to invite you to participate in my study.

If you are 18 years of age or older, employed full-time as a teacher at a Southwest Iowa public school during the 2018-2019 school year, and are willing to participate, you will be asked to complete an online survey. It should take approximately 10 minutes for you to complete the survey. Your participation will be completely anonymous, and no personal, identifying information will be collected.

A consent document is provided as the first page you will see after you click on the survey link. The consent document contains additional information about my research. Please click on the survey link at the end of the consent information to indicate that you have read the consent information and would like to take part in the survey.

To participate, click on the survey link provided. [Attach Link]

Sincerely,

Keisha McHargue
Doctoral Candidate

Appendix F: Consent Form

Consent Form

The Relationship Between Teachers' Years of Experience and Attitude Toward Attention Deficit Hyperactivity Disorder (ADHD)

Keisha M. McHargue
Liberty University
School of Education

You are invited to be in a research study of the relationship between teachers' years of experience and their attitude toward teaching students with ADHD. You were selected as a possible participant because you are a full-time teacher in a school district in Southwest Iowa during the 2018-2019 school year, and you are over the age of 18. Please read this form and ask any questions you may have before agreeing to be in the study.

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

Background Information: The purpose of this study is to determine if there is a relationship between teachers' year of experience and their attitude toward teaching students with ADHD.

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

1. Complete a 10-minute anonymous survey.

Risks: The risks involved in this study are minimal, which means they are equal to the risks you would encounter in everyday life.

Benefits: Participants should not expect to receive a direct benefit from taking part in this study. Benefits to society include providing further insight into the training needs for pre-service and in-service teachers related to ADHD.

Compensation: Participants will not be compensated for participating in this study.

Confidentiality: The records of this study will be kept private. Your name will not be collected as part of this survey. Research records will be stored securely, and only the researcher will have access to the records. Data will be stored on a password locked computer and may be used in future presentations. After three years, all electronic records will be deleted.

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

How to Withdraw from the Study: If you choose to withdraw from the study, please exit the survey and close your internet browser. Your responses will not be recorded or included in the study.

Contacts and Questions: The researcher conducting this study is Keisha McHargue. You may ask any questions you have now. If you have questions later, you are encouraged to contact her at kmchargue@liberty.edu. You may also contact the researcher's faculty chair, Dr. Deanna Keith, at dlkeith@liberty.edu.

If you have any questions or concerns regarding this study and would like to talk to someone other than the researcher, you are encouraged to con

Next

* 1. I consent to participation in this study.

- ◯ Yes
- ◯ No

Appendix G: Demographic Section of Survey

Demographic Questions

* 2. What is your age?

- ◯ Under 18 years old
- ◯ 18 - 24 years old
- ◯ 25 - 34 years old
- ◯ 35 - 44 years old
- ◯ 45 - 54 years old
- ◯ 55 - 64 years old
- ◯ 65 - 74 years old
- ◯ 75 years or older

* 3. What is your gender?

- ◯ Male
- ◯ Female
- ◯ Other

* 4. How many years have you been teaching? A year is defined as teaching full time during a contract year in a K-12 school environment. Please answer with a whole number.

* 5. What is your ethnicity?

- ◯ African American
- ◯ Caucasian
- ◯ Hispanic
- ◯ Other

* 6. Do you spend the majority of your time teaching in general education or special education?

- ◯ General Education
- ◯ Special Education

* 7. Which school district is your current place of employment?

PREV NEXT

Appendix H: Clarifying Paragraph

A clarifying paragraph provided by Mulholland et al. (2015) was used to provide information about attention deficit hyperactivity disorder (ADHD). The paragraph can be accessed from the following publication.

Mulholland, S. M., Cumming, T. M., & Jung, J. Y. (2015). Teacher attitudes towards students who exhibit ADHD-type behaviors. *Australasian Journal of Special Education*, *39*(1), 15-36.

Appendix I: SASA Survey

The Scale for ADHD-Specific Attitudes has been removed from this publication due to copyright. You can access the survey from the following publication.

Mulholland, S. M., Cumming, T. M., & Jung, J. Y. (2015). Teacher attitudes towards students who exhibit ADHD-type behaviors. *Australasian Journal of Special Education*, *39*(1), 15-36.

Appendix J: Reminder Email

Dear Participant:

As a doctoral candidate in the School of Education at Liberty University, I am conducting research as part of the requirements for a doctoral degree. The purpose of my research is to determine if there is a relationship between teachers' years of experience and their attitudes toward ADHD. Last week, an email was sent to you inviting you to participate in a research study. This follow-up email is being sent to remind you to complete the survey if you would like to participate and have not already done so. The deadline for participation is April 8, 2019.

If you are 18 years of age or older, employed full-time as a teacher at a Southwest Iowa public school during the 2018-2019 school year, and are willing to participate, you will be asked to complete an online survey. It should take approximately 10 minutes for you to complete the procedure listed. Your participation will be completely anonymous, and no personal, identifying information will be collected.

A consent document is provided as the first page you will see after you click on the survey link. The consent document contains additional information about my research. Please click on the survey link at the end of the consent information to indicate that you have read the consent information and would like to take part in the survey.

To participate, click on the survey link provided. [Attach Link]

Sincerely,

Keisha McHargue
Doctoral Candidate