TEACHERS' REPORTED IMPLEMENTATION OF EFFECTIVE BEHAVIORAL STRATEGIES FOR STUDENTS WITH ATTENTION-DEFICIT/HYPERACTIVITY DISORDER

Laila Abdulwahab Aljumah

Submitted to the faculty of the Graduate School in partial fulfillment of the requirements for the degree
Doctor of Philosophy
in the School of Education,
Indiana University
January 2025

Accepted by the Graduate Faculty, Indiana University, in partial fulfillment of the requirements for the degree of Doctor of Philosophy.

Doctoral Committee

Ana Maria Brannan, Ph.D.

Jeffrey Anderson, Ph.D.

Theresa Ochoa, Ph.D.

David Lohrmann, Ph.D.

Date of defense – December 6, 2024

Acknowledgments

I want to express my sincere gratitude to my dissertation chair, Dr. Brannan, for her unwavering support, insightful guidance, and encouragement throughout this project. Her expertise and mentorship have been invaluable. I also wish to thank my committee members for their collaborative efforts, constructive feedback, and continuous support, which have greatly contributed to the success of this work. A special thanks goes to Dr. Lohrmann, whose exceptional insight, thoughtful suggestions, and ongoing support have been instrumental in shaping this research. My heartfelt appreciation goes to my family and friends, whose love, patience, and encouragement have been a constant source of strength throughout this journey. I will forever cherish the pride and joy in your eyes during my graduation ceremony. Your belief in me, my goals, and my potential has made all the difference.

Laila Abdulwahab Aljumah

TEACHERS' REPORTED IMPLEMENTATION OF EFFECTIVE BEHAVIORAL STRATEGIES FOR STUDENTS WITH ATTENTION-DEFICIT/HYPERACTIVITY DISORDER

Teachers play a crucial role in positively influencing the behavior of students with ADHD by implementing recommended behavioral strategies. However, there is limited research on the factors that impact general education teachers' implementation of the recommended behavioral strategies. Guided by an adapted theory of planned behavior, this study examined factors that could predict teachers' implementation of behavioral strategies. I collected and quantitatively analyzed online survey data. The results revealed that general education teachers in my sample employed both effective and ineffective behavioral strategies. The findings suggest that some of the theory's assumptions were supported. The results indicate that teachers' appraisals of effectiveness of behavioral strategies predicted implementation of behavioral strategies, regardless of whether research evidence supported their effectiveness. This suggests that teachers' misconceptions about the effectiveness of strategies may lead them to implement strategies with little evidence of effectiveness. Confidence in applying the behavioral strategies and perceiving facilitators could enhance teachers' implementation of behavioral strategies, particularly those with stronger evidence of effectiveness, as it emerged as a significant predictor of implementation across several strategies (e.g., stimulant medication and offering immediate tangible rewards for engaging in positive behavior). Overall, there were differences in the factors that predicted "how often" a strategy was implemented compared to "how well" they were implemented.

Table of Contents

Chapter One: Introduction

Focus of Study

The present study focused on general education elementary school teachers of students with Attention-Deficit/Hyperactivity Disorder (ADHD) in the United States. This study aimed to explore general education elementary school teachers' implementation of behavioral strategies for students with ADHD and what contributes to their implementation in most urban, least urban, and rural areas.

Knowledge of ADHD can influence teachers' use of behavioral strategies used for students with this disorder. Elementary school teachers in general education appear to lack adequate knowledge of ADHD treatment (Shroff et al., 2017). To assess teachers' knowledge of ADHD, studies often targeted general knowledge of ADHD, knowledge of symptoms and diagnosis of ADHD, and ADHD treatment. Therefore, this study applied an adaptation of the theory of planned behavior to explore the factors that predict use of behavioral strategies for students with ADHD.

Behavioral interventions are one of the most common treatments used to support students with ADHD. Several types of behavioral interventions have been documented to be effective for students with ADHD, such as allowing students task choice, establishing token economies, and reinforcement strategies (e.g., Irianjani & Rohmah, 2020; Schieltz et al., 2020, Dunlap et al., 1994). However, there is a dearth of studies that assess teachers' knowledge of a broad range of behavioral strategies. In the extant research literature, current measures used to evaluate teachers' knowledge of ADHD treatment do not encompass a wide range of behavioral strategies nor examine teachers' application of the behavioral strategies in the classroom. This study aimed to

develop a measurement tool for assessing teachers' implementation of various types of behavioral strategies utilized for students with ADHD.

Theoretical Framework

The current study was guided by the Theory of Planned Behavior (TPB) which is an extension of the Theory of Reasoned Action (TRA). The TRA assumes that humans' intentions are the strongest predictor of behavior (Montano & Kasprzyk, 2015). Behavioral intentions are formed by an individual's attitude toward the behavior, subjective norms regarding the behavior, and perceived behavioral control (Montano & Kasprzyk, 2015). An individual's attitude is influenced by their beliefs about the outcomes of a particular behavior and their evaluation of whether those outcomes are likely to be negative or positive (Montano & Kasprzyk, 2015). Subjective norms are determined by normative beliefs which are shaped by an individual's beliefs about whether important others will approve or disapprove of their behavior, as well as their motivation to meet important other people's expectations (Montano & Kasprzyk, 2015). The TPB added perceived behavioral control to the TRA which involves control beliefs that are shaped by the absence or presence of barriers and facilitators that impact performing the behavior, as well as an individual's self-efficacy in carrying out the behavior (Montano & Kasprzyk, 2015). More detail on how the TPB was adapted and applied in this study appears in Chapter Two.

Impact of Attention-Deficit/Hyperactivity Disorder

ADHD is a neurological disorder that emerges in childhood (Wender et al., 2001). Students affected by ADHD can experience daily struggles due to the core symptoms associated with this disorder. Three primary types of ADHD are currently recognized including inattention, hyperactivity, and impulsivity (American Psychiatric Association, 2013).

The symptoms of inattention, hyperactivity, and impulsivity impact several aspects of an individual's life including behavior, emotions, education, and social interactions. According to recent statistics, approximately 12% of children in the United States, totaling 7.1 million, have received a diagnosis of ADHD. Nearly 11% of these children, equivalent to 6.5 million, had current ADHD (Danielson et al., 2024). Among school-aged children, 9.6% have ever been diagnosed with ADHD (Danielson et al., 2018). Boys are three times more likely than girls to have ADHD (Barkley, 2006).

ADHD can co-occur with other disorders. In the United States, 63.8% of children with ADHD have at least one co-occurring condition (Danielson et al., 2018). Among children with ADHD, 51.5% have behavioral problems (Danielson et al., 2018). A review revealed that up to 45% of students with ADHD have learning disabilities (DuPaul et al., 2013). Nearly 33% of children with ADHD have comorbidity with anxiety problems (Danielson et al., 2018). ADHD can also be associated with emotional impairment, stemming from negative experiences like academic failure and peer rejection, leading to adverse emotional consequences (Wehmeier et al., 2010). These emotional problems may manifest as a persistent state of being worried, frequent feelings of unhappiness, despondency, or tearfulness (Strine et al., 2006). It is worth noting that over one-third of children diagnosed with ADHD in the USA exhibit elevated levels of emotional and behavioral challenges (Strine et al., 2006). Another pervasive coexisting difficulty among children with ADHD is impaired executive functioning, which compromises self-regulation of behavior (Sinclair, 2018). Research indicates that ADHD can contribute to peer rejection (Mrug, 2012). It can be challenging for individuals with ADHD to form positive relationships (Barkley, 2006).

Scholars have documented that students with ADHD often have poor academic achievement compared to typically developing peers (Barkley, 2006; Barry et al., 2002; Hinshaw, 1992). Poor executive functioning negatively impacts inhibitory control, planning, task shifting, working memory, and verbal fluency (Scheres et al., 2004). Deficits in executive functioning can be related to academic struggles (Nigg et al., 2005). Further, ADHD was found to be associated with high rates of detention and expulsion and low rates of graduation from high school and tertiary education (Loe et al., 2007). Inattention, impulsivity, and behavioral problems students with ADHD display result in the exhibition of off-task behavior which results in incompletion of work (Barkley, 2006). Comparing predicted with actual achievement of students with ADHD, greater discrepancy scores were observed in reading, writing, and math in favor of students with ADHD compared to those with non-ADHD (Barry et al., 2002). Students with ADHD can display underachievement in reading and math standardized test scores (Loe et al., 2007; Barry et al., 2002). Almost 30% of students with ADHD receive failing grades, and approximately 30% to 40% need special education services (Barkley, 2006). All in all, the main symptoms of ADHD, comorbidities, and neuropsychological conditions can impact academic success, especially when students with ADHD experience poor planning, organizing, and working memory (Daley & Birchwood, 2010).

According to the Centers for Disease Control and Prevention (2022a), the majority of children receive some special education services in school settings. In addition, most students with ADHD learn in general education classrooms (Zentall & Javorsky, 2007; Gureasko-Moore et al., 2006). DuPaul and colleagues (1998) reported that at least 80% of students with ADHD are instructed in general education classrooms (as cited by Gureasko-Moore et al., 2006). This means that general education teachers can play a critical role in addressing the needs of students

with ADHD. Teachers may often be the first to suspect a student has ADHD (Sax & Kautz, 2003). Teachers also have an essential role when referring students suspected of having ADHD for ADHD assessment (Sciutto et al., 2000).

Teachers' characteristics can influence students' success (Sherman et al., 2008). For instance, Sherman and colleagues (2008) revealed that the way teachers perceive and respond to the behaviors displayed by students with ADHD, as well as recommended treatments, impacts several outcomes among students including self-image, behavior, and social and academic outcomes. Multiple teacher factors could influence the success of students with ADHD, including teachers' level of tolerance in terms of ADHD behaviors displayed in classroom, previous experience with students with ADHD, awareness of intervention techniques, and attitude towards students with a disability (Sherman et al., 2008).

Significance of the Study

Delivering inappropriate treatments that do not meet students' needs can worsen ADHD symptoms (Thomas, 2017). US Department of Education (2006) asserts that teachers need to enhance students' behavioral and academic skills. For instance, the Indiana Department of Education standards expect teachers of students in PreK to 12 grades to "have a broad and comprehensive understanding of student development and diversity and demonstrate the ability to provide instruction that is responsive to student differences and that promotes development and learning for all students… and have a broad and comprehensive understanding of instructional planning and delivery and demonstrate the ability to plan and deliver standards-based, data-driven differentiated instruction that engages students, makes effective use of contemporary tools and technologies, and helps all students achieve learning goals " (Indiana

Department of Education, n.d. p. 1). Therefore, this study explored general education elementary school teachers' use of effective behavioral strategies applied to students with ADHD.

Many studies have tested teachers' beliefs or preferences in a limited number of behavioral interventions (e.g., Schatz et al., 2021) or without specifying the type of behavioral strategies (e.g., Havey et al., 2005, Glass & Wegar, 2000). Understanding teachers' use of different types of behavioral strategies could reveal some barriers to effective behavior management and point to training needs. This study explored a wide range of behavioral strategies that were used by teachers for managing behavior, including but not limited to the following: reinforcement (i.e., token economy and response cost), functional behavioral assessment (FBA), and self-regulation and reported the most and least commonly used behavioral strategies for student with ADHD.

Some studies explored teachers' perceptions of the efficacy of utilizing behavioral interventions alone or combined with medication to enhance ADHD symptoms (e.g., Schatz et al., 2021; Curtis et al., 2006; Havey, 2007; Glass & Wegar, 2000). However, these studies did not explore the relationship between teachers' implementation of behavioral strategies and other variables such as teacher characteristics (e.g., ethnicity, gender, race) and perceptions (e.g., teachers' views about the role of general educators in working with students with ADHD), an area that my study focused on.

Research Purpose and Questions

The current study aimed to predict general education elementary teachers' use of a wide variety of classroom-based behavioral interventions using variables suggested by the Theory of Planned Behavior. These included teachers' personal characteristics (e.g., gender, race), professional attributes (e.g., training, self-efficacy as a general education teacher), and perceptions (e.g., appraisals of strategy effectiveness). Study findings could be valuable for

identifying teacher training needs and developing programs and training materials. Guided by this study's adaptation of the TPB, this study explored five main research questions:

1) What do general education elementary school teachers know about ADHD and effective behavioral strategies used for students with ADHD? How confident are general education elementary school teachers in managing classroom behavior, providing instruction, and engaging students, in general?
2) What do general education elementary school teachers report about their implementation of behavioral strategies?
3) What are the relationships among teacher personal characteristics (i.e., gender, race, ethnicity, geography), professional variables (i.e., education level, grades taught, years of teaching experience, specialized ADHD training), and knowledge of ADHD and effectiveness of behavioral strategies?
4) What are the relationships among general education elementary school teachers' knowledge of ADHD, teachers' appraisals of effectiveness of behavioral strategies, views about general education teachers' role, the perceived presence or absence of barriers or facilitators to applying effective behavioral strategies, and teachers' self-efficacy to applying effective behavioral strategies?
5) To what extent do teacher perceptions (i.e., appraisals of effectiveness of behavioral strategies, views about general education teachers' role, perceived barriers and facilitators, teachers' self-efficacy related to applying effective behavioral strategies) predict implementation of behavioral strategies?

Chapter Two: Review of the Literature

The current study was guided by an adaptation of the TPB, which is depicted in Figure 1. According to the TPB, teachers' knowledge of ADHD and effective strategies are influenced by demographic information (e.g., gender and race), education level, grade taught, years of teaching experience, teachers' general sense of self-efficacy, and where they taught. This assumption is supported by Alabd and colleagues (2018) who found that teachers with more years of teaching experience had greater knowledge of ADHD (Alabd et al., 2018). Additionally, a positive correlation was observed between self-efficacy and knowledge of ADHD (Latouche and Gascoigne, 2019). All the demographic variables mentioned were tested in my study.

The integrated model presumes that the reception of ADHD-focused training is associated with teachers' knowledge of ADHD and perhaps knowledge of effective behavioral strategies for ADHD. Khalil and colleagues (2019) found that participating in an ADHD training program improved overall knowledge of ADHD, and the teachers reported their willingness to implement various interventions after receiving training. Training could also increase self-efficacy (Latouche & Gascoigne, 2019). Teachers' knowledge about ADHD and receiving training related to ADHD were examine din my study.

Based on the TPB, attitudes, subjective norms, and perceived control are associated with individuals' intentions to apply behavioral strategies for students with ADHD, and intention was directly linked to the enacted behavior (Montano & Kasprzyk, 2015), which in this study included the implementation of behavioral strategies. However, intentions and actual application of behavioral strategies for students with ADHD are not examined. Instead, this study examines teachers' self-reported implementation of behavioral strategies to assist students with ADHD along with the most related variables to the implementation including teachers' appraisals of the

behavioral strategies, sense of roles in serving students with ADHD, barriers and facilitators, and self-confidence in using the behavioral strategies. This could provide insight into the actual application of these strategies in the classroom.

The TPB depicts that teachers' attitude towards behavioral strategies used for ADHD was determined by beliefs of teachers about the nature of ADHD and teachers' evaluation of the effectiveness of behavioral strategies. Glass and Wegar (2000) found that teachers who believed that ADHD was not biological were more likely to agree with using behavioral strategies and medication to support students with ADHD. One teacher who did not see ADHD as a biological condition believed that no treatment should be provided (Glass & Wegar, 2000). Teachers' evaluation of the efficacy of behavioral strategies was examined in this study.

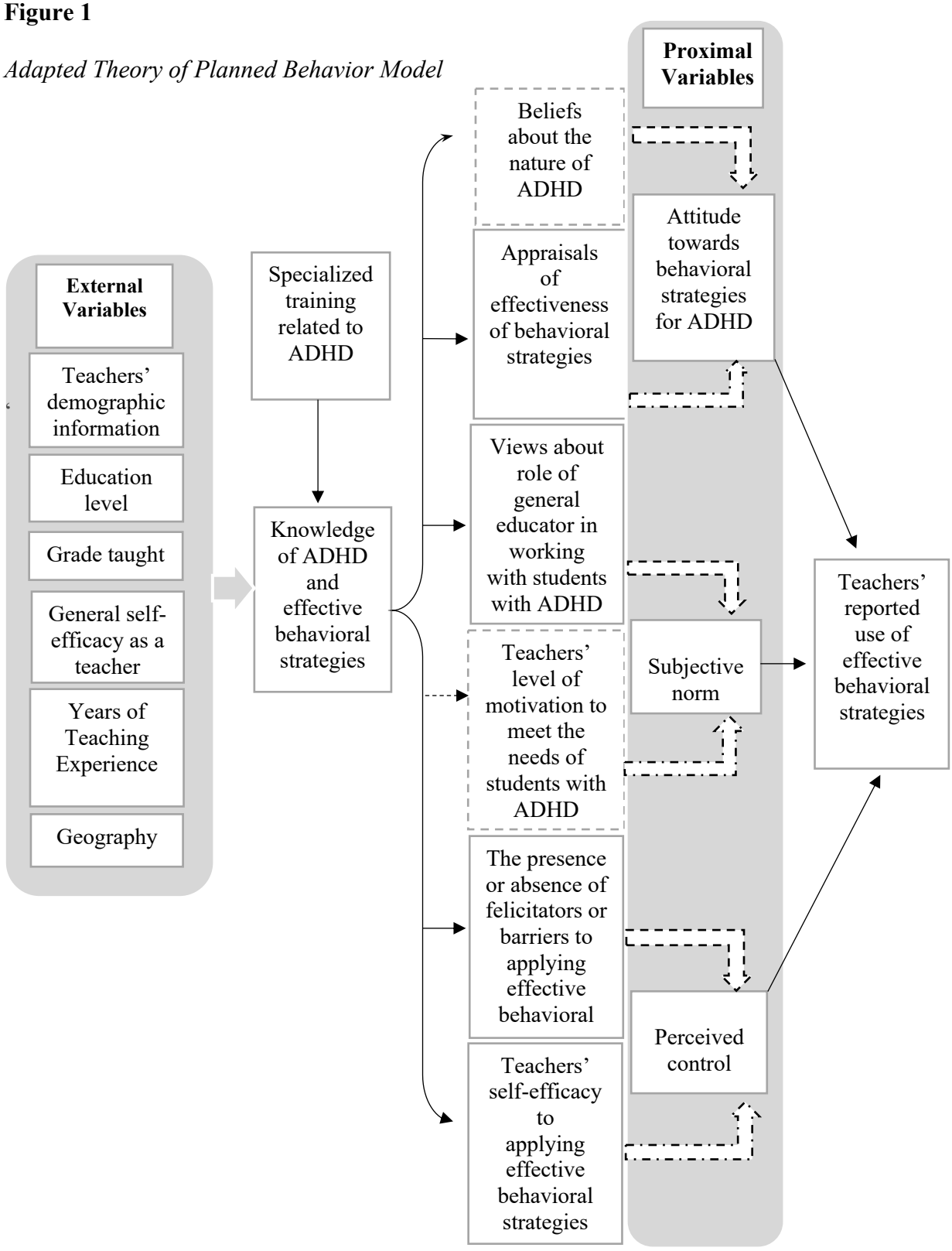
According to the TPB, subjective norm was determined by teachers' views of the role of general educators in serving students with ADHD and the extent to which they were motivated to meet the needs of students with ADHD. Some general education teachers might feel that serving children with ADHD should not be their responsibility because they are not trained as special educators. This belief can impact how they assist students with ADHD. Conversely, teachers who believe in supporting their students no matter their disabilities, are more likely to be motivated to work with and assist their students. In this study, the component of teachers' views about their role as general education teachers in serving students with ADHD was examined.

According to the TPB, the ability of teachers to effectively apply behavioral strategies for students with ADHD depends on their perceived control of the situation. Perceived control is influenced by self-efficacy to effectively work with students with ADHD, and the presence or absence of factors that facilitate or obstruct their efforts. This model acknowledges that both challenges and opportunities can either promote or hinder the use of effective behavioral

strategies. According to Tschannen-Moran and Hoy's study (2001), self-efficacy played a crucial role in shaping the performance of teachers. Research has also shown that teachers with high self-efficacy were better able to implement effective strategies (Allinder, 1994). The presence or absence of facilitators and barriers and teachers' self-efficacy in implementing strategies to manage behavior of students with ADHD were measured in this study.

Figure 1

Adapted Theory of Planned Behavior Model



Note. The dotted lines indicate that the component or the relationship between the components is not examined in this study.

Attention-Deficit Hyperactivity Disorder

Based on the Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition, there are three primary ADHD types. One is classified as predominantly inattentive, which encompasses poor attention to detail, difficulty with attention sustainability, and distractibility (American Psychiatric Association, 2013). The second is defined as the predominantly hyperactive-impulsive type (American Psychiatric Association, 2013). Fidgeting and inability to sit still are examples of hyperactivity, whereas interrupting others and having difficulty waiting to take turns are characteristics of impulsivity (American Psychiatric Association, 2013). The third type of ADHD contains a combination of type 1 and type 2 (American Psychiatric Association, 2013).

Causes of ADHD

No one cause for ADHD has been identified (Thapar et al., 2013; Biederman, 2005). ADHD is considered a neurological disorder involving central nervous system abnormalities (Núñez-Jaramillo et al., 2021). Studies indicate that hereditary can be another potential risk factor for ADHD (Elia & Devoto, 2007). However, the way ADHD is inherited is not attributed to a single ADHD gene (Elia & Devoto, 2007). Instead, the link between multiple genes and ADHD has been indicated by scholars (Elia & Devoto, 2007). The cases of ADHD heritability among twins are high across different countries (Nikolas & Burt, 2010; Faraone et al., 2005, as cited in Thapar et al., 2013). Some studies show that environmental factors such as toxins can be a risk factor for ADHD (Nigg, 2008; Thapar et al., 2013). The impact of toxins is greater in early life, as evidence indicates a high lead level in the blood of some children with ADHD (Nigg et al., 2010). In addition, some medical factors are risk factors for ADHD, such as prematurity, low birth weight, and brain injury (Centers for Disease Control and Prevention, 2022b).

Characteristics of Students with ADHD

The core signs of ADHD include inattention, hyperactivity, and impulsivity. For those with inattention symptoms, focusing on and committing to a given task or maintaining attention is challenging (National Institute of Mental Health, 2022). Teachers reported that students with inattention struggle to work independently, concentrate, and complete tasks (Barkley et al., 1990). Individuals with inattention symptoms also forget details and make careless errors (National Institute of Mental Health, 2022; Barkley, 2006). Some also struggle with working on assignments or activities in school (National Institute of Mental Health, 2022). Students with ADHD can have difficulty following instructions, especially because they easily get distracted (National Institute of Mental Health, 2022). Therefore, teachers often reported a high rate of distractibility among children with ADHD (Barkley, 2006). Students with ADHD do not like to engage in tasks requiring sustained attention, such as homework (National Institute of Mental Health, 2022). They also tend to select tasks requiring less effort and time (Barkley, 2006). Also, they are forgetful in a way that impacts the completion of school tasks (i.e., forgetting or losing supplies required for completing a task or an activity) (National Institute of Mental Health, 2022). Due to poor organizing and time management skills, they find it hard to adhere to tasks or activities' deadlines (National Institute of Mental Health, 2022). Individuals with impulsivity tend to act without thinking due to a lack of self-control (National Institute of Mental Health, 2022). Impulsivity is defined by Barkley (2006) as "behavioral disinhibition" (p. 80). According to the National Institute of Mental Health (2022), people with hyperactivity are restless, move persistently, fidget, and talk excessively. Students with hyperactivity-impulsivity symptoms misbehave. In school, for example, they cannot sit still, so they leave their seats when it is not

expected, answer questions without permission, cannot wait for turns, and interrupt others (National Institute of Mental Health, 2022; Barkley, 2006).

Executive functioning and working memory are often impaired in individuals with ADHD (Coghill et al., 2018). Individuals with executive dysfunction frequently display "low impulse control, inability to plan and follow through with essential activities, and problems abiding by the rules of social interaction" (Rinsky & Hinshaw, 2011. p. 368). Baddeley (2012) perceives storage and manipulation as elements of working memory. Working memory refers to one's ability to temporarily hold information and manipulate task-related information (Baddeley, 2012). Daley and Birchwood (2010) emphasize that working memory problems can negatively influence academic performance in school. For instance, poor working memory skills, such as the inability to recall instructions and their consequences, lack students from completing certain activities (Gathercole & Alloway, 2013).

Evidence of social impairment among individuals with ADHD is well documented. Difficulties with building positive relationships, maintaining relationships, and acting out are observed in children with ADHD and sometimes continue till adulthood (Children and Adults with Attention-Deficit/Hyperactivity Disorder, 2022). Students with ADHD were more rejected by peers than typically developing students (de Boer & Pijl, 2016). Daley and Birchwood (2010) consider social skills one of the other important skills for academic success (Daley & Birchwood, 2010). A study revealed the correlation between social skills and academic performance and confirms that peer acceptance, especially in the first school years, was critical for academic success (e.g., Parke et al., 1998).

Recommended Class-wide Behavioral Interventions for Students with ADHD

Behavioral interventions are known as behavior modifications (DuPaul et al., 2011) and are defined as techniques used to increase or reduce the occurrence of a particular behavior (Vijayalakshmi, 2019). Behavior modifications refer to “assessing and modifying the current environmental events that are functionally related to the behavior” (Miltenberger, 2015. p. 5). Various antecedent- and consequence-based behavior strategies have been used to manage the behaviors of students with ADHD. Antecedent-based strategy refers to "interventions that involve manipulation of events that precede target behavior in an attempt to prevent problematic behavior from occurring" (DuPaul & Weyandt, 2006. p. 163). For instance, choice-making is one of the antecedent behavioral strategies found to be effective (DuPaul et al., 2011). It allows students to select from two or more classroom activities that occurred simultaneously (DuPaul & Weyandt, 2006). It also enables teachers to reduce the likelihood of disruptive behavior a student manifests while working independently on specific subject tasks (DuPaul & Weyandt, 2006). With the Choice-making strategy, students with ADHD must keep working on the selected task within the assigned time frame (DuPaul & Weyandt, 2006). In a single-subject study, the influence of task choice intervention was tested between two students; one displayed aggressive and inappropriate behavior, and the other student was diagnosed with ADHD (Dunlap et al., 1994). The results demonstrated a consistent positive influence of choice-making on reducing disruptive behavior and increasing on-task behavior of both students (Dunlap et al., 1994).

Reinforcement can be effective for some children with behavioral problems. Positive reinforcement refers to the use of pleasant reinforcers to encourage the occurrence of desired behavior (Sigler & Aamidor, 2005). In contrast, negative reinforcement is defined by Crosbie (1998) as increasing or maintaining the desired behavior by removing aversive stimuli. An

experimental study was conducted in multiple phases to evaluate the effectiveness of several strategies, including contingent positive and negative reinforcement (Schieltz et al., 2020). A concurrent schedules design was combined with a multielement and reversal design to assess the influence of contingent positive reinforcement (i.e., increasing a preferred activity time) on academic accuracy, academic performance, and behavioral problems (Schieltz et al., 2020). A reversal design was applied for contingent negative reinforcement (i.e., leaving the clinic and going home) for one student who did not respond to the alternative strategies (Schieltz et al., 2020). Considering only behavioral problems, contingent positive reinforcement effectively decreased one participant's problem behavior. The second participant displayed fewer behavioral problems attributed to contingent negative reinforcement and instructional strategies (Schieltz et al., 2020).

Response cost is a consequence-based strategy used when the rules are broken/unwanted behavior occurs (i.e., disruptive behavior) by removing token reinforcers already gained by the student (DuPaul et al., 2011). A study that applied a single-subject withdrawal design investigated the effects of using a token economy system and response cost among four children with ADHD (McGoey & DuPaul, 2000). The findings of this study indicated that both interventions were effective in reducing the disruptive behavior of children with ADHD (McGoey & DuPaul, 2000).

A common strategy applied for students with challenging behaviors is Functional Behavioral Assessment (FBA). FBA is defined as "a collection of methods for gathering information about antecedents, behaviors, and consequences to determine the reason (function) of behavior." (Gresham et al., 2001. p.158). FBA is used to "identify environmental conditions that are associated with the occurrence and nonoccurrence of problem behaviors" (Gresham et

al., 2001. p.158). In other words, FBA addresses the antecedents, setting events, and consequences to maintain positive behaviors (Horner & Carr, 1997). In a single case-reversal design, functional analysis within an FBA was applied to three elementary school students who displayed disruptive behavior (Broussard & Northup, 1995). Different contingency reversal condition was considered for each student and resulted in a reduction in disruptive behavior (Broussard & Northup, 1995). During the contingency reversal conditions, no disruptive behavior was displayed by two out of three students, and the third student demonstrated a clear decrease in disruptive behavior (Broussard & Northup, 1995).

The daily report card system is one of the most common behavioral interventions applied in schools to enhance students with ADHD (Pyle & Fabiano, 2017). Daily report cards can provide consistent feedback to parents on a wide range of behaviors the child displays in the classroom setting (DuPaul et al., 2011). The effectiveness of daily report cards is well supported. For instance, a meta-analysis of 14 single-case research design studies evaluated the effectiveness of the daily report card system for improving behavior of students with ADHD (Pyle & Fabiano, 2017). The overall results confirmed that using daily report cards alone without being combined with other treatments effectively enhanced behavior of students with ADHD, with large effect sizes ranging from 0.59 to 0.94 (Pyle & Fabiano, 2017).

Students who develop self-regulation skills can monitor, appraise, and reinforce their own behavior (DuPaul et al., 2011). Self-regulation includes several forms, such as self-monitoring, self-monitoring accompanied with reinforcement, self-reinforcement, and self-management (Reid et al., 2005). An ABAB withdrawal design was implemented to evaluate the impact of using a self-monitoring application on disruptive and on-task behavior of two students; one was diagnosed with ADHD, and the other had a learning disability (Wills & Mason, 2014).

The visual analysis demonstrated a clear improvement in the participants' behavior, especially in the on-task behavior (Wills & Mason, 2014).

DuPaul and colleagues (2011) described that consequence-based strategies referred to manipulating setting events immediately after the target behavior to reduce the behavior recurrence. The token economy system is a well-documented effective strategy for students with ADHD. Token economy is "a system for providing positive reinforcement to a child or children by giving them tokens for completing tasks or behaving in desired ways" (Nasako, 2016. p. 39). With this system, students can gain tokens immediately after the occurrence of the desired behavior and can redeem the tokens later with a preferred reward (Nasako, 2016). Reitman and colleagues (2001) investigated the impact of using a stimulant medication and token economy on ADHD symptoms, including inattention and disruptive behavior over 30 min of a kickball game. Tokens were provided once the children paid attention to the game (Reitman et al., 2001). In a multielement reversal design, the findings revealed that each intervention independently demonstrated a positive effect on the children's attention and behavior (Reitman et al., 2001). Token economy, however, was more effective for improving disruptive behavior and attention than medication. The token economy system augmented the influence of stimulant medication (Reitman et al., 2001). In a different single pretest-posttest study, token economy was applied for two weeks to examine its influence on the attention span of a student with ADHD (Irianjani & Rohmah, 2020). It was reported that the token economy system was associated with increased concentration time of the child (Irianjani & Rohmah, 2020).

The efficacy of stimulant medications such as methylphenidate (i.e., Ritalin) in improving behavioral outcomes for children with ADHD has been a main focus in numerous experimental studies and meta-analyses. For instance, a randomized controlled trial conducted by

the Multimodal Treatment Study of Children with ADHD (1999) reported that methylphenidate significantly improved behavior in children with ADHD. Children who received stimulant medications showed reduced disruptive behaviors, such as impulsivity and hyperactivity, which positively impacted classroom engagement and academic performance (MTA Cooperative Group, 1999). In a meta-analysis, Faraone, Biederman, and Spencer (2000) found that stimulant medications such as methylphenidate were effective in reducing unwanted classroom behaviors, with improvements observed in peer relationships. Stimulant medications, including methylphenidate, have been shown to significantly improve behavioral outcomes in children with ADHD, especially in reducing impulsivity, hyperactivity, and classroom disruptions, as demonstrated by various randomized controlled trials (Pelham & Fabiano, 2008). Multiple studies have found non-stimulant medications to be effective for treating ADHD, particularly when individuals do not respond to stimulant medications (e.g., Budur et al., 2005). A meta-analysis examined the efficacy of atomoxetine in treating ADHD in children and adolescents (Cheng et al., 2007). The findings indicated that atomoxetine is an effective treatment option for managing ADHD symptoms (Cheng et al., 2007). This analysis also suggested that atomoxetine is particularly beneficial for children with co-occurring conditions, such as anxiety and mood disorders (Cheng et al., 2007).

Strategies with Limited Efficacy for Students with ADHD

Punishment-based strategies have been commonly used to manage undesired behaviors in children with ADHD. Furukawa et al. (2011) examined different types of punishments, including isolation, such as timeouts, taking away privileges, and using verbal reprimands for managing disruptive behaviors in children with ADHD. While this quasi-experimental study found that these punishments might work in the short term and might temporarily control disruptive

behaviors, they did not lead to lasting improvements in behavior or help with the core challenges associated with ADHD, such as impulsivity, hyperactivity, and inattention (Furukawa et al., 2011).

These findings suggest that punishment by itself is not a good long-term fix for managing ADHD-related behaviors. Since children with ADHD face deeper neurological challenges, they need approaches that address the root of the problem. Instead of focusing on punishments, using positive reinforcement, teaching new skills, and using behavioral strategies that target ADHD's underlying causes are probably much more effective in helping children with ADHD thrive. These findings suggest that punishment alone is not a good long-term solution for managing behaviors of students with ADHD. Since ADHD is caused by neurological challenges, children need strategies that address the root of the problem. Instead of punishment-based strategies, using positive reinforcement, teaching new skills such as self-regulation skills, and using behavioral strategies that tackle underlying challenges associated with ADHD, are likely more effective in supporting students with ADHD and helping them succeed.

Pelsser et al. (2011) conducted a systematic review of meta-analyses to examine the efficacy of diet interventions, including the elimination of certain foods (e.g., sugar and food additives) and supplementation with specific nutrients, in improving the behavior of children diagnosed with ADHD. The findings of this review were mixed, as some results suggested that dietary interventions might have a modest effect on reducing ADHD symptoms, especially when foods and additives were eliminated from children's diets (Pelsser et al., 2011). However, this review also reported that this effect was not consistent across studies, as not all children with ADHD responded the same way to diet interventions (Pelsser et al., 2011).

The review by Pelsser et al. (2011) indicates that dietary interventions, particularly food elimination diets, may offer some short-term benefits for certain children with ADHD. However, the overall efficacy of these strategies remains inconclusive (Pelsser et al., 2011). As with punishment-based strategies, the review emphasizes that dietary-based interventions alone may not be sufficient to address the complex, underlying neurological challenges of ADHD.

Given the growing concerns and ethical considerations surrounding corporal punishment in educational settings, I did not find experimental studies specifically testing corporal punishment or physical consequences on students with ADHD. However, there is now widespread consensus among researchers, psychologists, and educators that strategies associated with corporal punishment are ineffective in managing behavior in children, particularly those with ADHD and they can lead to short- and long-term negative consequences (e.g., Altourah et al., 2021; Farmer, 2009)

Teachers' Knowledge of ADHD

Knowledge of ADHD among elementary school teachers has been tested extensively worldwide. Research has shown that teachers have inadequate knowledge about ADHD (e.g., Shroff et al., 2017; Shetty & Rai, 2014; Alkahtani, 2013; Perold et al., 2010). Using the KADDS, which measures misperceptions and knowledge of teachers in three areas related to ADHD, teachers appeared to be most knowledgeable about the symptoms and diagnosis of ADHD compared to their knowledge of ADHD treatment and ADHD general knowledge (e.g., Perold et al., 2010; Sciutto et al., 2000). Some studies found that teachers scored higher in general ADHD knowledge and diagnosis on the KADDS than in the ADHD treatment subscale (e.g., Abouammoh et al., 2023; Topkin & Roman, 2015). This indicates a gap in elementary school teachers' knowledge of ADHD, especially in ADHD treatment. As a result, general education

teachers in elementary schools should increase their knowledge of effective treatment to successfully serve students with ADHD.

Self-Efficacy of Teachers to Serve Students with ADHD

Self-efficacy referred to "how teachers perceive their ability to work successfully with students with ADHD (i.e., their confidence or self-efficacy) and what problems teachers perceive as major barriers to the effective education of these students" (Bussing et al., 2002. p.328). Latouche and Gascoigne (2019) found that knowledge and self-efficacy among elementary school teachers increased after attending a single ADHD workshop that lasted 2 hours and 15 minutes. However, numerous studies found that teachers of students with ADHD had inadequate knowledge about ADHD (e.g., Srignanasoundari et al., 2016; Guerra et al., 2012). Teachers with low self-efficacy reported stress when instructing students with ADHD (Bussing et al., 2002). High self-confidence was associated with a willingness to explore different approaches to meet the unique needs of students (Stein & Wang, 1988 as cited in Latouche & Gascoigne, 2019. p. 2). Research indicated that teachers with high self-efficacy could implement effective strategies (Allinder, 1994), which positively reflected on students' outcomes (Tschannen-Moran & Hoy, 2001) and achievement (Ross, 1992). Therefore, improving teachers' self-efficacy through ongoing professional development is crucial for enhancing their ability to serve students which can positively impact students' behavior and overall success.

Teachers' Perspectives on Supporting Students with ADHD

Elementary school teachers in the US tended to believe in the efficacy of using medications or behavior modification or combining both treatments for students with ADHD (Schatz et al., 2021; Bussing et al., 2012; Barkley, 2006, as cited in DuPaul et al., 2011, p. 36.; Curtis et al., 2006; Havey, 2007; Havey et al., 2005; Glass & Wegar, 2000). According to

Bussing et al. (2012), many teachers recognized the importance of behavioral modification and agreed on combining short-acting medication with other types of interventions, including behavior modification, classroom accommodations, or coping skills instruction. In 1999 and 2019, a study compared teachers' responses to a survey that highlighted opinions of evidence-based practices for students with ADHD. The study revealed that teachers generally agreed upon classroom-based behavioral management, medications alone, and the use of both treatments and considered them effective for students with ADHD (Schatz et al., 2021). However, this study found that teachers' endorsement of behavioral management declined over time (Schatz et al., 2021).

Further, Glass and Wegar (2000) reported that many elementary school teachers in general education who did not see ADHD as biological recognized the importance of medication to manage ADHD behaviors. In this study, the majority of teachers believed that the use of medication and behavior modification was more effective, and only a few teachers in this study believed that the use of behavior modification alone was appropriate (Glass & Wegar, 2000). One teacher believed that using no treatment at all was best (Glass & Wegar, 2000). Compared to the teachers who believed that ADHD has a biological basis, teachers who considered ADHD as normative development were more likely to endorse the use of medication and behavior modification to control behavior; few teachers endorsed the use of behavior modification alone (Glass & Wegar, 2000). In compliance with Glass and Wegar (2000), Havey and colleagues (2005) reported teachers' preference for combining medication and behavior modification to manage ADHD behavior.

In Pisecco et al.'s study (2001), elementary school teachers were asked to rate their preferences among daily report cards, response cost technique, medication, and student

classroom lottery. Teachers preferred the daily report card as they believed it took less time to achieve results than the other strategies (Pisecco, et al., 2001). Response cost technique and medication were rated less acceptable than daily report cards (Pisecco, et al., 2001). Compared to the response cost technique, medication and classroom lottery were less preferred by teachers. (Pisecco et al., 2001). Wood and colleagues (2009) asked elementary and middle school teachers to select four common interventions after reading a scenario of a student with ADHD with a representation of this student's gender and ethnicity. The findings revealed that teachers were more likely to suggest interventions that did not require parents' involvement for non-Caucasian students (Wood et al., 2009). Also, empirically supported interventions were more likely to be suggested by elementary and special education teachers compared to middle school teachers (Wood et al., 2009).

Harvey (2007) revealed that US and Dutch teachers perceived the combination of medication and behavioral interventions as the most effective treatment for ADHD. Also, the results of Curtis and colleagues' study (2006) showed that general and special education teachers from the U.S. were more open to behavioral and pharmacological interventions. The US teachers considered behavioral and pharmacological interventions more acceptable compared to the New Zealand teachers (Curtis et al., 2006).

The current research provides valuable insights into teacher views about strategies used for managing the behavior of students with ADHD. However, more studies are needed to better understand the variables that can be associated with teachers' perceptions regarding these behavioral strategies. By addressing this gap, future research can help identify ways to support teachers in using the recommended behavioral strategies, ensuring better outcomes for students with ADHD.

Knowledge, Perceptions Regarding Effective Strategies, and Self-efficacy Across Geographic Areas

Considering where teachers teach, knowledge of ADHD among teachers in different locations was studied by researchers. In an urban school setting, teachers demonstrated low scores in knowledge of ADHD (Poznanski et al., 2021). Another study compared teachers in urban and semi-rural settings and found that after receiving training in ADHD, rural teachers showed greater improvement in knowledge compared to urban teachers, with no significant differences between the two groups (Jongh & Wium, 2021).

Power and colleagues (1995) examined the acceptability of behavioral interventions and psychostimulant medication among elementary and middle school teachers in suburban districts after reading vignettes described using daily reports and response cost. Results indicated that compared to response cost and stimulant medication, a daily report was rated as the most acceptable treatment for ADHD by elementary and middle school teachers, and both of which rated medication as more acceptable when combined with behavioral interventions (Power et al., 1995). Among teachers in urban school districts, Davison and Ford (2001) revealed the tendency of teachers not to use stimulant medication for ADHD treatment.

Vereb and DiPerna (2004) targeted teachers in three different districts," urban, suburban, and rural," and examined the relationship among teachers' knowledge of ADHD, knowledge of common treatment for ADHD, and their acceptability of behavioral management and medication (Vereb & DiPerna, 2004). The results revealed that teachers' knowledge of ADHD, years of teaching experience, and training were positively correlated with teachers' acceptability of medication (Vereb & DiPerna, 2004). Self-confidence among elementary school teachers in urban districts was found by Graczyk and colleagues (2005) to be positively correlated with

teachers' effectiveness ratings for classroom interventions. However, knowledge of ADHD among teachers was negatively associated with their perceptions of the effectiveness of classroom interventions (i.e., school-home-based daily reports and individual and group reward systems) (Graczyk et al., 2005). All setting groups displayed significant improvement in their sense of efficacy after teaching students (Knoblauch & Chase, 2015). However, teachers in urban schools demonstrated a small significant sense of efficacy based on their scores in the teachers' sense of efficacy scale compared to teachers in rural and suburban districts (Knoblauch & Chase, 2015).

Some of these studies focus on teachers' attitudes toward various behavioral strategies in different locations but do not examine the behavioral interventions teachers implement in the classroom to support students with ADHD. Additionally, few studies have explored the potential relationships between factors that may influence teachers' perceptions and the adoption of these interventions, such as their knowledge of ADHD, self-efficacy, and experience teaching students with ADHD. This highlights the need for further research that goes beyond teachers' perceptions to investigate teachers' use of behavioral strategies in the classroom, the relationships between these practices and other influencing factors that can shape how and why teachers use these strategies.

Chapter Three: Methodology

This chapter describes the research design and methodological approach of the study. This cross-sectional study explored general education elementary school teachers' use of behavioral strategies for students with ADHD and investigated factors that contribute to applying these behavioral strategies. The study was conducted with the approval and oversight of the Indiana University Bloomington and Institutional Review Board (IRB), and the study addressed the following questions:

1) What do general education elementary school teachers know about ADHD and effective behavioral strategies used for students with ADHD? How confident are general education elementary school teachers in managing classroom behavior, providing instruction, and engaging students, in general?
2) What do general education elementary school teachers report about their implementation of behavioral strategies?
3) What are the relationships among teacher personal characteristics (i.e., gender, race, ethnicity, geography), professional variables (i.e., education level, grades taught, years of teaching experience, specialized ADHD training), and knowledge of ADHD and effectiveness of behavioral strategies? Are there mean differences by specialized training related to ADHD, gender, race, and type of training received?
4) What are the relationships among general education elementary school teachers' knowledge of ADHD and effectiveness of behavioral strategies and teachers' appraisals of effectiveness of behavioral strategies, views about general education teachers' role, the perceived presence or absence of barriers or facilitators to

applying effective behavioral strategies, and teachers' self-efficacy to applying effective behavioral strategies?

5) To what extent do teacher perceptions (i.e., appraisals of effectiveness of behavioral strategies, views about general education teachers' role, perceived barriers and facilitators, teachers' self-efficacy related to applying effective behavioral strategies) predict implementation of behavioral strategies?

Recruitment and Data Collection

Participant recruitment and data collection were conducted through Amazon's Mechanical Turk (MTurk) which is an online platform researchers use to distribute surveys and gather responses from a large and diverse group of participants. Potential participants (known as "workers") already had an established relationship with MTurk and had provided personal information to the platform. An online survey was administered to MTurk workers during the fall of 2023, with data collected over approximately four weeks. I created the survey using Qualtrics, a widely used survey tool, and then connected it to MTurk through their requester interface. As the researcher, I did not have access to any personal identifying information, and all responses were collected anonymously. The survey was designed to take about 20 minutes to complete.

Participants

Participants were eligible for the study if, in the past 12 months, they taught in a general education elementary classroom in the United States. They also needed to have taught at least one student with ADHD during that timeframe.

In this study, the number of participants included in the regression analyses ranged from 181 to 192. This reduction in sample size was due to missing data,

particularly for key outcome variables, such as responses to the questions "how well" certain strategies were used. In addition, the inclusion of an "I don't know" option for certain questions, including those related to the effectiveness of the strategies, contributed to this reduction. Power analyses for the regression analyses indicated that with a sample size of at least 181 participants, the study should predict effects of 0.16 or larger (i.e., based on models with 17 predictors, a p-value < 0.01, and a power of 80%). Based on the range of R^2 I found in my regression analyses, any models with an R^2 lower than .14 were considered underpowered, suggesting that their results should not be reported.

To investigate potential demographic differences between the included and excluded cases in the regression analyses, I created a binary variable to compare included cases with complete data to those excluded from regression analyses due to missing data. I conducted an independent samples t-test and Chi-square tests to determine whether respondents with certain characteristics were more likely to be excluded from regression analyses. The demographic variables of interest were gender, race, ethnicity, and geography. I did not find significant differences across gender, race, or geography. However, the results of the Chi-square test (χ^2 (1, N = 259) = 7.38, p =. 01) showed that a significantly higher proportion of Hispanic teachers (62.9%) were excluded from regression analyses compared to non-Hispanic teachers (43.1%).

Respondents were paid $2 to complete the survey. Before MTurk paid respondents, the investigator approved the payment based on whether the respondent met inclusion criteria and completed a sufficient proportion of the survey. I anticipated at least a 30% response rate. This estimate was based on the report of a recent meta-analysis

which showed that the average response rate of an online survey in the field of education was 44% (Wu et al., 2022).

In total, 770 respondents participated in the survey. Many respondents, however, did not meet inclusion criteria and/or did not provide sufficient data. Based on this preliminary review of data submitted, 547 of the participants were paid and included in the dataset. During the data cleaning process, I identified additional respondents who provided suspicious data. Cases were eliminated if they reported not having a general education license. I rejected cases that reported teaching more than 30 students with ADHD in the past 12 months. Considering years of teaching experience, I rejected cases that did not report how many years they have been teaching or reported teaching 30 years or more. The years I approved ranged from 1 – 27. Respondents who did not report teaching elementary students were eliminated. Additionally, I rejected cases where the responses provided did not make sense. For instance, respondents were asked, "How many students are/were in the most recent class that you teach/taught all or most of each school day?" I rejected cases that reported serving more than 50 students. Participants were also asked, "How many students with an IEP or 504 plan are/were in the most recent class that you teach/taught all or most of each school day?" I removed cases that reported serving more than 45 students with an IEP or 504. I chose this fairly large number by taking into consideration that some teachers may serve multiple classes, especially in the higher grades. I rejected cases that provided lengthy text instead of answering the number-entry questions. For example, to the question "How many students are/were in the most recent class that you teach/taught all or most of each school day?," one respondent entered “Average class size in public schools by class type and state…”. I

found that some responses to open-ended questions were identical across participants, while others did not address the question. Those submissions were also eliminated from the sample. In one open-ended response, the respondent reported being artificial intelligence; that case was rejected. Ultimately, 283 cases were rejected resulting in a sample of 264 respondents.

The demographic characteristics of the sample are summarized in Table 1. Approximately 93% of the respondents were White and 43% of the sample reported being female. Most teachers identified themselves as non-Hispanic ethnicity (i.e., 76.1%). For most teachers (i.e. 67.8%) the highest degree earned was a bachelor's. Among the grades taught by the teachers in the last 12 months, third grade was the highest grade taught at 19.8%. Teaching experience ranged from 1 to 27 years with an average of 6.06, a standard deviation of 4.23, and a median of 5.

Geographically, the areas where the teachers taught ranged from 1 to 9, with 1 representing the highest urbanicity and 9 referring to the least urbanity areas. The average geography rating was 1.93, indicating that this is a relatively urban and suburban sample, on average. The number of students with ADHD taught in the past year ranged from 2 to 30, with a mean of approximately 13. The number of students with an IEP or 504 plan taught recently for most of the day ranged from 0 to 45, with an average of 10.

Table 1

Participants Demographic Information

Characteristic	N	%
Race		
White	245	92.8
Other racial category	19	7.2
Gender		
Male	151	57.2
Female	112	42.4
Missing	1	.4
Ethnicity		
Hispanic	62	23.5
Non-Hispanic	197	74.6
Missing	5	1.9
Education level		
High school	1	.4
Bachelor's degree	179	67.8
Master's degree	78	29.5
Higher than master's degree	6	2.3
Highest Grade Taught in Past Year		
Kindergarten	26	9.8
1st grade	27	10.2
2nd grade	35	13.3
3rd grade	52	19.7
4th grade	49	18.6
5th grade	28	10.6
6th grade	46	17.4
Missing	1	.4
Training related to ADHD		
Received training	253	95.8
Did not receive training	10	3.8
Missing	1	.4

	M	*SD*
Years as a teacher (range= 1-27, median= 5.00)	6.06	4.23

Urbanicity of most recent school (range= 1 – 9, median= 1.00	1.93	1.74
Number of students with ADHD taught in the past 12 months (range= 2-30, median=10.00)	12.51	8.48
Number of students with an IEP or 504 plan taught recently for most of each school day (range= 0-45, median=7.00)	10.17	8.17

Measures

The data collection instruments were selected and developed to assess key aspects of the conceptual model. A copy of the instrument package is provided in Appendix A.

Demographics and Professional Information

Participants reported if, in the previous 12 months, they taught in an elementary school, the grade(s) they taught, the number of students with ADHD they taught and the number of students with IEPs or 504 plans they served, any professional training related to ADHD they received and its type (i.e., in-school training, webinar, completed a college course, etc.), and number of students in the most recent class they taught all of most of each school day. Participants also reported their gender, race, ethnicity, level of education, type of teaching license(s) they obtained, and years of teaching experience. They also provided the zip codes of the school where they taught. I used the zip code to determine how rural or urban the community was based on Rural-Urban Continuum Codes (RUCC) (USDA, 2020).

The Knowledge of Attention Deficit Disorders Scale (KADDS)

The KADDS was used to measure teachers' knowledge of ADHD (Sciutto et al., 2000). The KADDS had 36 items that covered the following three areas: 1) causes, nature, and outcomes of ADHD (general knowledge of ADHD); 2) symptoms/diagnosis of ADHD; and 3) treatment of ADHD (Sciutto et al., 2000). Each item was a statement about ADHD with three response options including true, false and don't know format (Sciutto et al., 2000). The first subscale included 15 statements on general knowledge about the nature, causes, and outcomes of ADHD (e.g., Most estimates suggest that ADHD occurs in approximately 15% of school-age children). The second subscale contained 9 items that included statements related to symptoms/ diagnosis of ADHD (e.g., ADHD children are frequently distracted by extraneous stimuli; ADHD children often fidget or squirm in their seats). The third domain covered in the KADDS was related to the treatment of ADHD, which included 12 items (e.g., Behavioral/psychological interventions for children with ADHD focus primarily on the child's problems with inattention).

An effort was made to avoid assessment bias as the scale was developed to measure both knowledge and misperceptions about ADHD (Sciutto et al., 2000). Sciutto and colleagues (2000) reported that the KADDS was internally consistent with Cronbach alpha coefficients for the three subscales ranging between r=0.85 to r=0.91. A Cronbach's alpha coefficient of .86 indicated high internal consistency of the KADDS' total score (Bender, 1996). Evidence of criterion validity was demonstrated through statistically significantly higher scores on the KADDS for teachers who had experience with teaching children with ADHD (Bender, 1996).

In scoring the KADDS, 1 point was given for correct answers and 0 for incorrect and "don't know" responses. Scores were the percentage of the items answered correctly in each subscale. The sum of correct answers was divided by the number of questions answered by each participant. For the subscales and the total score, scores were only calculated if 85% of the relevant questions were answered (i.e., not missing).

Teachers' Sense of Efficacy Scale (TSES)

The short form of the Teachers' Sense of Efficacy Scale (TSES) was used to assess teachers' general self-efficacy related to working with students. Teachers rated what they perceived they could accomplish in these areas on a Likert-type scale ranging from 1= Nothing to 9 = A Great Deal. TSES covered three domains. One domain assessed self-efficacy to engage students using four items (e.g., How much can you do to foster student creativity?). The second domain included four items that addressed efficacy providing instruction (e.g., How well can you implement alternative strategies in your classroom?). The third domain assessed efficacy in classroom management by asking four questions (e.g., How much can you do to control disruptive behavior in the classroom?).

Evidence of reliability was provided with acceptable measures of internal consistency. The overall alpha coefficient of the 12 items included in the short form was .90. Alpha coefficients for the subscales ranged from .81 to .86 (Tschannen-Moran, 2001). Construct validity was demonstrated through positive correlations between TSES short form and two subscales (i.e., personal teaching efficacy and general teaching efficacy) of Teacher Efficacy Scale developed by Gibson and Dembo (1984) (as reported in Tschannen-Moran & Hoy, 2001).

The subscales (i.e., engagement, instruction, and management) and overall score were calculated as the mean of the relevant items. Scores were only calculated if 85% of the relevant items were answered.

Teacher's Appraisals of Behavioral Strategies Implementation Scale (TABSIS)

To assess the remaining components of the adapted TPB, I developed the Teacher's Appraisal of Behavioral Strategies Implementation Scale (TABIS). (See Appendix A for the full instrument). The goal of developing the TABSIS was to explore and measure teachers' reported implementation of various behavioral strategies. The TABSIS includes seven sections. I included 19 behavioral strategies to explore their use among general education teachers and predict how often and how well teachers in my sample use them. Table 2 summarizes these strategies, along with brief descriptions of each.

Table 2

Summary of Behavioral Strategies Explored by the TABSIS

Strategy 1	Removal of desired items (e.g., favorite toy) or activities (e.g., recess, special classes)
Strategy 2	Physical consequences (e.g., having children hold heavy objects, standing for long periods, spanking)
Strategy 3	Requiring the child to isolate for some period of time within classroom (e.g., "time-out")
Strategy 4	Offering tangible rewards at the time the child engages in positive behavior
Strategy 5	Offering tangible rewards to the classroom for reaching classroom-wide behavior goals
Strategy 6	Use of stimulant medications (e.g., Ritalin)
Strategy 7	Use of non-stimulant medications (e.g., Strattera)
Strategy 8	Peer support
Strategy 9	Sending the student to the office to meet with an administrator (e.g., principal or vice-principal)
Strategy 10	Sending the child out of the classroom for a period of time (e.g., hall or another classroom)
Strategy 11	Working with the child to develop a behavioral contract and monitoring performance

Strategy 12	Working with parents to identify which approaches work best with their child
Strategy 13	Controlling diet (e.g., eliminating sugars)
Strategy 14	Allowing children to earn tangible rewards through positive behavior over time
Strategy 15	Helping the student learn to assess and control their own behavior (e.g., Check-in/Check-out, behavior contracts, meditation)
Strategy 16	Strong verbal reprimands or criticism
Strategy 17	Understanding how the consequence of behavior (e.g., reaction of adults or peers) serves the student and teaching an alternative behavior that serves the student in a similar way (i.e., functional behavioral analysis)
Strategy 18	Identifying and reducing the conditions that trigger negative behavior
Strategy 19	Combining medication with behavioral strategies

The first section of the TABSIS contains seven statements about teachers' knowledge about the nature of ADHD that were not covered in the KADDS (e.g., Most authorities believe that ADHD is a biological/neurologic condition; ADHD is a natural part of development). Teachers reported whether they thought the statement was true or false, or that they didn't know. Correct answers were given 1 point whereas incorrect and "don't know" responses were given 0 points. Scores were calculated as the percentage of correct answers. Scores were not calculated if 15% or more of the questions were not answered (i.e., missing).

The second section of the TABSIS asks respondents to report on the efficacy of 19 different behavioral strategies (i.e., Thinking about the overall effectiveness of this strategy (i.e., peer support) across the population of students with ADHD, how effective do you think this strategy for managing the behavior of most children with ADHD?). Some of the listed strategies have been demonstrated to be effective in the research literature (e.g., functional behavioral analysis, helping students learn to assess and control their own behavior). Some behavioral strategies listed are considered less effective for improving long term outcomes (e.g., physical consequences, placing child in the hallway). The responses to the appraisal questions range from "1=Very ineffective" to

"4= Very effective". Option five was added (5= Don't Know) for teachers who do not know about the efficacy of the listed behavioral strategies. These "effectiveness" questions were entered individually in analyses (i.e., no scale scores were calculated). No scale scores were calculated. Respondents who reported "Don't know" were excluded from analyses involving this question.

The third and fourth sections asked teachers to report their implementation of behavioral strategies. One set of questions asked teachers to report how often they applied specific behavioral strategies in the past 12 months on a scale from "1= Never" to "4= Often." A parallel set of questions asked teachers how well they applied those strategies on a scale from "1= Very poorly" to "4= Very well." For the "how well" questions, option 5 is included (5= I don't use this strategy) for teachers who do not use the behavioral strategy. I did not calculate scale scores; each implementation question was analyzed individually. For analyses involving "how well" strategies were implemented, I excluded respondents who reported not using that strategy.

In the fifth section, teachers reported how confident the teachers felt applying these behavioral strategies for students with ADHD. On a 4-point scale, the options of this question range from "4= Very confident" to "1= Not at all confident". I did not calculate scale scores. Instead, I analyzed each confidence question for each strategy individually.

The sixth section includes 9 statements related to teachers' views about general education teachers' role in working with students with ADHD (e.g., Children with ADHD who behave poorly should not be educated in general education classrooms; Managing the behavior of children in the general education classrooms is the responsibility of special educators). Teachers reported how much they agreed with these statements on a 4-point scale with options ranging

from “1= Strongly disagree” to “4= Strongly agree”. I reverse-coded the negative statements (i.e., statements #1, 3, 5, 7, and 9) (See Appendix A). The overall scale score was calculated as the mean of the nine items with higher scores indicating more positive views about general education teachers’ role (e.g., more supportive of students with behavioral challenges). For the scale score to be calculated, the respondent could be missing no more than 2 of the 9 questions.

The seventh section assesses the extent to which teachers encounter barriers (e.g., insufficient training; not enough time) and facilitators (e.g., training/professional development; para-professional support) that impact their ability to effectively serve students with ADHD. Response options for barriers and facilitators range from “1= Very small extent” to “4= Very large extent”. The reported score was a sum. Some cases were missing some of the barriers and facilitators questions. This was handled by using a mean imputation technique. Specifically, for each case with missing responses within barriers or facilitators, I calculated the mean of the available responses for each case. Three items were needed for the barriers questions and four items were required for the facilitators' questions to calculate the summary score. For cases that met that criterion, the mean values were used to replace the missing responses. After completing the imputation, I summed the values across each item to create a sum score.

Developing and Validating the TABSIS. The reliability and validity of the TABSIS were tested. To ensure content validity, I developed a concept map to identify the behavioral strategies to be included in the TABSIS. The concept map was created based on findings from previously conducted studies and a comprehensive review of the broader literature on behavioral strategies used for students with ADHD. This step helped ensure that the TABSIS covers the relevant and comprehensive range of behavioral

strategies. After developing the first draft of the TABSIS, the survey was reviewed and approved by two researchers with expertise in ADHD. Both had extensive expertise in the development of instrumentation used in behavioral services research. One of the reviewers also had experience as a teacher in K-12 settings. Feedback from the experts helped identify areas where some questions might be unclear or overly complex.

Construct validity was preliminarily assessed by testing the association between certain TABSIS subscale scores and other established measures in the field. Specifically, I tested the correlation between the TABSIS knowledge subscale percent correct with the KADDS. I found a statistically significant positive correlation between KADDS and TABSIS scores on knowledge questions (r= .27, p<.001). Teachers with high scores on the KADDS were more likely to achieve high scores on the TABSIS knowledge questions. This suggests that the TABSIS appropriately captures teachers' knowledge of ADHD. I also assessed the construct validity of the TABSIS section that measures teachers' confidence in using behavioral strategies. To do this, I tested the correlation between the teachers' overall mean score on the TSES and their self-confidence in using each behavioral strategy as measured with the TABSIS. However, no statistically significant association was found between teachers' confidence in their behavioral strategies and their TSES scores. This result indicates that the TABSIS measures a distinct aspect of confidence that is tailored to specific behavioral strategy use, whereas TSES is designed specifically to measure general self-efficacy among teachers.

Data Analyses

The analyses for the study were performed using IBM SPSS Statistics 29. The first research question asked, "What do general education elementary school teachers

know about ADHD and effective behavioral strategies used for students with ADHD? How confident are general education elementary school teachers in managing classroom behavior, providing instruction, and engaging students, in general?" To address this question, I reported descriptive statistics for the TABSIS knowledge scores and the KADDS total and subscale. I also reported descriptive statistics for the TSES total and subscale scores.

The second research question asked, "What do general education elementary school teachers report about their implementation of behavioral strategies?" I reported descriptive statistics on how often and how well respondents implemented all the behavioral strategies included in the survey. Although I examined 19 strategies, I reported the results related to the five most commonly used and least commonly used behavioral strategies.

The third research question asked, "What are the relationships among teacher personal characteristics (i.e., gender, race, ethnicity, geography), professional variables (i.e., education level, grades taught, years of teaching experience, specialized ADHD training), and knowledge of ADHD and effectiveness of behavioral strategies?" I conducted independent-sample t-tests to explore if there were statistically significant differences in teachers' knowledge as measured with the KADDS and TABSIS across gender, race, and receipt of specialized training. Bivariate correlation analyses were conducted to test the relationships between teachers' knowledge of ADHD (as measured with the KADDS and the TABSIS knowledge questions) and teachers' education level, highest grades taught, general self-efficacy as measured with TSES, years of teaching, and geography.

Bivariate correlation analysis was performed to test the fourth research question (i.e., What are the relationships among general education elementary school teachers' knowledge of ADHD and effectiveness of behavioral strategies and teachers' beliefs about the nature of ADHD, appraisals of effectiveness of behavioral strategies, views about general education teachers' role, the perceived presence or absence of barriers or facilitators to applying effective behavioral strategies, and teachers' self-efficacy to applying effective behavioral strategies?). Here, I distinguished between more and less effective strategies, a distinction that would be further contextualized in Chapter Four. This exploration would help clarify how these perceptions influenced the actual implementation of strategies in the classroom.

I conducted hierarchical regression analyses to address the last research question, which was, To what extent do teacher perceptions (i.e., appraisals of effectiveness of behavioral strategies, views about general education teachers' role, perceived barriers and facilitators, teachers' self-efficacy related to applying effective behavioral strategies) predict implementation of behavioral strategies?. The outcome variables were "how well" and "how often" teachers used each of the selected behavioral strategies including the most and least often used behavioral strategies as reported by teachers. I ran two regression analyses for each of the 19 behavioral strategy in the survey (i.e., one for "how often" and one for "how well" teachers used the behavioral strategy). This resulted in 38 regression analyses. However, I reported and discussed the results of predicting the 5 most and least often used behavioral strategies. In the regression analyses, listwise deletion was applied to handle missing data. Cases with missing values on any of the variables included in the analysis were excluded from the analysis.

I decided to focus on the five most used and five least used behavioral strategies. By focusing on the five most and five least used strategies, I could represent the extremes of practice, which are often the most informative. The most used strategies offer insights into current dominant practices, while the least used strategies highlight possible gaps or overlooked behavioral strategies.

I utilized a model-building approach to identify which variables predicted the tested outcome variables, based on the adaptation of the theory of planned behavior (see Figure 1). I constructed three different models for each outcome variable, progressively adding more predictors in each block. The order of variables in each step was also determined by the adapted model. In Step 1, I commenced with the most directly related variables (those most closely linked to the outcome variable based on the theory). These included teachers' appraisals, teachers' sense of their roles in serving students with ADHD, perception of barriers and facilitators, and teachers' confidence in applying those behavioral strategies. In Step 2, I included the Step 1 variables and added professional variables, such as teachers' general self-efficacy (i.e., TSES subscales), knowledge of ADHD (measured with KADDS and TABSIS), and whether the teacher received professional training related to ADHD. In Step 3, I incorporated the variables from Steps 1 and 2 and added demographic variables (i.e., race, gender, ethnicity, and geography) to control for potential influences on teachers' implementation of behavioral strategies. I reported standardized coefficients (β) and standard errors. Selection of the best fitting model was based on whether the change in R^2 associated with each step was statistically significant.

In this study, I conducted 38 separate regression analyses. This large number of tests increases the risk of Type I errors. I chose not to correct for multiple comparisons to avoid increasing Type II errors for true associations (see Rothman, 1990). A primary goal of this study is to explore the extent to which the Theory of Planned Behavior explains teachers' use of specific behavioral strategies. Toward that end, I present results for a broad range of strategies and report actual p-values. As recommended by Rothman (1990), I considered the impact of multiple tests in the interpretation of findings.

When reporting the results of the study, I followed recommendations suggested by Rothman (1990) for researchers who choose not to correct for multiple comparisons. First, I acknowledged the increased risk of Type 1 errors in my study. Further, I did not rely solely on reporting significant values when presenting the results of my study, as I also reported effect sizes such as standardized coefficients (β), which indicate the magnitude of the relationship between the predictor variable and the outcome variables. Additionally, I reported the actual p-values, which can help the reader make their own judgment regarding the findings. I also avoided drawing conclusions based on individual tests and looked for consistency in my findings. Finally, I suggested further testing for the adapted model and replicating the results of my study.

Chapter Four: Results

This chapter summarizes the results of this study. The presentation of the results was based on statistical methods and aligned with research questions and reporting the conceptual model's statistically significant relationships.

Knowledge of ADHD Among Participating Teachers

In terms of the KADDS subscales, teachers had inadequate knowledge about symptoms/diagnosis of ADHD (i.e., average percentage correct was 45.01 (*SD*=16.93), followed by treatment of ADHD (*M*= 44.06, *SD*=14.64), and then general knowledge about the nature, causes and outcomes of ADHD (*M*=42.04, *SD*=11.67) (Table 3). This suggests that general education elementary school teachers in this sample need to improve their knowledge about ADHD, as the mean percentage correct indicates that they answered more than half of the questions incorrectly.

Considering the KADDS questions, Table B1 (i.e., first table in Appendix B) shows that item #15 (i.e., Side effects of stimulant drugs used for treatment of ADHD may include mild insomnia and appetite reduction) was the item that was answered correctly most often (60.6%). On the other hand, item #1 (i.e., Most estimates suggest that ADHD occurs in approximately 15% of school-age children) was the answered correctly by the fewest respondents; only 23.1% of teachers in the sample responded to this statement correctly.

In terms of TABSIS knowledge questions, 60.2% of teachers answered item #8 (i.e., Early intervention is important for improving functioning among children with ADHD.) correctly, whereas 29.5% of teachers answered item #3 (ADHD is a natural part of development.) correctly (Table B1). Teachers' scores in the remaining items indicate

that general education teachers lack adequate knowledge about different aspects of ADHD including nature, causes, symptoms, and treatment of ADHD. According to Table 3, teachers answered an average of 39.58% of TABSIS knowledge questions correctly (*SD* = 18.57).

Table 3

Descriptive Statistics for KADDS and TABSIS

Mean of Percent Correct	N	*M*	*SD*
KADDS – Nature, causes, and outcome of ADHD	246	42.04	11.67
KADDS – Symptoms/diagnosis of ADHD	254	45.01	16.93
KADDS – Treatment of ADHD	247	44.06	14.64
KADDS – Overall mean		43.44	10.01
TABSIS – Overall mean		39.58	18.57

Teachers' Sense of Efficacy

TSES subscale scores were continuous ranging from 1 to 9 (Table B2). Table 4 summarizes the descriptive statistics (e.g., mean, standard deviation, and range) of TSES subscales. The mean scores of teachers' sense of efficacy in using instructional strategies, managing classroom, and engaging students were 6.4 (*SD*= 1.46), 6.3 (*SD*=1.36), and 6.4 (*SD*= 1.53), respectively, indicating "quite a bit" of confidence. The overall mean of the items of instructional strategies, classroom management, and student engagement subscales was 6.4 (*SD*=1.38). General education teachers on average, had relatively the same scores in instructing students, managing classroom, and engaging students.

Table 4

Descriptive Statistics for TSES Subscales

Subscales	N	*M*	*SD*	Range
Instructional Strategies	262	6.38	1.46	7.50
Classroom Management	263	6.29	1.36	7.50
Student Engagement	257	6.41	1.53	7.25
Total Score		6.36	1.38	6.58

Identifying the Most and Least Used Behavioral Strategies

I aimed to understand if teachers used the behavioral strategies with the best evidence for effectiveness. The initial step was to check the descriptive statistics for teacher implementation of behavioral strategies, which showed little variation, as the mean was similar across all the behavioral strategies (see Table B3). Thus, I categorized the responses to the questions about how often teachers implemented the behavioral strategies into binominal variables. Responses indicating sometimes or often were coded as 1, and never or seldom were coded as 0. This allowed me to identify the behavioral strategies that were used most frequently (highest percentage of use) and least frequently (lowest percentage of use). In Table B4, the strategies are listed from highest to lowest frequency.

After reviewing the most often used strategies, it was clear that teachers primarily used strategies that have been demonstrated in the research literature to be more effective. These included use of stimulant medications (e.g., Ritalin) (*M*=2.94, *SD*=.599), offering tangible rewards to the classroom for reaching classroom-wide behavior goals (*M*=2.90, *SD*=.67), and helping the student learn to assess and control their own behavior (e.g., Check-in/Check-out, behavior contracts, meditation) (*M*= 2.91, *SD*=.65). Physical consequences such as corporal

punishment (e.g., having children hold heavy objects, spanking, or standing for long periods), considered to be an ineffective strategy, also appeared among the more frequently used strategies (*M*=2.92, *SD*= .65) (Table B3).

I also identified the least often used behavioral strategies, which included strategies supported by research as effective for students with ADHD, as well as strategies with limited evidence of effectiveness. The strategies with demonstrated effectiveness that were least used included understanding how the consequence of behavior (e.g., reaction of adults or peers) serves the student and teaching an alternative behavior that serves the student in a similar way (i.e., functional behavioral analysis) (*M*=2.80, *SD*= .66) and offering tangible rewards at the time the child engages in positive behavior (*M*=2.81, *SD*= .65). The strategies with less evidence of effectiveness that were least used include controlling diet (e.g., eliminating sugars) (*M*=2.78, *SD*= .67), strong verbal reprimands or criticism (*M*= 2.79, *SD*= .69), and requiring the child to isolate for some period of time within classroom (e.g., "time-out") (*M*= 2.81, *SD*= .72) (Table B4).

How Well Teachers Implemented the Behavioral Strategies

In analyzing the data presented in Table B5, which details the implementation quality of most and least used behavioral strategies, the mean scores of the most used behavioral strategies showed that physical consequences was reported to be applied very well for students with ADHD, with the highest mean of 3.47 (*SD*= .77), whereas the quality of implementing helping students learn to assess and control their behavior had the lowest men of 3.28 (*SD*=.76). A relatively similar mean of how well teachers used the remaining most used behavioral strategies was observed (e.g., removal of desired items or activities (*M* = 3.39, *SD* = .73, administration of stimulant medications (*M* = 3.35, *SD* = .72), and offering tangible rewards to class (*M* = 3.38, *SD*

= .75). This may suggest that helping students develop self-regulation skills, such as evaluating and controlling their own behavior, can be challenging for teachers to implement effectively. In contrast, using physical consequences may be a more straightforward approach due to its immediate and visible results that are easier for teachers to apply. Considering the least used behavioral strategies, immediate tangible rewards for positive behavior had the highest mean score (M = 3.42, SD = .74). However, controlling diet (e.g., eliminating sugars) (M = 3.32, SD = .78) had the lowest mean scores. Diet-related interventions may be harder for teachers to apply within the classroom setting, as they may require more coordination with parents, and adherence to specific health guidelines and may not have immediate and visible results like other strategies, including tangible rewards.

Teachers' Confidence in Applying the Behavioral Strategies

The data in Table B6 provide insights into teachers' confidence levels in applying various behavioral strategies. Teachers report the highest confidence in using removal of desired items or activities (M= 2.41, SD= .73). In contrast, the lowest confidence is observed in requiring the child to isolate for some period of time within the classroom (M=1.82, SD=1.16). The remaining strategies fall within a similar range of confidence levels. While both removal of desired items and isolation can have negative impacts on students (Furukawa et al., 2011), teachers appear more comfortable with removing privileges, perhaps due to its more immediate effectiveness in reducing unwanted behavior. In contrast, teachers show greater hesitation with isolation, likely because they believe it may be more harmful, particularly for students with ADHD.

Differences in Knowledge About ADHD and Implementation across Teacher Characteristics

Regarding knowledge of symptoms/diagnosis of ADHD, there was a statistically significant difference between females (*M*= 47.76, *SD*= 18.27) and males (*M*= 43.02, *SD*= 15.68), *t* (217) = -2.21, *p* =.03. The effect size was small according to Cohen's d (1988) guidelines, *g* = -.3 (Table 5). Table B7 and Table B8 represent differences in how often and how well behavioral strategies were used across genders. These tables show that there were no significant differences in how often and how well teachers used the behavioral strategies based on gender.

Table 5

Differences in Knowledge of ADHD by Gender

	Teachers' gender		
Knowledge about ADHD	Male N= 151 *M (SD)*	Female N=112 *M (SD)*	*p*-value
KADDS symptoms/ Diagnosis	43.02 (15.68)	47.76 (18.27)	.03
KADDS general knowledge	41.69 (12.39)	42.39 (10.63)	.63
KADDS Treatment	43.52 (14.93)	44.81 (14.34)	.48
TABSIS Knowledge	38.11 (17.13)	41.67 (20.298)	.13

Ethnicity, Geography, Grade Taught, Education Level, Years of Teaching Experience, Knowledge of ADHD, and Implementation of Behavioral Strategies

In terms of teachers' ethnicity and knowledge of symptoms/diagnosis of ADHD, there was a statistically significant difference between Hispanics (M= 39.94, SD= 15.91) and non-Hispanics (M= 46.81, SD= 16.89), t (257) = 2.83, p =.01. The effect size was small according to Cohen's d (1988) guidelines, g = .4 (Table 6).

I found a statistically significant difference between Hispanics (M= 3.15, SD= .65) and non-Hispanics (M= 2.82, SD= .66), t (257) = -3.43, p<.001, in terms of how often teachers offered tangible rewards to class. The effect size was small according to Cohen's d (1988) guidelines, g = -.5. Considering how often teachers helped students learn to assess and control their own behavior, I found a statistically significant difference between Hispanics (M= 3.11, SD= .70) and non-Hispanics (M= 2.85, SD= .62), t (254) = -2.87, p=.004, in terms of how often teachers offered tangible rewards to class. The effect size was small according to Cohen's d (1988) guidelines, g = -.4. For how often teachers offered immediate tangible rewards when students engage in positive behavior, I found a statistically significant difference between Hispanics (M= 3.00, SD= .68) and non-Hispanics (M= 2.75, SD= .62), t (257) = -2.75, p=.006. The effect size was small according to Cohen's d (1988) guidelines, g = -.4. For how often teachers used criticism, there was a statistically significant difference between Hispanic (M= 3.03, SD= .70) and non-Hispanics (M= 2.71, SD= .67), t (256) = -3.29, p=.001. The effect size was small according to Cohen's d (1988) guidelines, g = -.5. In terms of how often teachers used strategies associated with FBA, I found a statistically significant difference between Hispanic teachers (M= 3.02, SD= .65) and non-Hispanics (M= 2.72, SD= .64), t (99.47) = -3.11, p=.002. The effect size was small according to Cohen's d (1988) guidelines, g = -.5. In terms of how

often teachers used controlling diet as a behavioral strategy, I found a statistically significant difference between Hispanic teachers (*M*= 2.99, *SD*= .76) and non-Hispanic teachers (*M*= 2.71, *SD*= .62), *t* (256) = -2.88, *p*=.004. The effect size was small according to Cohen's d (1988) guidelines, *g* = -.4. Considering how often teachers used isolation, there was a statistically significant difference between teachers of Hispanic ethnicity (*M*= 3.00, *SD*= .77) compared to the non-Hispanics (*M*= 2.73, *SD*= .69), *t* (255) = -2.58, *p*=.01. The effect size was small according to Cohen's d (1988) guidelines, *g* = -.4 (Table 6).

In terms of how well teachers used removal of desired items/activities, I found a statistically significant difference between teachers of Hispanic ethnicity (*M*= 3.46, *SD*= .57) compared to the non-Hispanics (*M*= 3.22, *SD*= .61), *t* (240) = -2.64, *p*=.001. The effect size was small according to Cohen's d (1988) guidelines, *g* = -.4 (Table 6).

I also found a statistically significant correlation between where teachers taught and how often teachers reported using removal of desired items/activities for students with ADHD (*r*=.16, *p*=.01, *N*= 250). Teachers in rural schools were more likely to use removal of desire items for their students. However, I failed to find a statistically significant association between highest grade taught by teachers in the last 12 months and knowledge of ADHD (as measured with the KADDS and TABSIS) and implementation of behavioral strategies. I did not find a statistically significant correlation between teachers' highest level of education they completed and knowledge as measured with the KADDS and TABSIS and how often and how well they implemented the ten selected behavioral strategies. Similarly, with years of teaching experience and knowledge of ADHD (KADDS and TABSIS) and how often and how well teachers used the selected behavioral strategies, no statistically significant correlation was observed.

Table 6

Differences in Knowledge of ADHD and Implementation by Ethnicity

Knowledge about ADHD and Implementation	Teachers' ethnicity		
	Hispanic N *M (SD)*	Non-Hispanic N *M (SD)*	*p*-value
KADDS symptoms/ Diagnosis	62 39.94 (15.91)	197 46.81 (16.89)	.01
Offering tangible rewards to class/ How often	62 3.15 (.65)	197 2.82 (.66)	<.001
Helped students assess and control their behavior/ how often	62 3.11 (.70)	194 2.85 (.62)	.004
Immediate tangible rewards for engaging in positive behavior	62 3.00 (.68)	197 2.75 (.62)	.006
Criticism/ How often	62 3.03 (.70)	196 2.71 (.67)	.001
FBA/ How often	61 3.02 (.65)	195 2.72 (.64)	.002
Controlling diet/ How often	62 2.99 (.76)	196 2.71 (.62)	.004
Isolation/ How often	62 3.00 (.77)	195 2.73 (.69)	.01
Removal of desired items/ activities	56 3.46 (.57)	186 3.22 (.61)	.001

The Relationship Between Knowledge about ADHD and the Variables Most Directly Related to Implementation and Implementation of Behavioral Staretgies

I did not find a statistically significant correlation between knowledge of ADHD as measured with the TABSIS and KADDS (i.e., general knowledge of ADHD, symptoms/diagnosis of ADHD, and ADHD treatment) and teachers' views, barriers, and facilitators. However, I did find a statistically significant correlation between knowledge of treatment (KADDS) and teachers' appraisals for physical consequences (r= -.13, p= .05, N=245). This indicates that teachers with higher knowledge about ADHD treatment were less likely to report physical consequences as effective for students with ADHD. A statistically significant correlation was found between knowledge about ADHD treatment and efficacy of isolation (r= -.17, p= .01, N=251). Teachers with higher knowledge about ADHD treatment tended to appraise this strategy as ineffective. I found a statistically significant correlation between knowledge of symptoms and diagnosis about ADHD and efficacy of using immediate tangible rewards for students engaging in positive behavior (r= .16, p= .02, N=250). Teachers with higher knowledge about ADHD symptoms and diagnosis were likely to report this strategy as effective.

Additionally, I found a statistically significant correlation between knowledge about symptoms and diagnosis of ADHD (i.e., KADDS subscale) and teachers' confidence in offering tangible rewards immediately after students engage in positive behavior (r=.21, $p < .00$, N=263). Teachers with greater knowledge about ADHD symptoms and diagnosis tended to be more confident in applying this behavioral strategy.

Considering the relationships between teachers' knowledge of ADHD and their use of the behavioral strategies, I found a statistically significant negative association

between knowledge about ADHD as measured with the TABSIS and how well teachers helped students learn to assess and control their behavior (r=.14, p=.03, N=252). Teachers with better knowledge about ADHD tended to use this strategy well for students with ADHD. I also observed a statistically significant association between knowledge about ADHD as measured with the TABSIS and use of isolation (r=-.14, p=.03, N=249). Teachers who demonstrated better knowledge about ADHD reported using isolation poorly. I found a statistically significant association between general knowledge about ADHD as measured with the KADDS and the frequent use of stimulant medication (r= -.13, p= .03, N=263). Teachers with high general knowledge ADHD were likely to use stimulant medication less often. Statistically significant associations were found between knowledge about symptoms/diagnosis of ADHD and how often teachers helped students build self-regulation skills (i.e., helping students learn to assess and control their behavior) (r=-.14, p=.02, N=261) and how often they used stimulant medication (r=-.13, p=.04, N=262). Teachers with better knowledge about symptoms and diagnoses related to ADHD were highly likely to use these strategies less often. I also found statistically significant correlations between teachers' knowledge about ADHD treatment and how often they used physical consequences (r=-.13, p=.04, N=164), frequent use of controlling diet (r=-.14, p=.04, N=263), how often isolation was used (r=-.15, p=.02, N=262), how well teachers used simulant medication (r=-.15, p=.02, N=250) and how well they used criticism (r=-.17, p=.01, N=245). Teachers with more knowledge about ADHD tended to use strategies with less research evidence of effectiveness (i.e., physical consequences, controlling diet, criticism, and isolation) less often and were likely to report using them poorly. Overall, the results indicate that general knowledge about

ADHD, knowledge about ADHD symptoms, and diagnosis are not consistently associated with better implementation or frequent use of effective behavioral strategies. However, knowledge about ADHD treatment was found to be associated with less frequent use and poorer implementation of behavioral strategies that are not recommended for managing behavior of students with ADHD. The finding that teachers with higher knowledge scores reported implementing stimulant medication less well may be related to teachers' limited role in prescribing medication.

Relationship Between the Behavioral Strategies and Appraisals, Confidence and Implementation

The purpose of these correlation analyses was to identify significant relationships between the implementation of the most and least used behavioral strategies and teachers' appraisals, and confidence. This helped to provide a preliminary understanding of how these variables interact before conducting the overall regression analyses. I found a statistically significant correlation between how well and how often teachers implemented offering tangible rewards to the classroom (r= .16, p=.01), how well and how often teachers helped students learn to assess and control their behavior (r= .14, p=.03), isolation (r=.15, p=.02), and understanding how the consequence of behavior (e.g., reaction of adults or peers) serves the student and teaching an alternative behavior that serves the student in a similar way (i.e., functional behavioral analysis) (r= .14, p=.03). Frequent use of these behavioral strategies was associated with better implementation of the same behavioral strategies. On the other hand, I found a statistically significant negative correlation between how well and how often teachers implemented strong verbal reprimands or criticism (r= -.13, p=.04) and controlling diet

(e.g., eliminating sugars) (r=-.23, p<.001). This indicates that teachers using these behavioral strategies less often reported implementing them well when they used them (see Table 7).

In my assessment of teachers' perceptions of the efficacy of these behavioral strategies, I discovered statistically significant correlations between their appraisals and how often they utilized the behavioral strategies. For example, physical consequences had a correlation of (r= .27, p<.001), a correlation existed between appraisals and use of stimulant medication (r= .17, p=.01), and removal of desired items/activities and how teachers appraised it (r= .22, p<.001). Offering tangible rewards to the classroom showed a correlation of (r= .19, p=.003). Additionally, helping students assess and control their behavior was found to be correlated with teachers' appraisals (r= .27, p<.001), and isolation was also correlated with teachers' appraisals of its efficacy (r= .32, p<.001). Strong verbal reprimands or criticism was correlated at (r=.26, p<.001), and understanding how the consequence of behavior (e.g., reaction of adults or peers) serves the student and teaching an alternative behavior that serves the student in a similar way (i.e., functional behavioral analysis) was associated with teachers' appraisals of this strategy (r=.159, p=.002). Controlling diet (e.g., eliminating sugars) was correlated with teachers' appraisals (r=.28, p<.001) (see Table 7). Teachers who rated these behavioral strategies as effective reported using them more frequently.

I also found several statistically significant positive associations between teachers' appraisals and how well teachers used various behavioral strategies. For physical consequences, the correlation was (r= .28, p<.001). For stimulant medications (e.g., Ritalin), it was observed to be correlated with teachers' appraisals (r= .29, p<.00).

The use of removal of desired items showed a correlation of (r= .33, p<.001) with teachers' appraisals. Offering tangible rewards to the classroom was associated with teachers' appraisals of its efficacy (r= .41, p<.001). Assisting students in learning to assess and control their behavior was correlated with teachers' appraisals at (r=48, p<.001). In addition, the use of isolation (i.e., time-out) correlated with how teachers appraised it (r=.34, p<.001). Offering tangible rewards at the time the child engages in positive behavior was correlated with its appraisals by teachers (r=.30, p<.001). Strong verbal reprimands or criticism was correlated with appraisals (r=.42, p<.001). Understanding how the consequence of behavior (e.g., reaction of adults or peers) serves the student and teaching an alternative behavior that serves the student in a similar way (i.e., functional behavioral analysis) correlated with teachers' appraisals (r=.43, p<.001). A statistically significant correlation was found between how well teachers use controlling diet (e.g., eliminating sugars) and how they appraised it (r=.44, p<.001) (see Table 7). Teachers who considered these behavioral strategies as effective were highly likely to utilize them very well for students with ADHD.

I found a statistically significant association between how often teachers implemented the removing desired items/activities and how confident they were in using that strategy (r=.18, p=.00). Teachers with higher confidence in applying this strategy tended to use it more often. Additionally, there was a significant association between how confident and how well teachers were in implementing the following behavioral strategies: removal of desired items/activities (r=.28, p<.001), offering tangible rewards to the classroom (r=.19, p=.003), helping students learn to evaluate and control their own behavior (r=.13, p=.04), offering tangible rewards to the student right after engaging in

positive behavior (*r*=.15, *p*=.02), and controlling diet (*r*=.14, *p*=.03). Teachers who were highly confident in applying these strategies were more likely to apply them well for students with ADHD. (Table 7).

Table 7

Correlation of Behavioral Strategies Implementation, Appraisals, and Confidence

Behavioral Strategy	**Often x Well**	**Often x Appraisals**	**Well x Appraisals**	**Often x Confidence**	**Well x Confidence**
Physical consequences	*r*=.05 *p* =.45 N=245	*r*=.27** *p* <.001 N=245	*r*=.28** *p*<.001 N=234	*r*=.09 *p* =.14 N=262	*r*=.08 *p* =.22 N=243
Use of stimulant medications (e.g., Ritalin)	*r*=.06 *p* =.36 N=249	*r*=.17* *p* =.01 N=246	*r*=.29** *p* <.001 N=241	*r*=.05 *p*=.41 N=263	*r*=.02 *p*=.71 N=250
Removal of desired items	*r*=.01 *p* =.88 N=247	*r*=.22** *p* <.001 N=251	*r*=.33** *p* <.001 N=238	*r*=.18* *p* =.004 N=263	*r*=.28** *p* <.001 N=246
Offering tangible rewards to the classroom	*r*=.16* *p* =.01 N=248	*r*=.19* *p* =.003 N=248	*r*=.41** *p* <.001 N=239	*r*=.08 *p* =.21 N=263	*r*=.19* *p* =.003 N=247
Helping the student learn to assess and control their own behavior	*r*=.14* *p* =.03 N=251	*r*=.27** *p* <.001 N=250	*r*=.48** *p* <.001 N=243	*r*=.03 *p* =.64 N=259	*r*=.13* *p* =.04 N=250
Requiring the child to isolate for some period of time within classroom (e.g., "time-out").	*r*=.15* *p* =.02 N=247	*r*= .32** *p* <.001 N=250	*r*=.34** *p* <.00 N=242	*r*=.096 *p* =.12 N=262	*r*= .08 *p* =.23 N=249
Offering tangible rewards at the time the child engages in positive behavior	*r*=.10 *p* =.11 N=247	*r*=.07 *p* =.29 N=250	*r*=.30** *p* <.001 N=239	*r*=-.02 *p* =.72 N=263	*r*=.15* *p* =.02 N=246

Strong verbal reprimands or criticism	*r*=-.13* *p* =.04 N=245	*r*=.26** *p* <.001 N=250	*r*=.42** *p* <.001 N=239	*r*=-.08 *p* =.169 N=262	*r*=-.00 *p* =.95 N=244
Understanding how the consequence of behavior (e.g., reaction of adults or peers) serves the student and teaching an alternative behavior that serves the student in a similar way (i.e., functional behavioral analysis)	*r*=.14* *p* =.03 N=247	*r*=.159* *p* =.002 N=243	*r*=.43** *p* <.001 N=239	*r*=-.07 *p* =.28 N=257	*r*=.02 *p* =.81 N=245
Controlling diet (e.g., eliminating sugars)	*r*=-.23** *p* <.001 N=248	*r*=.28** *p* <.001 N=249	*r*=.44** *p* <.001 N=239	*r*=-.04 *p* =.52 N=262	*r*= .14* *p* =.03 N=247

I found statistically significant negative associations between teachers' sense of roles and how often teachers reported using physical consequences (*r*=-.25, *p*<.001). Teachers with positive views about the roles of general education teachers in serving students with ADHD were less likely to apply this behavioral strategy more often. I also found statistically significant correlations between teachers' views and how well teachers implemented removal of desired items/activities (*r*= .15, *p*=.03) (Table 8). Teachers who had a positive sense of roles about working with students with ADHD were highly likely to use this strategy well.

I found statistically significant correlations between barriers and how often teachers implemented the following strategies: removal of desired items/activities (*r*=.19, *p*=.004), tangible rewards to class for reaching classroom-wide behavior goals (*r*=.24, *p*<.001), helping students build self-regulation skills by helping them learn to assess and control their behavior

(r=.23, p<.001), criticism (r=.15, p=.03), understanding how the consequence of behavior (e.g., reaction of adults or peers) serves the student and teaching an alternative behavior that serves the student in a similar way (i.e., functional behavioral analysis) (r=.20, p=.002), and controlling diet (e.g., eliminating sugars) (r=.25, p<.001) (Table 8). More barriers encountered by teachers in implementing the behavioral strategies was associated with frequent use of those behavioral strategies.

Statistically significant correlations were observed between the report of barriers and how well teachers implemented physical consequences (r= .19, p=.01), stimulant medication (r=.22, p=.002), tangible rewards to the classroom (r=.24, p<.001), helping students gain self-regulation skills by helping them assess and control their own behavior (r=.21, p=.002), isolation (r= .29, p<.001), strong verbal reprimands or criticism (r=.21, p=.002), understanding how the consequence of behavior (e.g., reaction of adults or peers) serves the student and teaching an alternative behavior that serves the student in a similar way (i.e., functional behavioral analysis) (r=.18, p=.01), and controlling diet (e.g., eliminating sugars) (r=.20, p=.003) (Table 8). Teachers with more barriers reported were likely to apply these strategies well for their students.

I found statistically significant correlations between facilitators and how often teachers implemented the following strategies: stimulant medication (r=.22, p<.001), removal of desired items/activities (r=.16, p=.02), tangible rewards to the classroom (r=.23, p<.001), helping students gain self-regulation skills (r=.19, p=.01), isolation (r=.23, p<.001), offering tangible rewards at the time the child engages in positive behavior (r=.20, p=.003), strong verbal reprimands or criticism (r=.22, p=.001), understanding how the consequence of behavior (e.g., reaction of adults or peers) serves the student and teaching an alternative behavior that serves the student in a similar way (i.e., functional behavioral analysis) (r=.26, p<.001), and controlling

diet (e.g., eliminating sugars) (r=.296, p<.001) (Table 8). Teachers who reported more facilitators were highly likely to use these behavioral strategies for their students.

I also found statistically significant correlations between facilitators and how well teachers used all the behavioral strategies. The correlations were as follows: physical consequences (r = 0.23, p < .001), stimulant medication (r = 0.29, p < .001), removal of desired items/activities (r = 0.32, p < .001), tangible rewards (r = 0.26, p < .001), helping students learn to assess and control their behavior (r = 0.28, p < .001), and isolation (r = 0.29, p < .001). Additionally, offering tangible rewards at the time the child engages in positive behavior (r = 0.27, p < .001), strong verbal reprimands or criticism (r = 0.25, p < .001), understanding how the consequence of behavior (e.g., reaction of adults or peers) serves the student, and teaching an alternative behavior that serves the student in a similar way (i.e., functional behavioral analysis) (r = 0.25, p < .001), and controlling diet (e.g., eliminating sugars) (r = 0.26, p < .001) were also significantly correlated (Table 8). Overall, teachers who reported the presence of facilitators were more likely to apply behavioral strategies well for managing behavior of students with ADHD.

Table 8

Cor*relation of the Five Most and Least Used Behavioral Strategies in Terms of How Well, How Often, and Views, Barriers, and Facilitator*

Behavioral Strategy	**Often x Views**	**Well x Views**	**Often x Barriers**	**Well x Barriers**	**Often x Facilitators**	**Well x Facilitators**
Physical consequences	r=-.25** p <.00 N=225	r=.06 p=.36 N=211	r=.096 p=.15 N=225	r=.19* p=.01 N=211	r=.07 p=.32 N=222	r=.23** p <.001 N=208
Use of stimulant medications (e.g., Ritalin)	r=-.05 p=.45	r=-.095 p=.17 N=212	r=.08 p=.25 N=224	r=.22* p=.002 N=212	r=.22** p <.001 N=221	r=.29** p <.001 N=210

	N=224					
Removal of desired items	*r*=-.10 *p* =.13 N=225	*r*=.15* *p*=.03 N=212	*r*=.19* *p*=.004 N=225	*r*=.13 *p*=.07 N=212	*r*=.16* *p*=.02 N=222	*r*=.32** *p* <.001 N=209
Offering tangible rewards to the classroom	*r*=.04 *p*=.55 N=225	*r*=.08 *p* =.27 N=210	*r*=.24** *p* <.001 N=225	*r*=.24** *p* <.00 N=210	*r*=.23** *p* <.001 N=222	*r*=.26** *p* <.001 N=207
Helping the student learn to assess and control their own behavior	*r*=.03 *p*=.66 N=222	*r*=-.03 *p* =.68 N=215	*r*=.23** *p* <.001 N=222	*r*=.21* *p*=.002 N=215	*r*=.19* *p*=.01 N=219	*r*=.28** *p* <.001 N=212
Requiring the child to isolate for some period of time within classroom (e.g., "time-out").	*r*=-.02 *p*=.77 N=223	*r*= .04 *p*=.55 N=212	*r*=.11 *p*=.09 N=223	*r*=.29** *p* <.001 N=212	*r*=.23** *p* <.001 N=220	*r*=.29** *p* <.001 N=209
Offering tangible rewards at the time the child engages in positive behavior	*r*=.08 *p*=.22 N=225	*r*=-.08 *p* =.27 N=211	*r*=.09 *p*=.20 N=225	*r*=.11 *p*=.098 N=211	*r*=.20* *p*=.003 N=222	*r*=.27** *p* <.001 N=208
Strong verbal reprimands or criticism	*r*=.04 *p*=.60 N=224	*r*=.06 *p*=.395 N=208	*r*=.15* *p*=.03 N=224	*r*=.21* *p*=.002 N=208	*r*=.22* *p*=.001 N=221	*r*=.25** *p* <.001 N=205
Understanding how the consequence of behavior (e.g., reaction of adults or peers) serves the student and teaching an alternative behavior that serves the student in a similar way (i.e., functional	*r*=-.01 *p*=.90 N=223	*r*=.07 *p*=.29 N=213	*r*=.20* *p*=.002 N=223	*r*=.18* *p*=.01 N=213	*r*=.26** *p* <.001 N=220	*r*=.25** *p* <.001 N=210

behavioral analysis)						
Controlling diet (e.g., eliminating sugars)	*r*=.02 *p*=.82 N=224	*r*=-.03 *p*=.65 N=212	*r*=.25** *p* <.001 N=224	*r*=.20* *p*=.003 N=212	*r*=.296** *p* <.001 N=221	*r*=.26** *p* <.001 N=209

Regression Analyses

Multiple hierarchical linear regression analyses were conducted to explore the impact of the predictors (output available in Table B9) on how often and how well teachers used the behavioral strategies for students with ADHD. I employed a model-building approach to predict the outcome variables. Specifically, I considered the adapted model to inform the selection and sequencing of predictor variables. Each analysis was conducted in three distinct steps or blocks, with each block including variables that were expected to contribute progressively to explaining the variance in the outcome variable. The first step of each regression analysis included the appraisals of efficacy of the target behavioral strategy, teachers' views regarding general educators' roles in serving students with ADHD, barriers and facilitators to implementing the behavioral strategies, and teachers' confidence in applying the intended behavioral strategies. In the second block, the predictors included teachers' sense of efficacy in engaging students, using instructional strategies, and managing classrooms, and teachers' general knowledge of ADHD, symptoms/diagnosis of ADHD, and treatment of ADHD as measured with the KADDS and knowledge of ADHD as measured with the TABSIS, and obtaining professional training related to ADHD. The predictors in the third step included demographic variables in the following order: Race (White), gender, ethnicity (Hispanic), and geography.

Predicting How Often and Well Teachers Used Removal of Desired Items

Regarding the prediction of how often teachers used removal of desired items, Step 2 provided the best fit F (13,178) = 3.39 and explained approximately 20% of the variance of how often teachers used this strategy (R^2=.198). However, none of the predictors significantly accounted for the variance in predicting how often teachers utilized the removal of desired items. Considering how well teachers used removal of desired items, Step 3 provided the best fit F (17,166) = 5.28, R^2 = .35; p < .00). The model explained 35% of the variance of how well teachers used this strategy. Rating this behavioral strategy as effective was related to using it well for students with ADHD (β = .19, p = .01). More barriers to implementing behavioral strategies was related to poorer implementation of removal of desired items (β = -.18, p = .04), whereas more facilitators was related to better implementation of this strategy (β = .29, p = .001). Higher confidence in using this strategy was related to using this strategy well (β = .23, p < .00). Higher knowledge about ADHD as measured with the TABSIS was related to poorer implementation of this strategy (β = -.15, p = .03). Receiving training related to ADHD was associated with using removal of desired items poorly (β = -.18, p = .01). Being White (β = .196, p = .004), and Hispanic (β = .17, p = .01) were related to using this strategy better. (See Table A9). Among those predictors, facilitators had the strongest relationship with how well teachers used removal of desired items/activities, as indicated by the highest standardized coefficient (β = .29).

Predicting How Often and Well Teachers Used Physical Consequences

Considering how often teachers reported using physical consequences for students with ADHD, Step3 significantly predicted the frequent use of physical consequences F

(17,171) = 2.78, p <.001, and explained 22% of the variance (R^2 = .22) of the outcome variable. Higher positive sense of roles in terms of serving students with ADHD was associated with less often use of physical consequences (β = -.26, p <.001). Being White (β = .196, p = .01), and Hispanic (β = .18, p = .02) were related to using this strategy more often. While self-efficacy in student engagement demonstrated the strongest relative contribution to the outcome variable (β = .32), its unstandardized coefficient was not statistically significant, suggesting that this relationship may lack robustness or requires further investigation. Step 1 provided the best fit to the data in predicting how well teachers used physical consequences, F (5, 176) = 4.81 but explained 12% of the variance (R^2 = .12) of the outcome variable. Although this model was statistically significant, it is important to note that, based on the range of R^2 found in the regression analyses, any model with an R^2 lower than .14 was considered underpowered (Table A9).

Predicting How Often and Well Teachers Used Stimulant Medication

Regarding the prediction of how often teachers used stimulant medication, Step 3 provided the best fit F (17,170) = 3.37; p< .001 and explained 25% of the variance of how often teachers used this strategy (R^2=.25). Reporting more facilitators was related to using this strategy more often (β = .22, p= .03). Higher sense of efficacy in managing classroom as measured with the TSES was related to frequent use of stimulant medication (β = .295, p= .05). Greater general knowledge about ADHD as measured with the KADDS was associated with less frequent use of this strategy (β = -.15, p= .05). Receiving professional training related to ADHD was associated with less often use of stimulant medication (β = -.14, p= .05). However, being White (β = .22, p= .004) and Hispanic (β = .17, p= .03) was associated with frequent use of this strategy. Self-efficacy

in managing classroom demonstrated the strongest relative contribution to the outcome variable (β = .295). In terms of predicting how well teachers used stimulant medication, Step 1 provided the best fit F (5,179) = 5.94, p< .001, and explained 14% of the variance of the outcome variable. Considering this behavioral strategy as effective was related to using it well for students with ADHD (β = .19, p= .01). Holding positive views about serving students with ADHD was associated with using this strategy poorly (β = -.14, p= .04). Reporting more facilitators for implementing the behavioral strategies was associated with well implementation of stimulant medication (β = .28, p= .004) (Table A9). Among those predictors, facilitators was the strongest relative influence (β = .28), indicating that this is an important factor in understanding teachers' well implementation of this strategy.

Predicting How Often and Well Teachers Used Tangible Rewards to the class

Step 3 provided the best fit to the data in the prediction of how often teachers used tangible rewards to the classroom for reaching classroom-wide behavioral goals F (17,171) = 2.63; p<.001. This model explained 21% of the variance of the outcome variable. Higher knowledge about ADHD treatment as measured with the KADDS was associated with frequent use of this strategy (β = .18, p = .01). Being Hispanic was related to using this behavioral strategy more often for students with ADHD (β = .24, p = .002). Considering these predictors, ethnicity/ being Hispanic appeared as the strongest relative influence on how often teachers used this strategy (β = .24). Step 1 represented the best fit for predicting how well teachers provided tangible rewards to the classroom for achieving a common behavioral goal F (15,177) = 10.13. This model explained 22% of the outcome variable's variance. Perceiving this strategy as effective significantly

enhanced the prediction of how well teachers used this behavioral strategy ($\beta = .37$, $p < .001$). Greater confidence in applying it for students with ADHD was related to using this strategy well ($\beta = .14$, $p = .04$) (Table A9). Considering these predictors, teachers' appraisals of this strategy appeared to have the strongest relative association with the outcome variable ($\beta = .37$).

Predicting How Often and Well Teachers Helped Students Assess and Control their Behavior

Step 1 provided the best fit for predicting how often teachers helped students learn to assess and control their behavior, F (5, 183) = 5.66, $p < .001$, explaining 13% of the variance ($R^2 = .13$) of the outcome variable. Although this model was statistically significant, it is important to note that, based on the range of R^2 observed in the regression analyses, any model with an R^2 below .14 was considered underpowered. Regarding the prediction of how well teachers use this behavioral strategy, Step 1 was also the best fitting F (5,180) = 11.34; $p< .001$ and explained 24% a portion of the variance of the outcome variable than did the models for the other outcomes. The more teachers rated this strategy as effective, the more they used it well ($\beta = .36$, $p < .001$). High confidence in applying this strategy was related to using it well ($\beta = .15$, $p = .02$) (Table A9). Among the predictors, teachers' appraisals of the effectiveness of this strategy had the highest relationship with how well teachers used it ($\beta = .36$).

Predicting How Often and Well Teachers Used Isolation

Concerning using isolation, the best fitting was provided by Step 2 F (13,178) = 3.37, $p< .001$, and explained approximately 20% of the variance of the outcome variable. Reporting this strategy as effective was related to using it often ($\beta = .22$, $p = .003$). Greater confidence in using isolation was associated with using it frequently ($\beta = .18$, $p =$

.01). The greater sense of efficacy in engaging students was also associated with frequent use of isolation (β = .36, p = .03). Self-efficacy in engaging students has the strongest relationship with the outcome variable (β = .36). For how well teachers used this strategy, Step 3 provided the best fit F (17,168) = 3.25, p< .001, and explained 25% of the variance of the outcome variable. Being White emerged as a highly significant predictor for the outcome variable. Being White was related to using this strategy well for students with ADHD (β = .24, p = .002) (Table A9). Being White had the strongest relationship with the outcome variable as it had the highest standardized coefficient (β = .24).

Predicting How Often and Well Teachers Used Immediate Tangible Rewards for Positive Behavior

Considering how often teachers reported offering tangible rewards at the time the child engages in positive behavior, Step 3 (including all the variables) provided the best fit F (17,173) = 2.43, p = .002, and explained 19% of the variance of how often teachers used this behavioral strategy. Having more facilitators was associated with the frequent use of this strategy (β = .22, p = .03). Being Hispanic was also related to the frequent use of this behavioral strategy (β = .20, p= .01). While self-efficacy in student engagement demonstrated the strongest relative contribution to the outcome variable (β = -.28), its unstandardized coefficient was not statistically significant, suggesting that this relationship may lack robustness or requires further investigation. In terms of how well teachers reporting using it, Step 3 also provided the best fit F (17,165) = 3.64, p< .001, and explained 27% of the variance of the outcome variable. Rating this strategy as effective was associated with using it well (β = .21, p = .003). More facilitators reported was related to using the strategy well (β = .32, p = .001). Being more confident about

using this behavioral strategy was associated with using it well (β = .18, p = .01). Further, being White was associated with well implementation of this strategy (β = .24, p = .002) (Table A9). Among those predictors, facilitators emerged as the predictor with the highest relationship with the outcome variable (β = .32).

Predicting How Often and Well Teachers Helped Students Understand the consequence of behavior (FBA)

In terms of how often teachers helped students understand the consequence of behavior serves the student and teaching an alternative behavior that serves the student in a similar way as a behavioral (i.e., FBA), Step 3 provided the best fit F (17,166) = 2.27, p = .004, and explained 19% of the variance of the outcome variable. Reporting this behavioral strategy as effective was associated with applying it often (β = .18, p = .02), and being Hispanic was also related to frequent use of this strategy (β = .19, p = .01). Although self-efficacy in engaging students demonstrated the strongest relative contribution to the outcome variable (β = -.25), its unstandardized coefficient was not statistically significant, suggesting that this relationship may lack robustness or requires further investigation. For how well teachers used this behavioral strategy, Step 1 provided the best fit F (5,176) = 12.06, p< .001, and explained 26% of the variance of the outcome variable. Considering this strategy as effective was correlated with using it well for students with ADHD (β = .44, p < .001). More facilitators was related to well implementation of this behavioral strategy (β = .196, p = .03). (Table A9). Teachers' appraisals had the strongest relationship with the outcome variable as it had the highest standardized coefficient (β = .44).

Predicting How Often and Well Teachers Used Criticism

Step 1 provided the best fit for predicting how often teachers used reprimands and criticism, F (5, 186) = 3.55, p = .004, explaining 9% of the variance (R^2 = .09) of the outcome variable. Although statistically significant, it is important to note that, based on the range of R^2 values observed in the regression analyses, models with an R^2 below .14 were considered underpowered. For how well teachers used it, Step 2 provided the best fit F (13,171) = 4.01 and explained 23% of the variance of the outcome variable. Reporting this strategy as effective was associated with using it well (β = .33, p < .001). A higher sense of efficacy in managing classroom as measured with TSES was related to using the strategy well (β = .397, p = .01). However, higher knowledge about ADHD treatment as measured with the KADDS was associated with using the strategy poorly (β = -.19, p = .01) (Table A9). Self-efficacy in managing classroom had the strongest relationship with the outcome variable as it had the highest standardized coefficient (β = .397).

Predicting How Often and Well Teachers Used Controlling Diet

For how often teachers used controlling diet, Step 1 provided the best fit F (5,187) = 6.60, p < .001, and explained 15% of the variance of the outcome variable. Rating this strategy as effective was related to using it more often (β = .21, p = .003). Reporting more facilitators was associated with using this strategy more often (β = .199, p = .04). Teachers' appraisals had the strongest relationship with the outcome variable as it had the highest standardized coefficient (β = .21). For how well teachers used this strategy, Step 2 provided the best fit F (12,172) = 6.39, p < .001, and explained 33% of the variance of the outcome variable. Rating this strategy as effective was related to using it well (β =

.38, $p < .001$). On one hand, a higher sense of efficacy in managing classroom was associated with using this strategy well ($\beta = .49$, $p < .001$). On the other hand, a higher sense of efficacy in using instructional strategies was associated with poor implementation for this strategy ($\beta = -.50$, $p = .002$) (Table A9). Self-efficacy in managing classroom had the strongest relationship with the outcome variable as it had the highest standardized coefficient ($\beta = .49$).

Summary of Regression Findings

Looking at Table 9 and Table 10, variables differentially predicted how often versus how well teachers used these behavioral strategies. Considering the most directly linked variables to teachers' implementation, teachers' appraisals was the primary predictor of how often and how well teachers implemented the behavioral strategies. However, it was more consistently a predictor of how well teachers implemented the behavioral strategies. Teachers' confidence did not appear to be a strong predictor of how often teachers used the majority of the behavioral strategies. However, it was a strong predictor of how well teachers used three effective behavioral strategies (i.e., offering tangible rewards to the class, helping students learn to assess and control their behavior, and offering tangible rewards to students immediately after engaging in positive behavior) and one strategy with weak evidence of effectiveness (i.e., removal of items/activities).

Facilitators were found to be a strong predictor of how frequently and well teachers implemented behavioral strategies. Unexpectedly, facilitators predicted the frequent use of two strategies with weak evidence of efficacy (i.e., criticism and controlling diet) and two strategies with strong empirical support (i.e., stimulant medication and offering immediate tangible rewards for positive behavior). Facilitators predicted how well teachers used three behavioral

strategies with strong evidence to be effective (e.g., stimulant medication, immediate rewards to students engaging in positive behavior, and FBA) and one strategy with weak evidence for efficacy (i.e., removal of desired items). Barriers and views did not appear to be strong predictors of teachers' implementation of most behavioral strategies.

Considering the professional variables, general self-efficacy in managing classrooms sometimes predicted of how well teachers used the behavioral strategies that did not seem effective for students with ADHD (i.e., criticism and controlling diet). On the other hand, this professional variable predicted the more frequent use of one behavioral strategy recommended for students with ADHD (i.e., stimulant medications).

For demographic variables, Hispanic ethnicity was more consistently a predictor for how often teachers used the behavioral strategies. In particular, being Hispanic was a strong predictor of how often teachers used four effective behavioral strategies (i.e., medications, rewards to class, rewards for positive behavior engagement, and FBA) and one strategy with less evidence for effectiveness (i.e., physical consequences). Although being White was associated with implementation of several strategies, those findings should not be considered stable because so few participants (i.e., 8.3%) reported being from any other race.

Table 9

Summary of Predictors of How Often a Behavioral Strategy Was Used (Regression Analyses)

	How Often Behavioral Strategies Were Used									
Predictors	Removal R^2=.20	PC R^2=.22	Meds R^2=.25	Reward Class-wide R^2=.21	SM R^2=.13	Isolation R^2=.20	Reward Good Beh R^2=.19	FBA R^2=.19	Criticism R^2=.09	Diet R^2=.15
Best-fitting model	Step 2	Step 3	Step 3	Step 3	Step 1	Step 2	Step 3	Step 3	Step 1	Step 1
Appraisals					+	+		+	+	+
Views		-								
Barriers					+					
Facilitators			+				+		+	+
Confidence						+				
TSES SE						+				
TSES IS										
TSES CM			+							
KADDS GI			-							
KADDS S/D										
KADDS T				+						
TABSIS K										
Training			-							
White		+	+							
Gender										
Hispanic		+	+	+			+	+		
Geography										

+ = Statistically significant ***positive*** findings relationship from best-fitting model
- = Statistically significant ***negative*** findings relationship from best-fitting model.

Underpowered models with R^2 below .14 or the predictors lack a unique explanation of the variance of the outcome variables.

The results of these predictors are too unstable due to uneven distributions between their categories (e.g., trained vs non-trained teachers, and White vs non-White teachers).

+ The predictor variables with the highest *β*.

PC= Physical consequences
SM= Self-monitoring

Table 10

Summary of Predictors of How Well a Behavioral Strategy Was Used (Regression Analyses)

	How Well Behavioral Strategies Were Used									
Predictors	Removal R^2=.35	PC R^2=.22	Meds R^2=.14	Reward Class-wide R^2=.22	SM R^2=.24	Isolation R^2=.25	Reward Good Beh R^2=.27	FBA R^2=.26	Criticism R^2=.14	Diet R^2=.33
Best-fitting model	Step 3	Step 1	Step 1	Step 1	Step 1	Step 3	Step 3	Step 1	Step 2	Step 2
Appraisals	+	+	+	+	+		+	+	+	+
Views			-							
Barriers	-									
Facilitators	+		+				+	+		
Confidence	+			+	+		+			
TSES SE										
TSES IS										-
TSES CM									+	+
KADDS GK										
KADDS S/D										
KADDS T									+	
TABSIS K	-									
Training	-									
White	+					+	+			
Gender										
Hispanic	+									
Geography										

+ = Statistically significant ***positive*** findings relationship from best-fitting model
- = Statistically significant ***negative*** findings relationship from best-fitting model.

Underpowered models with R^2 below .14 or the predictors lack a unique explanation of the variance of the outcome variables.

The results of these predictors are too unstable due to uneven distributions between their categories (e.g., trained vs non-trained teachers, and White vs non-White teachers).

+ The predictor variables with the highest β.

PC= Physical consequences
SM= Self-monitoring

Chapter Five: Discussion and Conclusion

Overview of the Study

This chapter provides a detailed reflection of the study's findings, reviews the five main research questions, presents the study's conclusion, and discusses the limitations and implications to consider. This study describes teachers' self-reported application of the behavioral strategies used with students with ADHD in elementary school settings in the United States. It also explored what factors predicted the implementation of those strategies.

Testing the Theoretical Model

The study was guided by an adaptation of the theory of planned behavior. Findings from the regression analyses suggest that the data partially supported relationships depicted in the theoretical model as I found some associations among teachers' demographic and professional variables and teacher perceptions. Some variables were more salient predictors, in general. Predictors varied in their ability to predict frequency of use of strategies compared to quality of the implementation (i.e., how well they were implemented). There were also differences in predictors across different types of behavioral strategies (Results discussed in detail below).

Major Findings and Implications

Predictors of Using Behavioral Strategies

The regression analyses revealed that while the models explained 14% to 35% of the variance in most behavioral strategies implementation. Three models were underpowered, with R^2 values below .14 (i.e., how well teachers used physical consequences and how often they helped students assess and control their behavior and used criticism). These underpowered results may be due to a small sample size, potentially missing key outcome and predictor variables such as responses to the questions "how well" certain strategies were used and how

effective teachers think behavioral strategies for managing the behavior of most students with ADHD. While the model examining the removal of desired items showed significance, no strong predictors were identified. This underscores the need for further studies to examine additional variables that could influence teachers' implementation of this strategy.

In terms of how strongly the most directly linked predictor variables predicted how often teachers reported using the behavioral strategies, teachers' views about the roles of general educators in serving students with ADHD was a strong predictor of how frequently teachers used physical consequences. For how often teachers used stimulant medication, facilitators observed as a strong predictor in explaining variance. For how often teachers used isolation, teachers' appraisals of its effectiveness provided a unique explanation of the variance of using this strategy. Facilitators was a strong predictor of how often teachers reported offering immediate tangible rewards for students engaging in positive behavior. The frequent use of using strategies associated with FBA was predicted by teachers' appraisals of the efficacy of this strategy. Lastly, how often teachers reported using controlling diet as a behavioral strategy for students with ADHD was predicted by teachers' appraisals of the efficacy of this strategy and facilitators.

Several factors emerged as strong predictors for predicting how well teachers reported using these behavioral strategies in light of the most directly linked variables. Teachers' appraisals, perceived barriers and facilitators, and confidence were all strong predictors of how well teachers applied removal of desired items/activities. For how well teachers reported using stimulant medication, teachers' appraisals of the strategy's efficacy, their views about their role in working with students with ADHD, and facilitators were significant predictors. For how well teachers reported offering tangible rewards to the class for reaching a common goal and helping students learn to assess and control their behavior, teachers' appraisals of the efficacy of these

strategies and their confidence in using them were strong predictors. How well teachers offered immediate tangible rewards for engaging in positive behavior was predicted by teachers' appraisals about its efficacy, facilitators, and confidence in using it. For how well teachers helped students understand the consequences of their behavior (FBA), teachers' appraisals and facilitators emerged to be strong predictors of how well the strategy was used. For how well teachers used criticism and controlled diet by eliminating sugar, teachers' appraisals of these strategies' effectiveness was the strongest predictor.

These findings support the hypothesized relationships in the adapted Theory of Planned Behavior model which presumes the existence of relationships between the most directly linked variables and teachers' implementation of behavioral strategies. However, it is important to note that this phenomenon was not consistent across the implementation of each behavioral strategy. The study's findings emphasize the critical role that teachers' appraisals of the effectiveness of behavioral strategies play in predicting their use of these strategies, particularly for students with ADHD. Teachers who believed a strategy to be effective, even in the absence of strong supporting evidence, were more likely to use it with their students. Facilitators may enhance teachers' implementation of behavioral strategies, especially those with stronger evidence of effectiveness. It emerged as a significant predictor across several strategies (e.g., stimulant medication, helping students learn to assess and control their behavior, and offering immediate rewards for positive behavior). This finding underscores the potential impact of support-related factors on teachers' behavioral strategy use, which is essential for improving the outcomes of students with ADHD. Findings also suggest that teachers' confidence in applying behavioral strategies can be a key factor in both how frequently (i.e., isolation) and how well they use these strategies (i.e., removal of desired items, offering tangible rewards to class for reaching a goal

and offering immediate tangible rewards for engaging in positive behavior, and helping students learn to evaluate and control their behavior). These positive relationships highlight the importance of fostering teachers' self-efficacy. Increasing confidence may help improve both the frequency and quality of their implementation of effective behavioral strategies for students with ADHD. The role of views and barriers in predicting implementation requires further investigation. Barriers did not consistently appear as a strong predictor for teachers' use of behavioral strategies. When barriers served as a strong predictor for two behavioral strategies, it showed a negative correlation with how well teachers used removal of desired items and a positive correlation with how often teachers helped students learn to assess and control their behavior. However, the model that identified helping students control and evaluate their behavior as a strong predictor was underpowered, meaning it lacked sufficient statistical power to confidently support this finding. Teachers' views was treated as a scale, but I was not sure if this was a good measure as the results of internal consistency demonstrated a low Cronbach's alpha. Therefore, Teachers' views and barriers' association with the use of behavioral strategies require further investigation.

In terms of how strongly the professional variables predicted how often teachers reported using the behavioral strategies, I found significantly fewer predictors compared to the most directly linked variables. I did not emphasize results related to received training as nearly 96% of participants reported receiving training while approximately 4% of teachers reported being trained. These findings are too unstable to provide meaningful interpretation.

Self-efficacy in managing classroom and general knowledge about ADHD significantly predicted how often teachers used stimulant medication. Knowledge about ADHD treatment was a strong predictor of how often teachers offered tangible rewards to class for reaching a common

goal. Self-confidence in engaging students was a strong predictor of how often teachers reported using isolation. Considering the professional variables in predicting how well teachers use the behavioral strategies, knowledge about ADHD as measured with the TABSIS, and professional training related to ADHD were strong predictors for how well teachers used removal of desired items/activities. Self-efficacy in managing classroom and knowledge about ADHD treatment were strong predictors of how well teachers used criticism. Self-efficacy in instructing students and managing classroom significantly predicted how well teachers used controlling diet. These results indicate that teachers' self-efficacy, especially in managing classroom can uniquely explain how well and how often teachers implement specific behavioral strategies. However, general self-efficacy among teachers and teachers' knowledge about ADHD are not always associated with better and frequent use of recommended behavioral strategies for students with ADHD. Further exploration of how specialized training related to ADHD contributes to teachers' implementation of behavioral strategies is encouraged.

Considering demographic information related to teachers, I de-emphasized results related to race. Race included two racial categories: one included White teachers, representing approximately 93% of the sample, and the other category included Black, American Indian, Asian, Native Hawaiian or other Pacific Islander, and other races, representing 8.3%. These findings are too unstable to yield meaningful interpretations. Being Hispanic strongly predicted how often teachers used physical consequences, and stimulant medication. Being Hispanic was also a strong predictor for how often teachers reported using offering tangible rewards to class, offering immediate tangible rewards once a student engages in positive behavior, and helping students understand the consequences of behavior and teaching them alternative behaviors (i.e., FBA). Being Hispanic appeared to be a strong predictor for predicting how well teachers used

removal of desired items/activities. Geography and gender did not uniquely explain the variance of how often and how well teachers used the behavioral strategies. The results show how teachers' characteristics, including ethnicity shape teachers' approaches to managing behavior of students with ADHD. Being Hispanic was significantly associated with the frequency and quality of implementing behavioral strategies. Specifically, Hispanic teachers were more likely to frequently use physical consequences, stimulant medication, offering rewards to class and immediate rewards for engaging in positive behavior, and strategies associated with FBA, and well implementation of removal of desired items. These results suggest that ethnicity may play a key role in how teachers support the behavior of students with ADHD, which indicates differences in training, cultural perspectives, or individual preferences. However, further investigation is necessary regarding the contribution of race, gender, and geography to teachers' use of behavioral strategies.

Teachers' Knowledge of ADHD

Findings from this study indicate that teachers in this survey lacked adequate knowledge about ADHD (i.e., mean percent scores below 50%). This is consistent with previous studies that found that elementary school teachers do not always have sufficient knowledge about ADHD (e.g., Shroff et al., 2017; Shetty & Rai, 2014). In this sample, the highest mean score was observed on the symptoms/diagnosis of ADHD subscale. The lowest scores were found for treatment of ADHD and general knowledge, which includes knowledge about the nature, causes, and outcome of ADHD. Previous studies that used the same measure for evaluating teachers' knowledge of ADHD found that teachers scored lower in the ADHD treatment subscale (e.g., Abouammoh et al., 2023; Topkin & Roman, 2015). The findings of this study align with the results of studies that reported better knowledge about symptoms of ADHD subscale among

teachers (e.g., Perold et al., 2010; Sciutto et al., 2000). Overall, these findings suggest a need for professional development and targeted training programs to enhance teachers' knowledge, particularly regarding the treatment and management of ADHD, as well as a deeper understanding of its causes and long-term outcomes. Addressing these gaps is crucial for ensuring that teachers are fully equipped to support students with ADHD effectively.

Teachers' Overall Self-efficacy

Teachers'general self-efficacy was similar across the subscales of the TSES. In line with this, a study found that teachers of students with ADHD displayed similar mean scores concerning their general self-efficacy in the same areas (Vlah et al., 2021). This suggests that teachers tend to have a consistent sense of confidence in their ability to manage classroom, engage students, and apply instructional strategies effectively, without significant variation across these areas.

Teachers' Reported Implementation of Behavioral Strategies for Students with ADHD

The data indicates that teachers employed a broad spectrum of behavioral strategies for students with ADHD. However, the analysis revealed that, on average, teachers' implementation of the most and least used behavioral strategies was similar, with no big variation. The research findings of this study show that general education teachers used both effective and ineffective behavioral strategies when working with children with ADHD. However, they tended to use behavioral strategies with evidence to be effective more often. Accordingly, various studies indicated that teachers used several effective strategies for managing undesired behaviors, such as teaching self-regulation skills, providing physical breaks, and repeating instructions (e.g., Geng, 2001; Mulligan, 2001).

Teachers might rely on behavioral strategies they believe to be effective and they may have personal preferences for certain strategies that are not based on scientific evidence. A study has shown that some teachers prefer strategies that do not involve parents (Wood et al., 2009), which may cast doubt on the use of effective behavioral strategies that require parental involvement. Furthermore, some teachers favor using daily report cards because this behavioral strategy has shown desired results in less time compared to other strategies (Pisecco et al., 2001).

I see physical consequences as a behavioral strategy that can be detrimental to the long-term development of children. Examples of physical consequences include having children hold heavy objects, standing for long periods, and spanking. In this study, I found teachers reported using this strategy frequently and applying it well for students with ADHD, and White and Hispanic teachers were more likely to use this strategy more often for managing behavior.

It is important to mention that this study involved teachers from various states in the United States. According to Gershoff and Font (2016), corporal punishment is allowed in 19 states, particularly in Alabama, Arkansas, and Mississippi. The study reported that 163,333 students received corporal punishment from 2011 to 2012 across all states. The authors also observed that students with disabilities are 50% more likely to experience corporal punishment in school compared to their peers without disabilities, and they suggested that school staff often respond to students' challenging behaviors with harsh methods instead of positive ones (Gershoff & Font, 2016).

The result of this study partially aligns with Vereb and DePerni's (2024) results. Vereb and DiPerna (2004) suggested that teachers' knowledge of ADHD, their training in working with students with ADHD, and their years of experience could influence their acceptance of treatment methods, including medication. Although I did not find a statistically significant correlation

between years of teaching experience and the use of behavioral strategies, I did observe a significant difference related to teachers' training. Specifically, teachers who had received training on how to support students with ADHD demonstrated better implementation of certain behavioral strategies, such as the removal of desired items, and used physical consequences more frequently compared to their untrained peers. This may suggest that professional development may be a key factor in enhancing teachers' ability to apply effective behavioral strategies. It is important to note, however, that the cell sizes for the trained versus non-trained groups were uneven, which may affect the generalizability of these results. Given this limitation, the findings should be interpreted with caution.

Relationship Between Demographic and Professional Variables

The results revealed that female teachers were more knowledgeable about the symptoms of ADHD compared to male teachers. This finding is consistent with another study cited by Melhem (2020), which also showed a statistically significant difference in knowledge between female and male teachers, with females being more knowledgeable. This suggests that male teachers may have more misconceptions about ADHD symptoms and diagnosis of ADHD.

According to Wium (2021), no significant differences in knowledge of ADHD were found between teachers in urban and rural areas. In this study, I did not test the difference in mean across teachers' geography. Rather, I examined the correlation between knowledge and geography, but I failed to find a statistically significant correlation between these two variables.

Relationship Between Knowledge of ADHD and Most Directly Related Variables

While knowledge about ADHD is a necessary component for understanding and supporting students with this condition, it does not necessarily lead to a positive attitude toward the role of educators in addressing the needs of these students. Teachers may

possess the necessary knowledge but still lack confidence or belief in their ability to effectively support students with ADHD. The study's findings showed that teachers with better knowledge of ADHD symptoms had greater confidence in providing immediate tangible rewards after students engage in positive behavior. These results align with Legato's study (2011), which emphasized a positive association between knowledge of ADHD and self-efficacy. This result highlights the potential value of increasing teachers' understanding of ADHD to enhance their confidence and application of evidence-based strategies for managing students' behavior.

In terms of the relationships between teachers' knowledge of ADHD and their application of the behavioral strategies, the results indicate that general knowledge about ADHD and its symptoms/diagnosis are not sufficient for ensuring that teachers would use effective strategies to manage behavior of students with ADHD. Whereas knowledge about treatment seemed to be more effective in quality of teachers' use of behavioral strategies compared to knowledge of symptoms/diagnosis and general knowledge, the results also indicate that knowledge is not enough and what teachers do is not always associated with their knowledge.

The results suggest that teachers' general knowledge of ADHD and its symptoms/diagnosis is not enough to ensure effective implementation of behavioral strategies for managing students' behavior. While knowledge of ADHD treatment appeared to have a stronger influence on the quality of teachers' use of behavioral strategies compared to knowledge of symptoms or diagnosis, causes, nature, and outcomes, the findings also highlight that knowledge alone does not guarantee effective practice. Teachers' actions are not always directly linked to their level of knowledge.

Limitations of the study

One of the key limitations of the study was the approach I used to recruit the sample. Studies have shown that the recruitment tool I used (AmazonMTurk) yields appropriate samples (e.g., Hellas, 2020; Hunt & Scheetz, 2019; Follmer, Sperling, & Suen, 2017). The use of screening measures and validation checks (e.g., attention checks and demographic filters) can improve data quality (Hunt and Scheetz, 2019), which was one of the steps I considered during data cleaning. However, more recent advancements, such as the proliferation of artificial intelligence may compromise this approach. Indeed, one of my respondents identified itself as artificial intelligence. It was not possible to ensure that the participants were truly general education elementary teachers. I did my best to exclude suspicious cases based on responses. However, I remained concerned that some cases in the included sample might not have truly met the inclusion criteria.

One limitation of this study was the higher number of male teachers compared to female participants. According to the National Center for Education Statistics (2020), 89% of public elementary teachers in the United States were female, while only about 11% were male, based on data from the 2017-2018 school year. However, the current study included more males. This might indicate males' tendency to participate in online surveys, such as those distributed via Amazon Mechanical Turk (MTurk).

One of the initial purposes of developing TABSIS was to fully test the adapted model. The TABSIS should have included questions about teachers' beliefs regarding ADHD. However, the distinction between knowledge and beliefs about ADHD was difficult to distinguish. In terms of teachers' level of motivation to meet the needs of students with ADHD, I could not figure out how to measure it among teachers.

The validity of sections of the TABSIS remains unclear. There was some evidence of validity for the TABSIS knowledge questions, evidenced by its significant positive correlation with the KADDS. The section of the TABSIS that asked about confidence using behavioral strategies demonstrated some construct validity. For 8 of the 19 behavioral strategies, the TABSIS "confidence" measure positively correlated with the overall TSES score. Notably, the TSES does not specifically assess self-efficacy when working with students with ADHD as the KADDS does. This distinction may account for the observed correlation with the KADDS but not with the TSES.

I did not assess teachers' actual implementation of the behavioral strategies through observation. Instead, I relied on teachers' self-report of implementation. I believe that observing teachers in classroom settings could yield more accurate assessments of practice, particularly concerning the potential social desirability bias that may arise when teachers respond to surveys.

The present study was conducted using a cross-sectional design, which precluded inferring causal relationships among the variables. While several variables predicted the implementation of behavioral strategies, I cannot conclude that those variables were causal agents. Future studies using longitudinal or experimental designs would be needed to examine causal relationships among these variables more rigorously.

Implications for Practice and Future Research

The results of this study, in conjunction with previous research, underscore the need to reform current ADHD training programs for general educators (e.g., Abouammoh et al., 2023; Latouche & Gascoigne, 2019). Besides having adequate knowledge of ADHD, pre-service teachers should receive more specialized training that focuses on refining their skills and addressing challenges they encounter. While understanding ADHD concepts is important,

applying effective strategies in classroom settings has a more direct impact on student outcomes. Pre-service teachers, in particular, should be introduced to classroom management strategies through courses taken in college. Since pre-service teachers may not have much classroom experience yet, they can benefit from role-playing or simulations that allow them to practice using behavioral strategies before they use what they've learned in real classrooms.

In-service teachers, who are already in the classroom and have practical experience, will likely need more advanced, targeted training, and ongoing assessment and support. Programs should evaluate what teachers actually do in their classrooms, including how often and how well they apply evidence-based practices when managing the behavior of students with ADHD. Such an emphasis ensures that training leads to meaningful changes in teachers' practices, which can positively reflect on students' behavior and outcomes. This approach aligns with research indicating that practical application may have greater implications for student success than theoretical understanding alone (Sanetti & Kratochwill, 2009).

In this process, school principals can play a critical role in ensuring that teachers use effective strategies for students with ADHD. Principals should, themselves, be well-versed in behavior management strategies. They should also have a list of evidence-based strategies to share with teachers, guiding them on which approaches to implement in their classrooms. Regular observations and encouragement from principals can help reinforce the consistent application of these strategies. Additionally, collaboration between special education teachers and general education teachers is key for enhancing the professional development of general education teachers. Special education teachers should work one-on-one with the general education teachers to provide targeted support, modeling, and coaching to strengthen teachers' abilities to implement strategies effectively.

Few studies have thoroughly examined teachers' use of a wide range of behavioral strategies for managing the behavior of students with ADHD, and the current research highlights the importance of addressing this gap. While many studies focus on teachers' perceptions of behavioral strategies, there remains a lack of comprehensive investigations into how often and how well these strategies are applied in the classroom. Therefore, future studies should seek to replicate the results of the current study, specifically in examining how teachers apply various behavioral strategies. The findings of the current study suggest that it is not enough to rely on teachers' self-reported practices or their knowledge about effective behavioral strategies due to the potential impact of social desirability on survey responses. Future research should place a stronger emphasis on observing and evaluating the actual implementation of behavioral strategies in classrooms. This shift from relying solely on teachers' reports to directly observing and evaluating their implementation would allow for a deeper understanding of the challenges teachers encounter when applying evidence-based practices and understanding the barriers to successful implementation, which can yield more accurate assessments.

Based on the associated limitations, the next step I will consider is the further development and testing of the TABSIS. This is crucial to enhance its reliability, validity, and practical utility as a tool for evaluating teachers' implementation of behavioral strategies. By addressing these areas for refinement, future research can inform teacher practices, training, and professional development needs in supporting students with ADHD. These improvements could ensure that the TABSIS becomes a more effective tool for examining teacher practices and informing teacher training. Once these refinements are made, I plan to conduct a follow-up study to observe teachers' actual implementation of behavioral strategies for students with ADHD in the United States and compare the results with those from the current study.

Conclusion

The study was guided by the Theory of Planned Behavior (TPB), which assumes that multiple factors (e.g., knowledge of ADHD) and more proximal variables (e.g., teachers' appraisals and confidence) influence teachers' implementation of behavioral strategies. This study investigated the factors that predict the use of behavioral strategies by elementary school teachers for students with ADHD in the United States, focusing on a wide range of strategies, some of which have strong evidence of effectiveness and others with limited empirical support. While the study found some evidence supporting the TPB's assumptions, particularly in terms of the relationships between teachers' knowledge, perceptions, and behavioral strategy implementation, the theory was only partially tested. As such, a definitive conclusion about its applicability to the current study cannot be made at this time.

KADDS is commonly used by researchers in the field of ADHD, but it does not assess teachers' use of behavioral strategies. Instead, it primarily focuses on evaluating teachers' understanding of ADHD and their misconceptions in three distinct domains. In contrast, TABSIS offers a more comprehensive approach by measuring various factors related to teachers' implementation of strategies. These include their knowledge of ADHD, appraisals of the effectiveness of behavioral strategies, views on the role of general education in supporting students with ADHD, self-confidence in applying strategies, and more. TABSIS can help researchers explore the use of different behavioral strategies (including those with the least and most evidence of being effective). Although there was some evidence of validity of the TABSIS knowledge and confidence sections, more examination of the psychometric properties of the TABSIS is needed.

Teachers' inappropriate responses to ADHD symptoms could exacerbate them (Thomas, 2017). I believe that using ineffective behavioral strategies can have negative short- or long-term impacts on various aspects of students' development. The study results revealed the use of inappropriate behavioral strategies among teachers. This could prompt stakeholders in teacher preparation programs to put effort into ensuring that teachers are willing to use recommended practices.

While teachers' self-reported use of behavioral strategies provided valuable insight, it is crucial that future studies move beyond these reports and incorporate direct observations of teachers in action. By examining the fidelity and quality of strategy implementation in the classroom, researchers can identify specific areas for improvement and ultimately provide better support for teachers in managing the behaviors of students with ADHD. This approach would not only contribute to the development of more effective training programs but also ensure that the strategies taught in training are applied in ways that lead to tangible improvements in student behavior.

In conclusion, the results show that teachers' perceptions of the effectiveness of behavioral strategies, their confidence in using them, and perceived facilitators predicted the use of strategies with strong and weak evidence of effectiveness. However, further research is needed to explore the role of variables such as race, ethnicity, and specialized ADHD training in influencing strategy implementation. These findings highlight the complexity of teachers' decision-making in implementing behavioral strategies, underscoring the need for targeted support and training.

References

Abikoff, H., Hechtman, L., Klein, R. G., Weiss, G., Fleiss, K., Etcovitch, J., Cousins, L., Greenfield, B., Martin, D. P., & Pollack, S. (2004). Symptomatic improvement in children with ADHD treated with long-term methylphenidate and multimodal psychosocial treatment. *Journal of the American Academy of Child and Adolescent Psychiatry*, *43*(7), 802–811. https://doi.org/10.1097/01.chi.0000128791.10014.ac

Abouammoh, N., Younis, A., Alwatban, L., Alkhalil, M., Alharbi, R., Alhalabi, R., Alzahrani, S., & Alrwais, S. (2023). Knowledge about attention deficit hyperactivity disorder among primary school teachers in Riyadh, Saudi Ara- bia. *Journal of Nature and Science of Medicine*, 6(1), 51– 57. https://doi.org/10.4103/jfmpc.jfmpc_2194_20

Alabd, A. M. A., Mesbah, S. K., & Alboliteeh, M. (2018b). Effect of educational program on elementary school teachers' knowledge, attitude, and classroom management techniques regards attention deficit hyperactivity disorder. *International Journal of Studies in Nursing*, *3*(3), 159-171. https://doi.org/10.20849/ijsn.v3i3.528

Alkahtani, K. D. (2013). Teachers' knowledge and misconceptions of attention deficit/hyperactivity disorder. *Psychology*, *4*(12), 963-969.

Allinder, R. M. (1994). The relationship between efficacy and the instructional practices of special education teachers and consultants. *Teacher education and special education, 17*(2), 86-95.

Altourah, A. J., Al Ansari, A. M., Suleiman, N. A., Jahrami, H. A., & Al Mahmoud, F. K. (2021). The use of physical punishment among parents of children with ADHD and normal development. *Arab Gulf Journal of Scientific Research*, *39*(1). 48-58.

American Psychiatric Association. (2013). *Diagnostic and statistical*

manual of mental disorders (5th ed.). Retrieved August 31, 2022, from https://dsm.psychiatryonline.org/doi/epdf/10.1176/appi.books.9780890425596

Arnold, D. M., Burns, K. E., Adhikari, N. K., Kho, M. E., Meade, M. O., & Cook, D. J. (2009). The design and interpretation of pilot trials in clinical research in critical care. *Critical Care Medicine, 37*(1), S69-S74.

Baddeley, A. (2012). Working memory: Theories, models, and controversies. *Annual review of psychology, 63*, 1-29.

Barkley, R. A. (2006). A handbook for diagnosis and treatment. *New York: Guilford Publications*, 3-75.

Barkley, R. A., DuPaul, G. J., & McMurray, M. B. (1990). A comprehensive evaluation of attention deficit disorder with and without hyperactivity as defined by research criteria. *Journal of Consulting and Clinical Psychology*, *58*(6), 775.

Barry, T. D., Lyman, R. D., & Klinger, L. G. (2002). Academic underachievement and attention-deficit/hyperactivity disorder: The negative impact of symptom severity on school performance. *Journal of School Psychology, 40*(3), 259-283.

Bender, A. S. (1996). *Effect of active learning on student teachers identifications and referrals of attention deficit hyperactivity disorder*. Hofstra University.

Biederman, J., Monuteaux, M. C., Doyle, A. E., Seidman, L. J., Wilens, T. E., Ferrero, F., ... & Faraone, S. V. (2004). Impact of executive function deficits and attention-deficit/hyperactivity disorder (ADHD) on academic outcomes in children. *Journal of Consulting and Clinical Psychology*, *72*(5), 757-766.

Brantlinger, E., Jimenez, R., Klingner, J., Pugach, M., & Richardson, V. (2005). Qualitative studies in special education. *Exceptional Children*, *71*(2), 195-207.

Budur, K., Mathews, M., Adetunji, B., Mathews, M., & Mahmud, J. (2005). Non-stimulant treatment for attention deficit hyperactivity disorder. *Psychiatry*, *2*(7). 44-48.

Bussing, R., Koro-Ljungberg, M., Noguchi, K., Mason, D., Mayerson, G., & Garvan, C. W. (2012). Willingness to use ADHD treatments: a mixed methods study of perceptions by adolescents, parents, health professionals and teachers. *Social Science and Medicine*, *74*(1), 92-100.

Bussing, R., Gary, F. A., Leon, C. E., Garvan, C. W., & Reid, R. (2002). General classroom teachers' information and perceptions of attention deficit hyperactivity disorder. *Behavioral Disorders*, *27*(4), 327-339.

Cao P, Xing J, Cao Y, Cheng Q, Sun X, Kang Q, Dai L, Zhou X, & Song Z. (2018). Clinical effects of repetitive transcranial magnetic stimulation combined with atomoxetine in the treatment of attention-deficit hyperactivity disorder. *Neuropsychiatric Disease and Treatment*, *ume 14*, 3231–3240.

Centers for Disease Control and Prevention. (2022a). ADHD in the Classroom: Helping children succeed in school. Retrieved from https://www.cdc.gov/ncbddd/adhd/school-success.html

Centers for Disease Control and Prevention. (2022b). What is ADHD? Retrieved March 15, 2023, from https://www.cdc.gov/ncbddd/adhd/facts.html

Cheng, J. Y. W., Chen, R. Y. L., Ko, J. S. N., & Ng, E. M. L. (2007). Efficacy and safety of atomoxetine for attention-deficit/hyperactivity disorder in children and adolescents—meta-analysis and meta-regression analysis. *Psychopharmacology*, *194*(2), 197–209.

Children and Adults with Attention-Deficit/Hyperactivity Disorder. (2022). Relationships & social skills. Retrieved September 22, 2022, from

https://chadd.org/for-adults/relationships-social-skills/

Coelho, L. F., Barbosa, D. L. F., Rizzutti, S., Bueno, O. F. A., & Miranda, M. C. (2017). Group cognitive behavioral therapy for children and adolescents with ADHD. *Psicologia: Reflexão e Crítica*, *30*, 2-14. DOI 10.1186/s41155-017-0063-y

Coghill, D. R., Banaschewski, T., Bliss, C., Robertson, B., & Zuddas, A. (2018). Cognitive function of children and adolescents with attention-deficit/hyperactivity disorder in a 2-year open-label study of lisdexamfetamine dimesylate. *CNS Drugs*, *32*(1), 85-95.

Corbisiero, S., Bitto, H., Newark, P., Abt-Mörstedt, B., Elsässer, M., Buchli-Kammermann, J., ... & Stieglitz, R. D. (2018). A comparison of cognitive-behavioral therapy and pharmacotherapy vs. pharmacotherapy alone in adults with attention-deficit/hyperactivity disorder (ADHD)—A randomized controlled trial. *Frontiers in Psychiatry*, 571, 1-14.

Council for Exceptional Children. (2020). Standards for Professional Practice. Retrieved September 15, 2022, from https://exceptionalchildren.org/sites/default/files/2020-07/Standards%20for%20Professional%20Practice.pdf

Cox, A. M. (2012). An exploration of the practice approach and its place in information science. *Journal of Information Science*, *38*(2), 176-188.

Curtis, D. F., Pisecco, S., Hamilton, R. J., & Moore, D. W. (2006). Teacher perceptions of classroom interventions for children with ADHD: A cross-cultural comparison of teachers in the United States and New Zealand. *School Psychology Quarterly*, *21*(2), 171-196.

Daley, D., & Birchwood, J. (2010). ADHD and academic performance: why does ADHD impact on academic performance and what can be done to support ADHD children in the classroom?. *Child: Care, Health and Development, 36*(4), 455-464.

Danielson, M. L., Bitsko, R. H., Ghandour, R. M., Holbrook, J. R., Kogan, M. D., & Blumberg, S. J. (2018). Prevalence of parent-reported ADHD diagnosis and associated treatment among US children and adolescents, 2016. *Journal of Clinical Child & Adolescent Psychology*, *47*(2), 199-212.

Danielson, M. L., Claussen, A. H., Bitsko, R. H., Katz, S. M., Newsome, K., Blumberg, S. J., ... & Ghandour, R. (2024). ADHD Prevalence among US children and adolescents in 2022: Diagnosis, severity, co-occurring disorders, and treatment. *Journal of Clinical Child & Adolescent Psychology*, 1-18.

De Boer, A., & Pijl, S. J. (2016). The acceptance and rejection of peers with ADHD and ASD in general secondary education. *The Journal of Educational Research, 109*(3), 325-332.

DuPaul, G. J., Eckert, T. L., & McGoey, K. E. (1997). Interventions for students with attention-deficit/hyperactivity disorder: One size does not fit all. *School Psychology Review, 26*(3), 369-381.

David, D., Dobrean, A., Păsărelu, C. R., Iftene, F., Lupu, V., Predescu, E., & Döpfner, M. (2021). Psychotherapy, atomoxetine or both? Preliminary evidence from a comparative study of three types of treatment for attention-Deficit/Hyperactivity disorder in children. *Cognitive Therapy and Research*, *45*(1), 149-165

Davison, J. C., & Ford, D. Y. (2001). Perceptions of attention deficit hyperactivity disorder in one African American community. *Journal of Negro Education,* 264-274.

Denton, C. A., Tamm, L., Schatschneider, C., & Epstein, J. N. (2020). The effects of ADHD treatment and reading intervention on the fluency and comprehension of children with ADHD and word reading difficulties: A randomized clinical trial. *Scientific Studies of Reading*, *24*(1), 72-89.

Döpfner, M., Ise, E., Wolff Metternich-Kaizman, T., Schürmann, S., Rademacher, C., & Breuer, D. (2015). Adaptive multimodal treatment for children with attention-deficit-/hyperactivity disorder: an 18 month follow-up. *Child Psychiatry & Human Development, 46*(1), 44-56.

Dunlap, G., DePerczel, M., Clarke, S., Wilson, D., Wright, S., White, R., & Gomez, A. (1994). Choice making to promote adaptive behavior for students with emotional and behavioral challenges. *Journal of Applied Behavior Analysis, 27*(3), 505-518.

DuPaul, G. J., Gormley, M. J., & Laracy, S. D. (2013). Comorbidity of LD and ADHD: Implications of DSM-5 for assessment and treatment. *Journal of Learning Disabilities*, *46*(1), 43-51.

DuPaul, G. J., & Weyandt, L. L. (2006). School- based intervention for children with attention deficit hyperactivity disorder: Effects on academic, social, and behavioral functioning. *International Journal of Disability, Development, and Education, 53*, 161–176.

DuPaul, G. J., Weyandt, L. L., & Janusis, G. M. (2011). ADHD in the classroom: Effective intervention strategies. *Theory into Practice, 50*(1), 35–42.

Elia, J., & Devoto, M. (2007). ADHD genetics: 2007 update. *Current Psychiatry Reports, 9*(5), 434-439.

Ervin, R. A., DuPaul, G. J., Kern, L., & Friman, P. C. (1998). Classroom-based functional and adjunctive assessments: Proactive approaches to intervention selection for adolescents with attention deficit hyperactivity disorder. *Journal of Applied Behavior Analysis, 31*(1), 65-78.

Faraone, S. V., Biederman, J., & Spencer, T. (2000). Attention-deficit hyperactivity disorder in adults: An overview. *Biological Psychiatry, 48*(1), 9–20.

Faraone, S. V., Perlis, R. H., Doyle, A. E., Smoller, J. W., Goralnick, J. J., Holmgren, M. A., & Sklar, P. (2005). Molecular genetics of attention-deficit/hyperactivity disorder. *Biological Psychiatry*, *57*(11), 1313-1323.

Farmer, A. (2009). *Impairing education: Corporal punishment of students with disabilities in US public schools*. Human Rights Watch.

Follmer, D. J., Sperling, R. A., & Suen, H. K. (2017). The role of MTurk in education research: Advantages, issues, and future directions. *Educational Researcher*, *46*(6), 329-334.

Furukawa, E., Alsop, B., Sowerby, P., Jensen, S., & Tripp, G. (2017). Evidence for increased behavioral control by punishment in children with attention-deficit hyperactivity disorder. *Journal of Child Psychology and Psychiatry*, *58*(3), 248-257.

Gathercole. S, Alloway. T. P. (2013). Understanding working memory: A classroom guide. Retrieved September 22, 2022, from https://www.mrc-cbu.cam.ac.uk/wp-content/uploads/2013/01/WM-classroom-guide.pdf

Geng, G. (2011). Investigation of teachers' verbal and non-verbal strategies for managing Attention Deficit Hyperactivity Disorder (ADHD) students' behaviours within a classroom environment. *Australian Journal of Teacher Education (Online)*, *36*(7), 17-30.

Gershoff, E. T., & Font, S. A. (2016). Corporal punishment in US public schools: Prevalence, disparities in use, and status in state and federal policy. *Social policy report*, *30*.

Gibson, S., & Dembo, M. H. (1984). Teacher efficacy: A construct validation. *Journal of Educational Psychology, 76*(4), 569-582.

Glass, C. S., & Wegar, K. (2000). Teacher perceptions of the incidence and management of attention deficit hyperactivity disorder. *Education*, *121*(2). 412-421.

Graczyk, P. A., Atkins, M. S., Jackson, M. M., Letendre, J. A., Kim-Cohen, J., Baumann, B. L.,

& McCoy, J. (2005). Urban educators' perceptions of interventions for students with attention deficit hyperactivity disorder: A preliminary investigation. *Behavioral Disorders, 30*(2), 95-104.

Gresham, F. M., Watson, T. S., & Skinner, C. H. (2001). Functional behavioral assessment: Principles, procedures, and future directions. *School Psychology Review, 30*(2), 156-172.

Gureasko-Moore, S., DuPaul, G. J., & White, G. P. (2006). The effects of self-management in general education classrooms on the organizational skills of adolescents with ADHD. *Behavior Modification, 30*(2), 159-183.

Gupta, R., & Kar, B. R. (2010). Specific cognitive deficits in ADHD: A diagnostic concern in differential diagnosis. *Journal of Child and Family Studies*, *19*(6), 778-786.

Guerra Jr, F. R., & Brown, M. S. (2012). Teacher knowledge of attention deficit hyperactivity disorder among middle school students in South Texas. *RMLE Online*, *36*(3), 1-7.

Harpin, V. A. (2005). The effect of ADHD on the life of an individual, their family, and community from preschool to adult life. *Archives of Disease in Childhood, 90*(1), i2-i7

Havey, J. M. (2007). A comparison of Dutch and US teachers' perceptions of the incidence and management of ADHD. *School Psychology International*, *28*(1), 46-52.

Havey, J. M., Olson, J. M., McCormick, C., & Cates, G. L. (2005). Teachers' perceptions of the incidence and management of attention-deficit hyperactivity disorder. *Applied Neuropsychology*, *12*(2), 120-127.

Heale, R., & Twycross, A. (2015). Validity and reliability in quantitative studies. *Evidence-Based Nursing*, *18*(3), 66-67.

Hechtman, L., Etcovitch, J., Platt, R., Arnold, L. E., Abikoff, H. B., Newcorn, J. H., ... & Wigal, T. (2005). Does multimodal treatment of ADHD decrease other diagnoses?. *Clinical*

Neuroscience Research, 5(5-6), 273-282.

Hellas, A., Zavgorodniaia, A., & Sorva, J. (2020). Crowdsourcing in computing education research: Case Amazon MTurk. *Koli Calling '20: Proceedings of the 20th Koli Calling International Conference on Computing Education Research*, 1–5. https://doi-org.proxyiub.uits.iu.edu/10.1145/3428029.3428062

Hsieh, H. F., & Shannon, S. E. (2005). Three approaches to qualitative content analysis. *Qualitative Health Research, 15*(9), 1277-1288.

Hinshaw, S. P. (1992). Externalizing behavior problems and academic underachievement in childhood and adolescence: causal relationships and underlying mechanisms. *Psychological Bulletin, 111*(1), 127-155.

Horner, R. H., & Carr, E. G. (1997). Behavioral support for students with severe disabilities: Functional assessment and comprehensive intervention. *The Journal of Special Education*, *31*(1), 84-104.

Hoza, B., Mrug, S., Pelham Jr, W. E., Greiner, A. R., & Gnagy, E. M. (2003). A friendship intervention for children with attention-deficit/hyperactivity disorder: Preliminary findings. *Journal of Attention Disorders*, *6*(3), 87-98.

Hunt, N. C., & Scheetz, A. M. (2019). Using MTurk to distribute a survey or experiment: Methodological considerations. *Journal of Information Systems*, *33*(1), 43-65.

Indiana Department of Education. (n.d.). Indiana developmental standards for educators. Retrieved from https://www.in.gov/doe/files/elementary-ed.pdf

Irianjani, N. D., & Rohmah, F. A. (2020). Applying token economy to improve attention of child with ADHD. *Journal of Early Childhood Care and Education, 3*(1), 1-13.

Jongh, M. D., & Wium, A. M. (2021). Attention deficit hyperactivity disorder: Training

outcomes for Grade R teachers in an urban and semi-rural context. *South African Journal of Childhood Education, 11*(1), 1-11.

King, B. M., Rosopa, P. J., & Minium, E. W. (2018). *Statistical Reasoning in the Behavioral Sciences.* John Wiley & Sons.

Klingner, J. K., & Boardman, A. G. (2011). Addressing the "research gap" in special education through mixed methods. *Learning Disability Quarterly, 34*(3), 208-218.

Knoblauch, D., & Chase, M. A. (2015). Rural, suburban, and urban schools: The impact of school setting on the efficacy beliefs and attributions of student teachers. *Teaching and Teacher Education*, *45*, 104-114.

Kuntsi, J., Wood, A. C., Johnson, K. A., Andreou, P., Arias-Vasquez, A., Buitelaar, J. K., ... & Asherson, P. (2010). Separation of cognitive impairments in attention-deficit hyperactivity disorder into 2 familial factors. *Archives of General Psychiatry*, *67*(11), 1159-1166.

Lambez, B., Harwood-Gross, A., Golumbic, E. Z., & Rassovsky, Y. (2020). Non-pharmacological interventions for cognitive difficulties in ADHD: A systematic review and meta-analysis. *Journal of Psychiatric Research*, *120*, 40-55.

Latouche, A. P., & Gascoigne, M. (2019). In-service training for increasing teachers' ADHD knowledge and self-efficacy. *Journal of Attention Disorders, 23*(3), 270-281.

Loe, I. M., & Feldman, H. M. (2007). Academic and educational outcomes of children with ADHD. *Journal of Pediatric Psychology*, *32*(6), 643-654.

Legato, Lauren J., (2011). Effects of teacher factors on expectations of students with ADHD. *College of Liber al Arts & Social Sciences Theses and Dissertations. 66,* 1-75. https://via.library.depaul.edu/etd/66

Maleki, Z. H., Mashhadi, A., Soltanifar, A., Moharreri, F., & Ghamanabad, A. G. (2014). Barkley's parent training program, working memory training and their combination for children with ADHD: Attention Deficit Hyperactivity Disorder. *Iranian Journal of Psychiatry*, *9*(2), 47.

McGoey, K. E., & DuPaul, G. J. (2000). Token reinforcement and response cost procedures: Reducing the disruptive behavior of preschool children with attention-deficit/hyperactivity disorder. *School Psychology Quarterly, 15*(3), 330.

Melhem, T. Y. M. (2020). Level of awareness among teachers about attention deficit hyperactivity disorder (ADHD): A field study in the Eastern Province of Saudi Arabia. *Journal of Special Education and Rehabilitation. 10*(36), 139. https://doi.org/10.21608/sero.2020.104313

Miltenberger, R. G. (2015). *Behavior modification: Principles and procedures.* Cengage Learning.

Montano, D. E., & Kasprzyk, D. (2015). Theory of reasoned action, theory of planned behavior, and the integrated behavioral model. *Health behavior: Theory, Research and Practice, 70*(4), 95-124.

Mrug, S., Molina, B. S., Hoza, B., Gerdes, A. C., Hinshaw, S. P., Hechtman, L., & Arnold, L. E. (2012). Peer rejection and friendships in children with attention-deficit/hyperactivity disorder: Contributions to long-term outcomes. *Journal of Abnormal Child Psychology, 40*(6), 1013-1026.

MTA Cooperative Group. (1999). A 14-month randomized clinical trial of treatment strategies for attention-deficit/hyperactivity disorder. *Archives of General Psychiatry, 56*(12), 1073–1086. https://doi.org/10.1001/archpsyc.56.12.1073

Mulligan, S. (2001). Classroom strategies used by teachers of students with attention deficit hyperactivity disorder. *Physical & Occupational Therapy in Pediatrics*, *20*(4), 25-44.

Nasako, R. E. (2016). Effects of token economy on mathematics achievement of children with Attention Deficit Hyperactivity Disorder (ADHD) in government practising schools in Buea, Cameroon. *International Journal of Humanities, Social Sciences and Education, 3*(10), 31-56.

National Center for Education Statistics. (2020). *The condition of education 2020* (NCES 2020-144). U.S. Department of Education. https://nces.ed.gov/pubs2020/2020144.pdf

National Institute of Mental Health. (2022). Attention Deficit/Hyperactivity Disorder. Retrieved September 21, 2022, from https://www.nimh.nih.gov/health/topics/attention-deficit-hyperactivity-disorder-adhd

Nickols, F. (2016). Strategy, strategic management, strategic planning and strategic thinking. *Management Journal, 1*(1), 4-7.

Nigg, J. T. (2008). ADHD, lead exposure and prevention: how much lead or how much evidence is needed?. *Expert Review of Neurotherapeutics, 8*(4), 519-521.

Nigg, J. T., Nikolas, M., Mark Knottnerus, G., Cavanagh, K., & Friderici, K. (2010). Confirmation and extension of association of blood lead with attention-deficit/hyperactivity disorder (ADHD) and ADHD symptom domains at population-typical exposure levels. *Journal of Child Psychology and Psychiatry*, *51*(1), 58-65.

Nigg, J. T., Willcutt, E. G., Doyle, A. E., & Sonuga-Barke, E. J. (2005). Causal heterogeneity in attention-deficit/hyperactivity disorder: do we need neuropsychologically impaired subtypes?. *Biological Psychiatry, 57*(11), 1224-1230.

Núñez-Jaramillo, L., Herrera-Solís, A., & Herrera-Morales, W. V. (2021). ADHD: Reviewing

the causes and evaluating solutions. *Journal of Personalized Medicine, 11*(3), 1-25.

Patino, C. & Ferreira, J. (2018). Internal and external validity: Can you apply research study results to your patients?. Retrieved October 20, 2022, from https://www.scielo.br/j/jbpneu/a/fjcLdt8NpHccPqmqyfRV3rg/?format=pdf&lang=en

Paulson, J. F., Buermeyer, C., & Nelson-Gray, R. O. (2005). Social rejection and ADHD in young adults: An analogue experiment. *Journal of Attention Disorders, 8*(3), 127-135.

Parke, R. D. (1998). Social Relationships & academic Success. *Thrust for Educational Leadership*, *28*(1), 32-34.

Pelham, W. E., Gnagy, E. M., Greiner, A. R., Hoza, B., Hinshaw, S. P., Swanson, J. M., ... & McBurnett, K. (2000). Behavioral versus behavioral and pharmacological treatment in ADHD children attending a summer treatment program. *Journal of Abnormal Child Psychology, 28*(6), 507-525.

Pelsser, L. M., Frankena, K., Toorman, J., & Rodrigues Pereira, R. (2017). Diet and ADHD, reviewing the evidence: A systematic review of meta-analyses of double-blind placebo-controlled trials evaluating the efficacy of diet interventions on the behavior of children with ADHD. *PLoS ONE*, *12*(1), 1–25. https://doi-org.proxyiub.uits.iu.edu/10.1371/journal.pone.0169277

Pennsylvania Department of Education. (2015). Functional Behavioral Assessment (FBA) process. Retrieved September 8, 2022, from https://www.pattan.net/getmedia/eca12015-858b-4448-962d753816d71e20/FBA_ProcessBklt0516

Perold, H., Louw, C., & Kleynhans, S. (2010). Primary school teachers' knowledge and misperceptions of attention deficit hyperactivity disorder (ADHD). *South African Journal of Education, 30*(3). 457-473.

Pisecco, S., Huzinec, C., & Curtis, D. (2001). The effect of child characteristics on teachers' acceptability of classroom-based behavioral strategies and psychostimulant medication for the treatment of ADHD. *Journal of Clinical Child Psychology*, *30*(3), 413-421.

Power, T. J., Hess, L. E., & Bennett, D. S. (1995). The acceptability of interventions for attention-deficit hyperactivity disorder among elementary and middle school teachers. *Journal of Developmental & Behavioral Pediatrics*, *16*(4), 238-243.

Poznanski, B., Hart, K. C., & Graziano, P. A. (2021). What do preschool teachers know about attention-deficit/hyperactivity disorder (ADHD) and does it impact ratings of child impairment?. *School Mental Health, 13*, 114-128.

Rahmani, M., Mahvelati, A., Farajinia, A. H., & Khaksarian, M. (2022). Comparison of vitamin D, neurofeedback, and neurofeedback combined with vitamin D supplementation in children with Attention-Deficit/Hyperactivity Disorder. *Archives of Iranian Medicine*. 285-393.

Reid, R., Maag, J. W., Vasa, S. F., & Wright, G. (1994). An analysis of teachers' perception of attention-deficit hyperactivity disorder. *Journal of Research and Development in Education, 27*, 185-191.

Reid, R., Trout, A. L., & Schartz, M. (2005). Self-regulation interventions for children with attention deficit/hyperactivity disorder. *Exceptional Children*, *71*(4), 361-377.

Reitman, D., Hupp, S. D., O'Callaghan, P. M., Gulley, V., & Northup, J. (2001). The influence of a token economy and methylphenidate on attentive and disruptive behavior during

sports with ADHD-diagnosed children. *Behavior Modification, 25*(2), 305-323.

Rinsky, J. R., & Hinshaw, S. P. (2011). Linkages between childhood executive functioning and adolescent social functioning and psychopathology in girls with ADHD. *Child Neuropsychology*, *17*(4), 368-390.

Ross, J. A. (1992). Teacher efficacy and the effects of coaching on student achievement. *Canadian Journal of Education/Revue canadienne de l'education*, 51-65.

Rothman, K. J. (1990). No adjustments are needed for multiple comparisons. *Epidemiology, 1*(1), 43-46.

Sanetti, L. M. H., & Kratochwill, T. R. (2009). Treatment integrity assessment in the schools: An evaluation of the Treatment Integrity Planning Protocol. *School Psychology Quarterly*, *24*(1), 24.

Sax, L., & Kautz, K. J. (2003). Who first suggests the diagnosis of attention-deficit/hyperactivity disorder?. *The Annals of Family Medicine*, *1*(3), 171-174.

Shapiro, E. S., DuPaul, G. J., & Bradley-Klug, K. L. (1998). Self-management as a strategy to improve the classroom behavior of adolescents with ADHD. *Journal of Learning Disabilities*, *31*(6), 545-555.

Schatz, N. K., Fabiano, G. A., Raiker, J. S., Hayes, T. B., & Pelham, W. E. (2021). Twenty-Year Trends in Elementary Teachers' Beliefs about Best Practices for Students with ADHD. *School Psychology*, *36*(4), 203–213.

Schatzki, T. R., Knorr-Cetina, K., & Von Savigny, E. (Eds.). (2001). *The practice turn in contemporary theory* (Vol. 44). London: Routledge.

Schieltz, K. M., Wacker, D. P., Suess, A. N., Graber, J. E., Lustig, N. H., & Detrick, J. (2020). Evaluating the effects of positive reinforcement, instructional strategies, and negative

reinforcement on problem behavior and academic performance: An experimental analysis. *Journal of Developmental and Physical Disabilities*, *32*, 339-363.

Scheres, A., Oosterlaan, J., Geurts, H., Morein-Zamir, S., Meiran, N., Schut, H., ... & Sergeant, J. A. (2004). Executive functioning in boys with ADHD: Primarily an inhibition deficit?. *Archives of Clinical Neuropsychology*, *19*(4), 569-594.

Sciutto, M. J., Terjesen, M. D., & Frank, A. S. B. (2000). Teachers' knowledge and misperceptions of attention-deficit/hyperactivity disorder. *Psychology in the Schools*, *37*(2), 115-122.

Shetty, A., & Rai, B. S. (2014). Awareness and knowledge of attention deficit hyperactivity disorders among primary school teachers in India. *International Journal of Current Research and Review*, *6*(9), 30-36.

Shroff, H. P., Hardikar-Sawant, S., & Prabhudesai, A. D. (2017). Knowledge and misperceptions about attention deficit hyperactivity disorder (ADHD) among school teachers in Mumbai, India. *International Journal of Disability, Development and Education, 64*(5), 514-525.

Sinclair, K. (2018). ADHD & executive functioning: What is it? What does it look like? What can we do about it? Children and Adults with Attention Deficit/Hyperactivity Disorder (ADHD). Retrieved September 1, 2022, from https://chadd.org/wp-content/uploads/2018/10/Sinclair-Handout-min-5.pdf

So, C. Y., Leung, P. W., & Hung, S. F. (2008). Treatment effectiveness of combined medication/behavioural treatment with Chinese ADHD children in routine practice. *Behaviour Research and Therapy, 46*(9), 983-992.

Stein, M. K., & Wang, M. C. (1988). Teacher development and school improvement: The process of teacher change. *Teaching and Teacher Education*, *4*(2), 171-187.

Srignanasoundari, E., Vijayalakshmi, S., & Kokilavani, N. (2016). A study to assess the knowledge on attention deficit hyperactivity disorder among primary school teachers at selected schools of kancheepuram district, Tamilnadu. *International Journal of Nursing Education*, *8*(4), 66-70.

Steeger, C. M., Gondoli, D. M., Gibson, B. S., & Morrissey, R. A. (2016). Combined cognitive and parent training interventions for adolescents with ADHD and their mothers: A randomized controlled trial. *Child Neuropsychology*, *22*(4), 394-419.

Strine, T. W., Lesesne, C. A., Okoro, C. A., McGuire, L. C., Chapman, D. P., Balluz, L. S., & Mokdad, A. H. (2006). Peer reviewed: Emotional and behavioral difficulties and impairments in everyday functioning among children with a history of attention-deficit/hyperactivity disorder. *Preventing Chronic Disease*, *3*(2). 1-10.

Thapar, A., Cooper, M., Eyre, O., & Langley, K. (2013). Practitioner review: What have we learnt about the causes of ADHD?. *Journal of Child Psychology and Psychiatry*, *54*(1), 3-16.

Thomas E. Brown. (2017). How ADHD sometimes gets worse? Retrieved September 8, 2022, From https://chadd.org/wp-content/uploads/2017/06/ATTN_Summer_17_Worse.pdf

Thompson, B., Diamond, K. E., McWilliam, R., Snyder, P., & Snyder, S. W. (2005). Evaluating the quality of evidence from correlational research for evidence-based practice. *Exceptional Children*, *71*(2), 181-194.

Topkin, B., & Roman, N. V. (2015). Attention Deficit Disorder (ADHD): Primary school teachers' knowledge of symptoms, treatment and managing classroom behaviour. *South African Journal of Education, 35*(2), 988-988.

Tschannen-Moran, M., & Hoy, A. W. (2001). Teacher efficacy: Capturing an elusive

construct. *Teaching and Teacher Education*, *17*(7), 783-805.

United States Department of Agriculture. (2020). Rural-urban continuum codes. Retrieved April 4, 2023, from https://www.ers.usda.gov/data-products/rural-urban-continuum-codes.aspx

U.S. Department of Education. (2006). Teaching children with attention deficit hyperactivity disorder: Instructional strategies and practices. Retrieved September 2, 2022, from https://files.eric.ed.gov/fulltext/ED495483.pdf

Vereb, R. L., & DiPerna, J. C. (2004). Teachers' knowledge of ADHD, treatments for ADHD, and treatment acceptability: An initial investigation. *School Psychology Review*, *33*(3), 421-428.

Vijayalakshmi, N. (2019). Behavior Modification Techniques - An Awareness Study. *Shanlax International Journal of Education*, *7*(2), 20–24.

Vlah, N., Velki, T., & Kovacic, E. (2021). Teachers' Self-Efficacy Based on Symptoms of Attention Deficit Hyperactivity Disorder in Primary School Pupils. *Center for Educational Policy Studies Journal*, *11*(3), 141-161.

Wehmeier, P. M., Schacht, A., & Barkley, R. A. (2010). Social and emotional impairment in children and adolescents with ADHD and the impact on quality of life. *Journal of Adolescent Hhealth, 46*(3), 209-217.

Wender, P. H., Wolf, L. E., & Wasserstein, J. (2001). Adults with ADHD: An overview. *Annals of the New York academy of sciences*, *931*(1), 1-16.

Wills, H. P., & Mason, B. A. (2014). Implementation of a self-monitoring application to improve on-task behavior: A high-school pilot study. *Journal of Behavioral Education*, *23*, 421-434.

Wood JC, Heiskell KD, Delay DM, Jongeling JAS, & Perry D. (2009). Teachers' preferences for interventions for ethnically diverse learners with attention-deficit hyperactivity disorder. *Adolescence*, *44*(174), 273–288.

Wu, M.-J., Zhao, K., & Fils-Aime, F. (2022). Response rates of online surveys in published research: A meta-analysis. *Computers in Human Behavior Reports, 7*, 100206. https://doi.org/10.1016/j.chbr.2022.100206

Zentall, S. S., & Javorsky, J. (2007). Professional development for teachers of students with ADHD and characteristics of ADHD. *Behavioral Disorders*, *32*(2), 78-93.

Appendix A

TABSIS Survey Questions

1. Have you taught an elementary class (i.e., grades kindergarten to 6th grade) in the last 12 months?
   1= Yes
   2= No

2. Please indicate your gender.
   1= Male
   2= Female
   3= Non-binary
   4= Prefer not to report

3. Which of the following groups describes you? Select all that apply.
   1= White
   2= Black
   3= American Indian or Alaskan Native
   4= Asian
   5= Native Hawaiian or Other Pacific Islander
   6= Other "Specify"

4. Are you of Hispanic origin?
   1=Yes
   2= No

5. Please indicate the highest level of education you have completed?
   1= Less than high school
   2= High school diploma
   3= Some college
   4= Bachelor's degree
   5= Master's degree
   6= Higher than master's degree

6. Are you a licensed general education elementary teacher?
   1= Yes
   2= No
   3= Other "Describe"

7. Are you a licensed special education elementary teacher?
   1= Yes
   2= No
   3= Other "Describe"

8. How many years have you been a teacher?

9. Which grade level(s) have you taught within the last 12 months? Select all that apply.
   1= K
   2= 1st grade
   3= 2nd grade
   4= 3rd grade
   5= 4th Grade
   6= 5th grade
   7= 6th grade
   8= Other "Specify"

10. How many students with ADHD have you taught in the past 12 months?

11. Have you received any professional training in the past 12 months specifically related to working with children with ADHD?
    1= Yes
    2= No

12. What type of professional ADHD-related training did you receive to serve students with ADHD?
    1= In-school training
    2= Webinar
    3= Completed a college course
    4= Other "Describe"

13. How many students are/were in the **most recent class** that you teach/taught all or most of each school day?

14. How many students with an IEP or 504 plan are/were in the **most recent class** that you teach/taught all or most of each school day?
15. Please enter the zip code of the school you taught in most recently.

Please indicate whether the following statements about ADHD are true or false.

Items	True	False	Don't Know
16-Most estimates suggest that ADHD occurs in approximately 15% of school age children.	1	2	3
17- Current research suggests that ADHD is largely the result of ineffective parenting skills.	1	2	3

18- ADHD children are frequently distracted by extraneous stimuli.	1	2	3
19- ADHD children are typically more compliant with their fathers than with their mothers.	1	2	3
20- In order to be diagnosed with ADHD, the child's symptoms must have been present before age 7.	1	2	3
21- ADHD is more common in the 1st degree biological relatives (i.e. mother, father) of children with ADHD than in the general population.	1	2	3
22- One symptom of ADHD children is that they have been physically cruel to other people.	1	2	3
23- Antidepressant drugs have been effective in reducing symptoms for many ADHD children.	1	2	3
24- ADHD children often fidget or squirm in their seats.	1	2	3
25- Parent and teacher training in managing an ADHD child are generally effective when combined with medication treatment.	1	2	3
26- It is common for ADHD children to have an inflated sense of self-esteem or grandiosity.	1	2	3
27- When treatment of an ADHD child is terminated, it is rare for the child's symptoms to return.	1	2	3

28- It is possible for an adult to be diagnosed with ADHD.	1	2	3
29- ADHD children often have a history of stealing or destroying other people's things.	1	2	3
30- Side effects of stimulant drugs used for treatment of ADHD may include mild insomnia and appetite reduction.	1	2	3
31- Current wisdom about ADHD suggests two clusters of symptoms: One of inattention and another consisting of hyperactivity/impulsivity.	1	2	3
32-Symptoms of depression are found more frequently in ADHD children than in non-ADHD children.	1	2	3
33- Individual psychotherapy is usually sufficient for the treatment of most ADHD children.	1	2	3
34- Most ADHD children "outgrow" their symptoms by the onset of puberty and subsequently function normally in adulthood.	1	2	3
35- In severe cases of ADHD, medication is often used before other behavior modification techniques are attempted.	1	2	3
36- In order to be diagnosed as ADHD, a child must exhibit relevant symptoms in two or more settings (e.g., home, school).	1	2	3

37- If an ADHD child is able to demonstrate sustained attention to video games or TV for over an hour, that child is also able to sustain attention for at least an hour of class or homework.	1	2	3
38- Reducing dietary intake of sugar or food additives is generally effective in reducing the symptoms of ADHD.	1	2	3
39- A diagnosis of ADHD by itself makes a child eligible for placement in special education.	1	2	3
40- Stimulant drugs are the most common type of drug used to treat children with ADHD.	1	2	3
41- ADHD children often have difficulties organizing tasks and activities.	1	2	3
42- ADHD children generally experience more problems in novel situations than in familiar situations.	1	2	3
43- There are specific physical features which can be identified by medical doctors (e.g., pediatrician) in making a definitive diagnosis of ADHD.	1	2	3
44- In school age children, the prevalence of ADHD in males and females is equivalent.	1	2	3
45- In very young children (less than 4 years old), the problem	1	2	3

behaviors of ADHD children (e.g. hyperactivity, inattention) are distinctly different from age-appropriate behaviors of non-ADHD children.			
46- Children with ADHD are more distinguishable from normal children in a classroom setting than in a free play situation.	1	2	3
47- The majority of ADHD children evidence some degree of poor school performance in the elementary school years.	1	2	3
48- Symptoms of ADHD are often seen in non-ADHD children who come from inadequate and chaotic home environments.	1	2	3
49- Behavioral/Psychological interventions for children with ADHD focus primarily on the child's problems with inattention.	1	2	3
50- Electroconvulsive Therapy (i.e., shock treatment) has been found to be an effective treatment for severe cases of ADHD.	1	2	3
51- Treatments for ADHD which focus primarily on punishment have been found to be the most effective in reducing the symptoms of ADHD.	1	2	3

Note. From "The knowledge of Attention Deficit Disorders Scale (KADDS)–Test Manual, "by M.J. Sciutto and E. Feldhamer, 2000. *Unpublished test manual*.

Please indicate whether the following statements about ADHD are true or false

	True	False	Don't Know
52- ADHD can be caused by a child's diet.	1	2	3
53- Most authorities believe that ADHD is a biological/neurologic condition.	1	2	3
54- ADHD is a natural part of development.	1	2	3
55- ADHD can be cured.	1	2	3
56- Medication works very well for almost all children with ADHD.	1	2	3
57- Medication is the only way to control behavior in children with ADHD.	1	2	3
58- Early intervention is important for improving functioning among children with ADHD.	1	2	3

	Nothing		**Very Little**		**Some Influence**		**Quite a Bit**		**A Great Deal**
59- How much can you do to control disruptive behavior in the classroom?	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
60- How much can you do to motivate students who show low interest in school work?	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)

61- How much can you do to get students to believe they can do well in school work?	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
62- How much can you do to help your students value learning?	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
63- To what extent can you craft good questions for your students?	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
64- How much can you do to get children to follow classroom rules?	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
65- How much can you do to calm a student who is disruptive or noisy?	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
66- How well can you establish a classroom management system with each group of students?	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
67- How much can you use a variety of assessment strategies?	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
68- To what extent can you provide an alternative explanation or example when students are confused?	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
69- How much can you assist families in helping their children do well in school?	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
70- How well can you implement alternative strategies in your classroom?	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)

Q71- If you have read this question, choose “strongly agree.”
1= Strongly disagree
2= Disagree
3= Agree Strongly
4= Agree

In the following section of the survey, we list several behavioral strategies and ask four questions about each strategy.

Strategy #1: Removal of desired items (e.g., favorite toy) or activities (e.g., recess, special classes).

72- How **often** do you use *removal of desired items/activities* as a behavioral strategy for students with ADHD?

1= Never
2= Seldom
3= Sometimes
4= Often

73- How **well** do you use *removal of desired items/activities* as a behavioral strategy for students with ADHD?

1=Very poorly
2= Poorly
3= Well
4=Very well
5= I don't use this strategy

74- How **confident** are you with using *removal of desired items/activities* as a behavioral strategy for students with ADHD?

4= Very confident
3= Confident
2= Somewhat confident
1= Not at all confident

75-Thinking about the overall effectiveness of this strategy across the population of students with ADHD, how effective do you think *removal of desired items/activities* is for managing the behavior of most children with ADHD?

1= Very ineffective
2= Ineffective
3= Effective
4= Very effective
5= Don't know

Strategy #2: Physical consequences (e.g., having children hold heavy objects, standing for long periods, spanking).

76- How **often** do you use p*hysical consequences* as a behavioral strategy for students with ADHD?

1= Never
2= Seldom
3= Sometimes
4= Often

77- How **well** do you use p*hysical consequences* as a behavioral strategy for students with ADHD?

1=Very poorly
2= Poorly

3= Well
4=Very well
5= I don't use this strategy

78- How **confident** are you with using *physical consequences* as a behavioral strategy for students with ADHD?
4= Very confident
3= Confident
2= Somewhat confident
1= Not at all confident

79- Thinking about the overall effectiveness of this strategy across the population of students with ADHD, how effective do you think *physical consequences* are for managing the behavior of most children with ADHD?
1= Very ineffective
2= Ineffective
3= Effective
4= Very effective
5= Don't know

Strategy #3 Requiring the child to isolate for some period of time within classroom (e.g., "time-out").

80- How **often** do you use *requiring the child to isolate for some period of time* as a behavioral strategy for students
with ADHD?
1= Never
2= Seldom
3= Sometimes
4= Often

81- How **well** do you use *requiring the child to isolate for some period of time* as a behavioral strategy for students with ADHD?
1=Very poorly
2= Poorly
3= Well
4=Very well
5= I don't use this strategy

82- How **confident** are you with using *requiring the child to isolate for some period of time* as a behavioral strategy for students with ADHD?
4= Very confident
3= Confident
2= Somewhat confident
1= Not at all confident

83- Thinking about the overall effectiveness of this strategy across the population of students with ADHD, how effective do you think *requiring the child to isolate for some period of time* for managing the behavior of most children with ADHD?

1= Very ineffective
2= Ineffective
3= Effective
4= Very effective
5= Don't know

Strategy #4: Offering tangible rewards at the time the child engages in positive behavior.

84 How **often** do you use *offering tangible rewards at the time the child engages in positive behavior* as a behavioral strategy for students with ADHD?

1= Never
2= Seldom
3= Sometimes
4= Often

85- How **well** do you use *offering tangible rewards at the time the child engages in positive behavior* as a behavioral strategy for students with ADHD?

1=Very poorly
2= Poorly
3= Well
4=Very well
5= I don't use this strategy

86- How **confident** are you with using *offering tangible rewards at the time the child engages in positive behavior* as a behavioral strategy for students with ADHD?

4= Very confident
3= Confident
2= Somewhat confident
1= Not at all confident

87- Thinking about the overall effectiveness of this strategy across the population of students with ADHD, how effective do you think *offering tangible rewards at the time the child engages in positive behavior* for managing the behavior of most children with ADHD?

1= Very ineffective
2= Ineffective
3= Effective
4= Very effective
5= Don't know

Strategy #5: Offering tangible rewards to the classroom for reaching classroom-wide behavior goals.

88- How **often** do you use *offering tangible rewards to the classroom for reaching classroom-wide behavior goals* as a behavioral strategy for students with ADHD?

1= Never
2= Seldom
3= Sometimes
4= Often

89- How **well** do you use *offering tangible rewards to the classroom for reaching classroom-wide behavior goals* as a behavioral strategy for students with ADHD?
1=Very poorly
2= Poorly
3= Well
4=Very well
5= I don't use this strategy

90- How **confident** are you with using *offering tangible rewards to the classroom for reaching classroom-wide behavior goals* as a behavioral strategy for students with ADHD?
4= Very confident
3= Confident
2= Somewhat confident
1= Not at all confident

91- Thinking about the overall effectiveness of this strategy across the population of students with ADHD, how effective do you think *offering tangible rewards to the classroom for reaching classroom-wide behavior goals* for managing the behavior of most children with ADHD?
1= Very ineffective
2= Ineffective
3= Effective
4= Very effective
5= Don't know

92- If you have read this question, choose "strongly agree."
1=Strongly disagree
2=Disagree
3=Agree
4= Strongly agree

Strategy #6: Use of stimulant medications (e.g., Ritalin).
93- How **often** do you *use stimulant medications (e.g., Ritalin)* as a behavioral strategy for students with ADHD?
1= Never
2= Seldom
3= Sometimes
4= Often

94- How **well** do you use *stimulant medications (e.g., Ritalin)* as a behavioral strategy for students with ADHD?
1=Very poorly

2= Poorly
3= Well
4=Very well
5= I don't use this strategy

95- How **confident** are you with using *stimulant medications (e.g., Ritalin)* as a behavioral strategy for students with ADHD?
4= Very confident
3= Confident
2= Somewhat confident
1= Not at all confident

96- Thinking about the overall effectiveness of this strategy across the population of students with ADHD, how effective do you think *use of stimulant medications (e.g., Ritalin)* for managing the behavior of most children with ADHD?
1= Very ineffective
2= Ineffective
3= Effective
4= Very effective
5= Don't know

Strategy #7: Use of non-stimulant medications (e.g., Strattera).
97- How **often** do you use n*on-stimulant medications (e.g., Strattera)* as a behavioral strategy for students with ADHD?
1= Never
2= Seldom
3= Sometimes
4= Often

98- How **well** do you use n*on-stimulant medications (e.g., Strattera)* as a behavioral strategy for students with ADHD?
1=Very poorly
2= Poorly
3= Well
4=Very well
5= I don't use this strategy

99- How **confident** are you with using n*on-stimulant medications (e.g., Strattera)* as a behavioral strategy for students with ADHD?
4= Very confident
3= Confident
2= Somewhat confident
1= Not at all confident

100- Thinking about the overall effectiveness of this strategy across the population of students with ADHD, how effective do you think use n*on-stimulant medications (e.g., Strattera)* for managing the behavior of most children with ADHD?

1= Very ineffective
2= Ineffective
3= Effective
4= Very effective
5= Don't know

strategy #8: Peer support

101- How **often** do you use *peer support* as a behavioral strategy for students with ADHD?

1= Never
2= Seldom
3= Sometimes
4= Often

102- How **well** do you use *peer support* as a behavioral strategy for students with ADHD?

1=Very poorly
2= Poorly
3= Well
4=Very well
5= I don't use this strategy

103- How **confident** are you with using *peer support* as a behavioral strategy for students with ADHD?

4= Very confident
3= Confident
2= Somewhat confident
1= Not at all confident

104- Thinking about the overall effectiveness of this strategy across the population of students with ADHD, how effective do you think *peer support* for managing the behavior of most children with ADHD?

1= Very ineffective
2= Ineffective
3= Effective
4= Very effective
5= Don't know

strategy #9: Sending the student to the office to meet with an administrator (e.g., principal or vice-principal).

105- How **often** do you use *sending the student to the office to meet with an administrator (e.g., principal or vice-principal)* as a behavioral strategy for students with ADHD?

1= Never
2= Seldom
3= Sometimes

4= Often

106- How **well** do you use *sending the student to the office to meet with an administrator (e.g., principal or vice-principal)* as a behavioral strategy for students with ADHD?

1=Very poorly
2= Poorly
3= Well
4=Very well
5= I don't use this strategy

107- How **confident** are you with *sending the student to the office to meet with an administrator (e.g., principal or vice-principal)* as a behavioral strategy for students with ADHD?

4= Very confident
3= Confident
2= Somewhat confident
1= Not at all confident

108- Thinking about the overall effectiveness of this strategy across the population of students with ADHD, how effective do you think *sending the student to the office to meet with an administrator (e.g., principal or vice-principal)* for managing the behavior of most children with ADHD?

1= Very ineffective
2= Ineffective
3= Effective
4= Very effective
5= Don't know

strategy #10: Sending the child out of the classroom for a period of time (e.g., hall or another classroom).

109- How **often** do you use *sending the child out of the classroom for a period of time (e.g., hall or another classroom)* as a behavioral strategy for students with ADHD?

1= Never
2= Seldom
3= Sometimes
4= Often

110- How **well** do you use *sending the child out of the classroom for a period of time (e.g., hall or another classroom)* as a behavioral strategy for students with ADHD?

1=Very poorly
2= Poorly
3= Well
4=Very well
5= I don't use this strategy

111- How confident are you with sending the child out of the classroom for a period of time (e.g., hall or another classroom) as a behavioral strategy for students with ADHD?

4= Very confident
3= Confident
2= Somewhat confident
1= Not at all confident

112-Thinking about the overall effectiveness of this strategy across the population of students with ADHD, how effective do you think *sending the child out of the classroom for a period of time (e.g., hall or another classroom)* for managing the behavior of most children with ADHD?
1= Very ineffective
2= Ineffective
3= Effective
4= Very effective
5= Don't know

Strategy #11: Working with the child to develop a behavioral contract and monitoring performance.
113- How **often** do you use *working with the child to develop a behavioral contract and monitoring performance* as a behavioral strategy for students with ADHD?
1= Never
2= Seldom
3= Sometimes
4= Often

114- How **well** do you use *working with the child to develop a behavioral contract and monitoring performance* as a behavioral strategy for students with ADHD?
1=Very poorly
2= Poorly
3= Well
4=Very well
5= I don't use this strategy

115-How **confident** are you with *working with the child to develop a behavioral contract and monitoring performance* as a behavioral strategy for students with ADHD?
4= Very confident
3= Confident
2= Somewhat confident
1= Not at all confident

116- Thinking about the overall effectiveness of this strategy across the population of students with ADHD, how effective do you think *working with the child to develop a behavioral contract and monitoring performance* for managing the behavior of most children with ADHD?
1= Very ineffective
2= Ineffective
3= Effective
4= Very effective
5= Don't know

Strategy 12: Working with parents to identify which approaches work best with their child.
117- How **often** do you use *working with parents to identify which approaches work best with their child* as a behavioral strategy for students with ADHD?

1= Never
2= Seldom
3= Sometimes
4= Often

118- How **well** do you use *working with parents to identify which approaches work best with their child* as a behavioral strategy for students with ADHD?

1=Very poorly
2= Poorly
3= Well
4=Very well
5= I don't use this strategy

119- How **confident** are you with *working with parents to identify which approaches work best with their child* as a behavioral strategy for students with ADHD?

4= Very confident
3= Confident
2= Somewhat confident
1= Not at all confident

120- Thinking about the overall effectiveness of this strategy across the population of students with ADHD, how effective do you think *working with parents to identify which approaches work best with their child* for managing the behavior of most children with ADHD?

1= Very ineffective
2= Ineffective
3= Effective
4= Very effective
5= Don't know

strategy #13: Controlling diet (e.g., eliminating sugars).
121- How **often** do you use *controlling diet (e.g., eliminating sugars)* as a behavioral strategy for students with ADHD?

1= Never
2= Seldom
3= Sometimes
4= Often

122- How **well** do you use *controlling diet (e.g., eliminating sugars)* as a behavioral strategy for students with ADHD?

1=Very poorly
2= Poorly
3= Well

4=Very well
5= I don't use this strategy

123-How **confident** are you with *controlling diet (e.g., eliminating sugars)* as a behavioral strategy for students with ADHD?
4= Very confident
3= Confident
2= Somewhat confident
1= Not at all confident

124-Thinking about the overall effectiveness of this strategy across the population of students with ADHD, how effective do you think *controlling diet (e.g., eliminating sugars)* for managing the behavior of most children with ADHD?
1= Very ineffective
2= Ineffective
3= Effective
4= Very effective
5= Don't know

Strategy #14: Allowing children to earn tangible rewards through positive behavior over time.
125-How **often** do you use *allowing children to earn tangible rewards through positive behavior over time* as a behavioral strategy for students with ADHD?
1= Never
2= Seldom
3= Sometimes
4= Often

126- How **well** do you use *allowing children to earn tangible rewards through positive behavior over time* as a behavioral strategy for students with ADHD?
1=Very poorly
2= Poorly
3= Well
4=Very well
5= I don't use this strategy

127- How **confident** are you with *allowing children to earn tangible rewards through positive behavior over time* as a behavioral strategy for students with ADHD?
4= Very confident
3= Confident
2= Somewhat confident
1= Not at all confident

128-Thinking about the overall effectiveness of this strategy across the population of students with ADHD, how effective do you think *allowing children to earn tangible rewards through positive behavior over time* for managing the behavior of most children with ADHD?
1= Very ineffective

2= Ineffective
3= Effective
4= Very effective
5= Don't know

Strategy #15: Helping the student learn to assess and control their own behavior (e.g., Check-in/Check-out, behavior contracts, meditation).
129- How **often** do you use *helping the student learn to assess and control their own behavior (e.g., Check-in/Check-out, behavior contracts, meditation)* as a behavioral strategy for students with ADHD?
1= Never
2= Seldom
3= Sometimes
4= Often

130- How **well** do you use *helping the student learn to assess and control their own behavior (e.g., Check-in/Check-out, behavior contracts, meditation)* as a behavioral strategy for students with ADHD?
1=Very poorly
2= Poorly
3= Well
4=Very well
5= I don't use this strategy

131- How **confident** are you with *helping the student learn to assess and control their own behavior (e.g., Check-in/Check-out, behavior contracts, meditation)* as a behavioral strategy for students with ADHD?
4= Very confident
3= Confident
2= Somewhat confident
1= Not at all confident

132-Thinking about the overall effectiveness of this strategy across the population of students with ADHD, how effective do you think *helping the student learn to assess and control their own behavior (e.g., Check-in/Check-out, behavior contracts, meditation)* for managing the behavior of most children with ADHD?
1= Very ineffective
2= Ineffective
3= Effective
4= Very effective
5= Don't know

Strategy #16: Strong verbal reprimands or criticism.
133-How **often** do you use *strong verbal reprimands or criticism* as a behavioral strategy for students with ADHD?
1= Never

2= Seldom
3= Sometimes
4= Often

134-How **well** do you use *strong verbal reprimands or criticism* as a behavioral strategy for students with ADHD?
1=Very poorly
2= Poorly
3= Well
4=Very well
5= I don't use this strategy

135- How **confident** are you with *strong verbal reprimands or criticism* as a behavioral strategy for students with ADHD?
4= Very confident
3= Confident
2= Somewhat confident
1= Not at all confident

136- Thinking about the overall effectiveness of this strategy across the population of students with ADHD, how effective do you think *strong verbal reprimands or criticism* for managing the behavior of most children with ADHD?
1= Very ineffective
2= Ineffective
3= Effective
4= Very effective
5= Don't know

Strategy #17: Understanding how the consequence of behavior (e.g., reaction of adults or peers) serves the student and teaching an alternative behavior that serves the student in a similar way (i.e., functional behavioral analysis).
137- How **often** do you use *understanding how the consequence of behavior serves the student and teaching an alternative behavior that serves the student in a similar way* as a behavioral strategy for students with ADHD?
1= Never
2= Seldom
3= Sometimes
4= Often

138-How **well** do you use *understanding how the consequence of behavior serves the student and teaching an alternative behavior that serves the student in a similar way* as a behavioral strategy for students with ADHD?
1=Very poorly
2= Poorly
3= Well
4=Very well

5= I don't use this strategy

139-How **confident** are you with *understanding how the consequence of behavior serves the student and teaching an alternative behavior that serves the student in a similar way* as a behavioral strategy for students with ADHD?

4= Very confident
3= Confident
2= Somewhat confident
1= Not at all confident

140-Thinking about the overall effectiveness of this strategy across the population of students with ADHD, how effective do you think *understanding how the consequence of behavior serves the student and teaching an alternative behavior that serves the student in a similar way* for managing the behavior of most children with ADHD?

1= Very ineffective
2= Ineffective
3= Effective
4= Very effective
5= Don't know

Strategy #18: Identifying and reducing the conditions that trigger negative behavior.

141- How **often** do you use *identifying and reducing the conditions that trigger negative behavior* as a behavioral strategy for students with ADHD?

1= Never
2= Seldom
3= Sometimes
4= Often

142-How **well** do you use *identifying and reducing the conditions that trigger negative behavior* as a behavioral strategy for students with ADHD?

1=Very poorly
2= Poorly
3= Well
4=Very well
5= I don't use this strategy

143-How **confident** are you with *identifying and reducing the conditions that trigger negative behavior* as a behavioral strategy for students with ADHD?

4= Very confident
3= Confident
2= Somewhat confident
1= Not at all confident

144-Thinking about the overall effectiveness of this strategy across the population of students with ADHD, how effective do you think *identifying and reducing the conditions that trigger negative behavior* for managing the behavior of most children with ADHD?

1= Very ineffective
2= Ineffective
3= Effective
4= Very effective
5= Don't know

Strategy #19: Combining medication with behavioral strategies.
145- How **often** do you use *combining medication with behavioral strategies* as a behavioral strategy for students with ADHD?
1= Never
2= Seldom
3= Sometimes
4= Often

146-How **well** do you use *combining medication with behavioral strategies* as a behavioral strategy for students with ADHD?
1=Very poorly
2= Poorly
3= Well
4=Very well
5= I don't use this strategy

147-How **confident** are you with *combining medication with behavioral strategies* as a behavioral strategy for students with ADHD?
4= Very confident
3= Confident
2= Somewhat confident
1= Not at all confident

148-Thinking about the overall effectiveness of this strategy across the population of students with ADHD, how effective do you think *combining medication with behavioral strategies* for managing the behavior of most children with ADHD?
1= Very ineffective
2= Ineffective
3= Effective
4= Very effective
5= Don't know

149-If you have read this question, choose "strongly agree."
1= Strongly disagree
2= Disagree
3= Agree
4= Strongly agree

How much do you agree with each of the following statements?

150- Children with ADHD who behave poorly should not be educated in general education classrooms.

1= Strongly disagree
2= Disagree
3= Agree
4= Strongly agree

151- General education teachers should attend workshops related to ADHD.

1= Strongly disagree
2= Disagree
3= Agree
4= Strongly agree

152- Managing the behavior of children in the general education classrooms is the responsibility of special educators.

1= Strongly disagree
2= Disagree
3= Agree
4= Strongly agree

153- General education teachers should use effective behavioral strategies for students with ADHD.

1= Strongly disagree
2= Disagree
3= Agree
4= Strongly agree

154-Parents have the primary responsibility for ensuring that students with ADHD behave well in classroom.

1= Strongly disagree
2= Disagree
3= Agree
4= Strongly agree

155-General educators should work to fully include students in general education classrooms (i.e., creating opportunities for student to work closely with typically developing children).

1= Strongly disagree
2= Disagree
3= Agree
4= Strongly agree

156-General education teachers are not responsible for the behavior of students with ADHD in the classroom.

1= Strongly disagree
2= Disagree
3= Agree

4= Strongly agree

157-General education teachers should find individualized ways to support learning among students with ADHD.

1= Strongly disagree
2= Disagree
3= Agree
4= Strongly agree

158- Managing the behavior of children with ADHD should not be the responsibility of a general education teacher.

1= Strongly disagree
2= Disagree
3= Agree
4= Strongly agree

To what extent do you encounter the following barriers to implementing behavioral strategies for students with ADHD?

159- Lack of specialized training/professional development.

1= Very small extent
2= Small extent
3= Large extent
4= Very large extent

160-Insufficient time.

1= Very small extent
2= Small extent
3= Large extent
4= Very large extent

161- Inadequate materials and resources.

1= Very small extent
2= Small extent
3= Large extent
4= Very large extent

162-Need to address needs of other students.

1= Very small extent
2= Small extent
3= Large extent
4= Very large extent

To what extent have the following resources or conditions facilitated your use of effective behavioral strategies for students with ADHD?

163-Administrative/principal support.

1= Very small extent
2= Small extent
3= Large extent
4= Very large extent

164- Fewer students in your classroom.

1= Very small extent
2= Small extent
3= Large extent
4= Very large extent

165- Para-professional support.

1= Very small extent
2= Small extent
3= Large extent
4= Very large extent

166- Support from special educators.

1= Very small extent
2= Small extent
3= Large extent
4= Very large extent

167-Opportunity to consult with experts.

1= Very small extent
2= Small extent
3= Large extent
4= Very large extent

168- If you would like to add other facilitators or barriers that were not listed above, please describe them here.

169- Is there anything else you would like us to know about your perspective on, and experience with, teaching children with ADHD?

Participants will receive a payment of $2 for their participation. The researcher pays in advance for your participation and any associated fees. You will get paid after the researcher approves your participation in the survey. To get paid for your participation, select the option of Dashboard and Earnings displayed on your Amazon Mechanical Turk account. You will have the choice to transfer your earnings to either your U.S. Bank account or an Amazon.com gift card.

Appendix B

Table B1

Percentage of Respondents Who Answered KADDS Items Correctly (in Descending Order)

KADDS Item #	Question	Answered Correctly N	Answered Correctly (%)
15	Side effects of stimulant drugs used for treatment of ADHD may include mild insomnia and appetite reduction.	160	60.6
10	Parent and teacher training in managing an ADHD child are generally effective when combined with medication treatment.	159	60.2
33	Symptoms of ADHD are often seen in non-ADHD children who come from inadequate and chaotic home environments.	159	60.2
3	ADHD children are frequently distracted by extraneous stimuli.	156	59.1
31	Children with ADHD are more distinguishable from normal children in a classroom setting than in a free play situation.	156	59.1
26	ADHD children often have difficulties organizing tasks and activities.	155	58.7
6	ADHD is more common in the 1st degree biological relatives (i.e. mother, father) of children with ADHD than in the general population.	154	58.3
16	Current wisdom about ADHD suggests two clusters of symptoms: One of inattention and another consisting of hyperactivity/impulsivity.	153	58.0
9	ADHD children often fidget or squirm in their seats.	150	56.8
13	It is possible for an adult to be diagnosed with ADHD.	150	56.8
20	In severe cases of ADHD, medication is often used before other behavior modification techniques are attempted.	147	55.7
4	ADHD children are typically more compliant with their fathers than with their mothers.	143	54.2
32	The majority of ADHD children evidence some degree of poor school performance in the elementary school years.	143	54.2
25	Stimulant drugs are the most common type of drug used to treat children with ADHD.	138	52.3
8	Antidepressant drugs have been effective in reducing symptoms for many ADHD children.	135	51.1
18	Individual psychotherapy is usually sufficient for the treatment of most ADHD children.	104	39.4
12	When treatment of an ADHD child is terminated, it is rare for the child's symptoms to return.	101	38.3
2	Current research suggests that ADHD is largely the result of ineffective parenting skills.	99	37.5

14	ADHD children often have a history of stealing or destroying other people's things.	99	37.5
28	There are specific physical features which can be identified by medical doctors (e.g., pediatrician) in making a definitive diagnosis of ADHD.	97	36.7
30	In very young children (less than 4 years old), the problem behaviors of ADHD children (e.g. hyperactivity, inattention) are distinctly different from age-appropriate behaviors of non-ADHD children.	93	35.2
34	Behavioral/Psychological interventions for children with ADHD focus primarily on the child's problems with inattention.	92	34.8
5	In order to be diagnosed with ADHD, the child's symptoms must have been present before age 7.	91	34.5
11	It is common for ADHD children to have an inflated sense of self-esteem or grandiosity.	89	33.7
7	One symptom of ADHD children is that they have been physically cruel to other people.	88	33.3
24	A diagnosis of ADHD by itself makes a child eligible for placement in special education.	88	33.3
27	ADHD children generally experience more problems in novel situations than in familiar situations.	87	33
36	Treatments for ADHD which focus primarily on punishment have been found to be the most effective in reducing the symptoms of ADHD.	85	32.2
29	In school age children, the prevalence of ADHD in males and females is equivalent.	84	31.8
35	Electroconvulsive Therapy (i.e., shock treatment) has been found to be an effective treatment for severe cases of ADHD.	84	31.8
21	In order to be diagnosed as ADHD, a child must exhibit relevant symptoms in two or more settings (e.g., home, school).	83	31.4
22	If an ADHD child is able to demonstrate sustained attention to video games or TV for over an hour, that child is also able to sustain attention for at least an hour of class or homework.	82	31.1
23	Reducing dietary intake of sugar or food additives is generally effective in reducing the symptoms of ADHD.	82	31.1
17	Symptoms of depression are found more frequently in ADHD children than in non-ADHD children.	80	30.3
19	Most ADHD children "outgrow" their symptoms by the onset of puberty and subsequently function normally in adulthood.	79	29.9
1	Most estimates suggest that ADHD occurs in approximately 15% of school age children.	61	23.1

TABSIS Item #	**Question**	**Answered Correctly**	
		N	**(%)**

7	Early intervention is important for improving functioning among children with ADHD.	159	60.2%
2	Most authorities believe that ADHD is a biological/neurologic condition.	133	50.4%
4	ADHD can be cured.	94	35.6%
5	Medication works very well for almost all children with ADHD.	92	34.8%
1	ADHD can be caused by a child's diet.	87	33%
6	Medication is the only way to control behavior in children with ADHD.	86	32.6%
3	ADHD is a natural part of development.	78	29.5%

Table B2

Descriptive Statistics of TSES Subscales

TSES Items *How much can you….*	N	*M*	*SD*	Range
How much can you do to control disruptive behavior in the classroom?	264	6.03	1.72	8
How much can you do to motivate students who show low interest in school work?	263	6.37	1.72	8
How much can you do to get students to believe they can do well in school work?	262	6.39	1.84	8
How much can you do to help your students value learning?	262	6.60	1.83	8
To what extent can you craft good questions for your students?	263	6.42	1.69	7
How much can you do to get children to follow classroom rules?	264	6.42	1.78	8
How much can you do to calm a student who is disruptive or noisy?	263	6.33	1.78	8
How well can you establish a classroom management system with each group of students?	264	6.38	1.62	8

How much can you use a variety of assessment strategies?	264	6.39	1.79	8
To what extent can you provide an alternative explanation or example when students are confused?	264	6.33	1.81	8
How much can you assist families in helping their children do well in school?	262	6.32	1.88	8
How well can you implement alternative strategies in your classroom?	263	6.40	1.63	8

Table B3

Descriptive Statistics on Used Behavioral Strategies

Behavioral Strategy	N	*M*	*SD*
Peer support	264	2.90	.71
Offering tangible rewards to the classroom for reaching classroom-wide behavior goals	264	2.90	.67
Sending the student to the office to meet with an administrator (e.g., principal or vice-principal)	264	2.86	.68
Working with parents to identify which approaches work best with their child	264	2.88	.67
Sending the child out of the classroom for a period of time (e.g., hall or another classroom)	264	2.87	.66
Working with the child to develop a behavioral contract and monitoring performance	264	2.85	.67
Allowing children to earn tangible rewards through positive behavior over time	264	2.84	.65
Offering tangible rewards at the time the child engages in positive behavior	264	2.81	.65
Removal of desired items (e.g., favorite toy) or activities (e.g., recess, special classes)	264	2.88	.60
Use of stimulant medications (e.g., Ritalin)	263	2.94	.599

Identifying and reducing the conditions that trigger negative behavior	263	2.88	.61
Strong verbal reprimands or criticism	263	2.79	.69
Controlling diet (e.g., eliminating sugars)	263	2.78	.67
Combining medication with behavioral strategies	263	2.84	.597
Physical consequences (e.g., having children hold heavy objects, standing for long periods, spanking)	262	2.92	.65
Use of non-stimulant medications (e.g., Strattera)	262	2.85	.67
Requiring the child to isolate for some period of time within classroom (e.g., "time-out")	262	2.81	.72
Helping the student learn to assess and control their own behavior (e.g., Check-in/Check-out, behavior contracts, meditation)	261	2.91	.65
Understanding how the consequence of behavior (e.g., reaction of adults or peers) serves the student and teaching an alternative behavior that serves the student in a similar way (i.e., functional behavioral analysis)	261	2.80	.66

Table B4

Respondents Who Reported Using Behavioral Strategies Sometimes or Often (Listed from Highest to Lowest Frequency)

Behavioral Strategy	N	%
Removal of desired items (e.g., favorite toy) or activities (e.g., recess, special classes).	209	97.2
Physical consequences (e.g., having children hold heavy objects, standing for long periods, spanking)	214	81.1
Use of stimulant medication (e.g., Ritalin)	213	80.7
Offering tangible rewards to the classroom for reaching classroom-wide behavior goals	204	77.3

Helping the student learn to assess and control their own behavior (e.g., Check-in/Check-out, behavior contracts, meditation)	204	77.3
Identifying and reducing the conditions that trigger negative behavior	201	76.4
Working with parents to identify which approaches work best with their child	199	75.4
Sending the child out of the classroom for a period of time (e.g., hall or another classroom)	198	75
Peer support	198	75
Sending the student to the office to meet with an administrator (e.g., principal or vice-principal)	198	75
Combining medication with behavioral strategies	196	74.2
Use of non-stimulant medications (e.g., Strattera)	194	73.5
Working with the child to develop a behavioral contract and monitoring performance	192	72.7
Allowing children to earn tangible rewards through positive behavior over time	192	72.7
Requiring the child to isolate for some period of time within classroom (e.g., "time-out")	191	72.3
Offering tangible rewards at the time the child engages in positive behavior	186	70.5
Understanding how the consequence of behavior (e.g., reaction of adults or peers) serves the student and teaching an alternative behavior that serves the student in a similar way (i.e., functional behavioral analysis)	186	70.5
Strong verbal reprimands or criticism	186	70.5
Controlling diet (e.g., eliminating sugars)	183	69.3

Table B5

Descriptive Statistics of How Well Teachers Implemented the Behavioral Strategies

How well teachers report using the behavioral strategy	N	*M*	*SD*
Removal of desired items (e.g., favorite toy) or activities (e.g., recess, special classes)	264	3.39	.73
Physical consequences (e.g., having children hold heavy objects, standing for long periods, spanking)	263	3.47	.77
Use of stimulant medication (e.g., Ritalin)	264	3.35	.72
Offering tangible rewards to the classroom for reaching classroom-wide behavior goals	264	3.38	.75
Helping the student learn to assess and control their own behavior (e.g., Check-in/Check-out, behavior contracts, meditation)	262	3.28	.76
Identifying and reducing the conditions that trigger negative behavior	263	3.32	.81
Working with parents to identify which approaches work best with their child	263	3.40	.82
Sending the child out of the classroom for a period of time (e.g., hall or another classroom)	264	3.35	.76
Peer support	264	3.46	.85
Sending the student to the office to meet with an administrator (e.g., principal or vice-principal)	263	3.35	.76
Combining medication with behavioral strategies	260	3.34	.79
Use of non-stimulant medications (e.g., Strattera)	262	3.46	.74
Working with the child to develop a behavioral contract and monitoring performance	264	3.43	.73
Allowing children to earn tangible rewards through positive behavior over time	263	3.35	.77
Requiring the child to isolate for some period of time within classroom (e.g., "time-out")	263	3.38	.77

Offering tangible rewards at the time the child engages in positive behavior	262	3.42	.74
Understanding how the consequence of behavior (e.g., reaction of adults or peers) serves the student and teaching an alternative behavior that serves the student in a similar way (i.e., functional behavioral analysis)	261	3.37	.75
Strong verbal reprimands or criticism	262	3.37	.79
Controlling diet (e.g., eliminating sugars)	262	3.32	.78

Table B6

Descriptive Statistics of Teachers' Confidence in Applying the Behavioral Strategies

Requiring the child to isolate for some period of time within classroom (e.g., "time-out")	264	1.82	1.16
Offering tangible rewards at the time the child engages in positive behavior	263	2.37	.72
Understanding how the consequence of behavior (e.g., reaction of adults or peers) serves the student and teaching an alternative behavior that serves the student in a similar way (i.e., functional behavioral analysis)	259	2.43	.65
Strong verbal reprimands or criticism	262	2.39	.695
Controlling diet (e.g., eliminating sugars)	263	2.34	.71

Table B7

Differences in Frequency of Using Behavioral Strategies by Gender

Implementation of behavioral strategies/ how often	Teachers' gender		*p*-value
	Male N= 151	Female N=112	
	M (*SD*)	*M* (*SD*)	
Physical consequences	2.93 (.64)	2.92 (.63)	.93

Stimulant medication	2.96 (.60)	2.91 (.59)	.51
Removal of desired items	2.83 (.59)	2.96 (.61)	.11
Offering tangible rewards to classroom	2.93 (.68)	2.86 (.66)	.36
Assessing own behavior	2.93 (.65)	2.89 (.64)	.61
Requiring the child to isolate for some period of time within classroom (e.g., "time-out")	2.84 (.76)	2.78 (.65)	.49

Table B8

Differences in Implementing Behavioral Strategies by Gender

Implementation of behavioral strategies/ how well	Teachers' gender		*p*-value
	Male N=151	Female N=112	
	M (*SD*)	*M* (*SD*)	
Physical consequences	1.65 (.69)	1.64 (.65)	.96
Stimulant medication	3.21 (.64)	3.30 (.59)	.26
Removal of desired items	3.28 (.64)	3.27 (.59)	.89
Offering tangible rewards to classroom	3.29 (.61)	3.25 (.68)	.61
Assessing own behavior	3.17 (.72)	3.25 (.68)	.44
Requiring the child to isolate for some period of time within classroom (e.g., "time-out")	3.30 (.68)	3.26 (.699)	.61
Offering tangible rewards at the time the child engages in positive behavior	3.30 (.66)	3.35 (.63)	.52
Strong verbal reprimands or criticism	1.76 (.66)	1.74 (.70)	.85
Understanding how the consequence of behavior (e.g., reaction of adults or peers) serves the student and teaching an alternative behavior that serves the student in a similar way (i.e., functional behavioral analysis)	3.31 (.72)	3.27 (.62)	.61
Controlling diet (e.g., eliminating sugars)	1.81 (.70)	1.74 (.66)	.399

Table B9

Regressions Analyses Predicting Teachers' Implementation of How Often and How Well They Applied Behavioral Strategies for Students with ADHD

Removal of desired items/how often N= 191					
	Predictor	ΔR^2	B	SE	β
Step 1	Appraisals		.067	.065	.076
	Views		-.143	.159	-.064
	Barriers		.044	.028	.149
	Facilitators		.015	.024	.060
	Confidence		.149*	.056	.189
	Fit estimates	.097*	F (5,186) = 3.99		
	for Step 1		R^2 = .097; p= .002		
Step 2	Appraisals		.024	.064	.028
	Views		-.196	.159	-.088
	Barriers		.024	.028	.083
	Facilitators		.000	.024	.001
	Confidence		.103	.056	.131
	TSES SE		.099	.067	.253
	TSES IS		-.092	.070	-.226
	TSES CM		.115	.065	.271
	KADDS GK		.000	.004	-.007
	KADDS S/D		.000	.003	-.005
	KADDS T		.005	.003	.124
	TABSIS K		-.003	.002	-.102
	Training		.099	.205	.034
	Fit estimates	.101*	F (13,178) = 3.39		
	for Step 2		R^2 = .198; p< .001		
	Appraisals		.032	.066	.037
Step 3	Views		-.153	.163	-.069
	Barriers		.021	.028	.072
	Facilitators		-.001	.024	-.003
	Confidence		.097	.057	.123
	TSES SE		.100	.068	.256
	TSES IS		-.095	.071	-.233
	TSES CM		.117	.066	.276
	KADDS GK		-.001	.004	-.011
	KADDS S/D		-.001	.003	-.021
	KADDS T		.005	.003	.120
	TABSIS K		-.003	.002	-.103
	Training		.104	.208	.035
	Race		.066	.162	.029
	Gender		.095	.085	.080
	Hispanic		-.015	.109	-.010
	Geography		.016	.024	.050
	Fit estimates	.009	F (17,174) = 2.68		
	for Step 3		R^2 = .21; p <.001		

Table B9 (*Continued*)

Removal of desired items /how well N= 183					
	Predictor	ΔR^2	B	SE	β
Step 1	Appraisals		.226**	.064	.247
	Views		.181	.156	.078
	Barriers		-.039	.028	-.124
	Facilitators		.071*	.024	.273
	Confidence		.215**	.055	.259
	Fit estimates for Step 1	.235**	F (5,178) = 10.96 R^2 = .24; p< .001		
Step 2	Appraisals		.207*	.064	.225*
	Views		.199	.158	.086
	Barriers		-.052	.028	-.167
	Facilitators		.079	.024	.304
	Confidence		.208**	.056	.250
	TSES SE		.034	.066	.082
	TSES IS		.021	.069	.050
	TSES CM		-.048	.064	-.108
	KADDS GK		-.003	.004	-.052
	KADDS S/D		.001	.003	.028
	KADDS T		-.001	.003	-.031
	TABSIS K		-.005*	.002	-.160
	Training		-.522*	.201	-.175
	Fit estimates for Step 2	.067*	F (13,170) = 5.67 R^2 = 30; p<.001		
Step 3	Appraisals		.175*	.064	.191
	Views		.157	.158	.068
	Barriers		-.056*	.028	-.180
	Facilitators		.078*	.023	.299
	Confidence		.191**	.056	.230
	TSES SE		.008	.065	.021
	TSES IS		.043	.068	.102
	TSES CM		-.035	.063	-.079
	KADDS GK		-.003	.004	-.059
	KADDS S/D		.002	.003	.063
	KADDS T		-.001	.003	-.033
	TABSIS K		-.005*	.002	-.145
	Training		-.536*	.198	-.179
	Race		.450*	.154	.196
	Gender		-.037	.082	-.030
	Hispanic		.265*	.107	.172
	Geography		-.020	.023	-.060
	Fit estimates for Step 3	.048*	F (17,166) = 5.28 R^2 = .35; p <.001		

Table B9 ***(Continued)***

Physical consequences/how often N= 188				
Predictor	ΔR^2	B	SE	β
Appraisals		.178*	.065	.200
Views		-.545*	.166	-.234
Barriers		.022	.030	.069
Facilitators		-.008	.026	-.030
Confidence		.085	.059	.101
Fit estimates	.129**	F (5,183) = 5.42		
for Step 1		R^2 = .13; p< .001		
Appraisals		.145*	.067	.163
Views		-.590**	.170	-.254
Barriers		.003	.031	.010
Facilitators		-.008	.027	-.031
Confidence		.098	.060	.117
TSES SE		.168	.073	.400*
TSES IS		-.057	.074	-.134
TSES CM		-.076	.071	-.162
KADDS GK		.004	.004	.079
KADDS S/D		-.001	.003	-.019
KADDS T		-.002	.003	-.050
TABSIS K		-.002	.002	-.050
Training		-.244	.238	-.074
Fit estimates		F (13,175) = 2.81		
for Step 2	.044	R^2 = .17; p = .001		
Appraisals		.120	.067	.135
Views		-.603**	.173	-.260
Barriers		-.004	.030	-.014
Facilitators		-.009	.027	-.034
Confidence		.093	.060	.111
TSES SE		.134	.072	.319
TSES IS		-.053	.074	-.124
TSES CM		-.045	.071	-.097
KADDS GK		.004	.004	.078
KADDS S/D		.000	.003	.005
KADDS T		-.002	.003	-.051
TABSIS K		-.001	.002	-.023
Training		-.229	.237	-.069
White		.439*	.168	.196
Gender		-.024	.091	-.019
Hispanic		.278*	.116	.182
Geography		.005	.025	.014
Fit estimates	.044*	F (17,171) = 2.78		
for Step 3		R^2 = .22; p< .001		

Table B9 (*Continued*)

Physical consequences/how well N= 181					
	Predictor	ΔR^2	B	SE	β
Step 1	Appraisals		.234*	.076	.233
	Views		.222	.192	.084
	Barriers		.030	.034	.084
	Facilitators		.029	.030	.098
	Confidence		.093	.069	.098
	Fit estimates for Step 1	.120**	F (5,176) = 4.81 R^2 = .12; p< .001		
Step 2	Appraisals		.170*	.078	.170
	Views		.190	.195	.072
	Barriers		.004	.035	.012
	Facilitators		.008	.030	.027
	Confidence		.115	.069	.121
	TSES SE		.122	.082	.257
	TSES IS		-.042	.085	-.087
	TSES CM		.065	.080	.123
	KADDS GK		.000	.005	.007
	KADDS S/D		-.004	.003	-.094
	KADDS T		-.001	.004	-.025
	TABSIS K		.001	.003	.034
	Training		-.135	.265	-.037
	Fit estimates for Step 2	.063	F (12,169) = 3.15 R^2 = .18; p< .001		
Step 3	Appraisals		.174*	.079	.173
	Views		.231	.202	.088
	Barriers		.006	.036	.018
	Facilitators		.007	.031	.023
	Confidence		.112	.070	.118
	TSES SE		.128	.084	.270
	TSES IS		-.046	.086	-.095
	TSES CM		.069	.082	.130
	KADDS GK		.000	.005	.004
	KADDS S/D		-.005	.004	-.109
	KADDS T		-.001	.004	-.021
	TABSIS K		.001	.003	.030
	Training		-.173	.269	-.048
	Race		.019	.192	.008
	Gender		.045	.105	.032
	Hispanic		-.143	.134	-.084
	Geography		-.011	.030	-.029
	Fit estimates for Step 3	.007	F (16,165) = 2.41 R^2=.19; p<=.003		

Table B9 (*Continued*)

Stimulant medication/how often N= 187					
	Predictor	ΔR^2	B	SE	β

Step 1	Appraisals		.080	.058	.104
	Views		-.147	.152	-.069
	Barriers		-.028	.027	-.100
	Facilitators		.067*	.023	.284
	Confidence		.073	.054	.097
	Fit estimates		F (5,182) = 3.84		
	for Step 1	.095*	R^2 = .095; p=.002		
Step 2	Appraisals		.054	.057	.070
	Views		-.144	.151	-.068
	Barriers		-.040	.026	-.142
	Facilitators		.056*	.023	.235
	Confidence		.070	.052	.093
	TSES SE		-.069	.063	-.181
	TSES IS		.068	.065	.172
	TSES CM		.097	.062	.230
	KADDS GK		-.007*	.004	-.149
	KADDS S/D		.003	.003	.080
	KADDS T		.001	.003	.020
	TABSIS K		-.005*	.002	-.173
	Training		-.389	.196	-.141
	Fit estimates	.110*	F (13,174) = 3.47		
	for Step 2		R^2 = .21; p< .001		
Step 3	Appraisals		.052	.056	.067
	Views		-.118	.151	-.055
	Barriers		-.044	.026	-.156
	Facilitators		.051*	.023	.217
	Confidence		.078	.052	.104
	TSES SE		-.102	.063	-.270
	TSES IS		.063	.064	.161
	TSES CM		.125*	.062	.295
	KADDS GK		-.008*	.004	-.151
	KADDS S/D		.004	.003	.107
	KADDS T		.001	.003	.021
	TABSIS K		-.004	.002	-.137
	Training		-.385*	.194	-.139
	Race		.453*	.153	.220
	Gender		-.041	.079	-.036
	Hispanic		.230*	.102	.170
	Geography		.000	.025	.001
	Fit estimates	.064*	F (17,170) = 3.37		
	for Step 3		R^2 = .25; p< .001		

Table B9 (*Continued*)

Stimulant medication/how well	N= 184			
Predictor	ΔR^2	B	SE	β

Step 1	Appraisals		.159*	.062	.188
	Views		-.334*	.163	-.144
	Barriers		-.009	.029	-.029
	Facilitators		.072*	.025	.278
	Confidence		-.013	.058	-.016
	Fit estimates	.142**	F (5,179) = 5.94		
	for Step 1		R^2 = .14; p< .001		
Step 2	Appraisals		.157*	.064	.185
	Views		-.304	.170	-.131
	Barriers		-.016	.030	-.051
	Facilitators		.064*	.026	.248
	Confidence		-.011	.059	-.013
	TSES SE		-.026	.071	-.062
	TSES IS		-.013	.074	-.030
	TSES CM		.096	.070	.207
	KADDS GK		.004	.004	.076
	KADDS S/D		5.008E-5	.003	.001
	KADDS T		-.004	.003	-.096
	TABSIS K		-.002	.002	-.051
	Training		.292	.220	.097
	Fit estimates	.035	F (12,172) = 3.03		
	for Step 2		R^2 = .18; p< .001		
Step 3	Appraisals		.154*	.064	.182
	Views		-.280	.173	-.121
	Barriers		-.021	.030	-.066
	Facilitators		.059*	.026	.230
	Confidence		-.007	.060	-.008
	TSES SE		-.045	.073	-.109
	TSES IS		-.009	.075	-.021
	TSES CM		.108	.071	.234
	KADDS GK		.004	.004	.081
	KADDS S/D		.001	.003	.014
	KADDS T		-.004	.003	-.097
	TABSIS K		-.001	.002	-.036
	Training		.307	.221	.102
	Race		.284	.175	.126
	Gender		.024	.090	.019
	Hispanic		.208	.117	.138
	Geography		-.007	.029	-.019
	Fit estimates	.022	F (16,168) = 2.59		
	for Step 3		R^2 = .199; p=.002		

Table B9 (*Continued*)

Offering tangible rewards to the classroom/how often N= 188				
Predictor	ΔR^2	B	SE	β

Step 1	Appraisals		.138	.075	.134
	Views		.176	.176	.072
	Barriers		.058	.032	.172
	Facilitators		.028	.027	.100
	Confidence		.046	.065	.050
	Fit estimates	.110**	F (5,183) = 4.51		
	for Step 1		R^2 = .11; p< .001		
Step 2	Appraisals		.129	.077	.126
	Views		.158	.181	.064
	Barriers		.058	.033	.172
	Facilitators		.026	.029	.094
	Confidence		.064	.067	.069
	TSES SE		-.017	.079	-.037
	TSES IS		.005	.083	.010
	TSES CM		.030	.077	.059
	KADDS GK		.000	.005	-.005
	KADDS S/D		-.001	.003	-.028
	KADDS T		.009*	.003	.178
	TABSIS K		-.001	.003	-.022
	Training		-.231	.243	-.070
	Fit estimates	.035	F (13,175) = 2.27		
	for Step 2		R^2 = .14; p = .01		
Step 3	Appraisals		.100	.075	.097
	Views		.086	.183	.035
	Barriers		.054	.033	.160
	Facilitators		.021	.028	.077
	Confidence		.077	.066	.084
	TSES SE		-.054	.078	-.120
	TSES IS		.026	.081	.055
	TSES CM		.051	.075	.101
	KADDS GK		.001	.004	.016
	KADDS S/D		.001	.003	.017
	KADDS T		.009*	.003	.181
	TABSIS K		-.001	.003	-.014
	Training		-.203	.239	-.062
	Race		.312	.183	.127
	Gender		-.116	.098	-.086
	Hispanic		.379*	.123	.235
	Geography		-.035	.028	-.092
	Fit estimates	.063*	F (17,171) = 2.63		
	for Step 3		R^2 = .21; p< .001		

Table B9 (*Continued*)

Offering tangible rewards to the classroom/how well N= 182				
Predictor	ΔR^2	B	SE	β

Step 1	Appraisals		.376**	.071	.366
	Views		.168	.166	.069
	Barriers		.024	.030	.071
	Facilitators		.024	.025	.084
	Confidence		.134*	.064	.143
	Fit estimates	.222**	F (5,177) = 10.13		
	for Step 1		R^2 = .22; p< .001		
Step 2	Appraisals		.345**	.071	.336
	Views		.103	.168	.042
	Barriers		.011	.031	.031
	Facilitators		.000	.026	.001
	Confidence		.149*	.064	.159
	TSES SE		.115	.073	.249
	TSES IS		.014	.077	.030
	TSES CM		-.018	.071	-.035
	KADDS GK		-.005	.004	-.080
	KADDS S/D		.000	.003	.006
	KADDS T		-.002	.003	-.046
	TABSIS K		.001	.003	.018
	Training		-.096	.224	-.030
	Fit estimates	.056	F (13,169) = 5.02		
	for Step 2		R^2 = .28; p< .001		
Step 3	Appraisals		.341**	.072	.332
	Views		.101	.176	.041
	Barriers		.012	.031	.035
	Facilitators		.000	.027	.000
	Confidence		.154*	.067	.164
	TSES SE		.110	.075	.237
	TSES IS		.011	.078	.024
	TSES CM		-.011	.073	-.021
	KADDS GK		-.005	.004	-.084
	KADDS S/D		.000	.003	.010
	KADDS T		-.002	.003	-.044
	TABSIS K		.001	.003	.028
	Training		-.114	.229	-.035
	Race		.113	.189	.045
	Gender		-.042	.095	-.031
	Hispanic		.003	.123	.002
	Geography		-.004	.028	-.010
	Fit estimates	.003	F (17,165) = 3.797		
	for Step 3		R^2 = .28; p< .001		

Table B9 (*Continued*)

Helping students assess and control their own behavior /how often N= 188				
Predictor	ΔR^2	B	SE	β

Step 1	Appraisals		.233**	.063	.265
	Views		.141	.170	.058
	Barriers		.073*	.030	.224
	Facilitators		-.014	.025	-.052
	Confidence		.029	.062	.033
	Fit estimates for Step 1	.134**	F (5,183) = 5.66 R^2 = .13; p< .001		
Step 2	Appraisals		.240**	.066	.273
	Views		.128	.178	.053
	Barriers		.068*	.031	.211
	Facilitators		-.022	.027	-.082
	Confidence		.020	.065	.022
	TSES SE		-.056	.075	-.134
	TSES IS		.077	.077	.175
	TSES CM		.024	.073	.051
	KADDS GK		.001	.004	.016
	KADDS S/D		-.001	.003	-.027
	KADDS T		.002	.003	.045
	TABSIS K		-.001	.003	-.026
	Training		-.126	.230	-.040
	Fit estimates for Step 2	.016	F (13,175) = 2.38 R^2 = .15; P = .01		
Step 3	Appraisals		.220*	.067	.250
	Views		.062	.183	.026
	Barriers		.068*	.031	.210
	Facilitators		-.024	.027	-.091
	Confidence		.014	.065	.016
	TSES SE		-.042	.076	-.100
	TSES IS		.093	.077	.212
	TSES CM		.007	.073	.016
	KADDS GK		.002	.004	.032
	KADDS S/D		.000	.003	-.011
	KADDS T		.002	.003	.046
	TABSIS K		-.002	.003	-.046
	Training		-.094	.230	-.030
	Race		-.147	.170	-.066
	Gender		-.019	.095	-.015
	Hispanic		.165	.120	.105
	Geography		-.038	.027	-.103
	Fit estimates for Step 3	.031	F (17,171) = 2.22 R^2 = .18; P =.01		

Table B9 (*Continued*)

Helping students assess and control their own behavior /how well N= 185				
Predictor	ΔR^2	B	SE	β

Step 1	Appraisals		.354**	.067	.360
	Views		-.104	.176	-.039
	Barriers		.006	.031	.018
	Facilitators		.049	.026	.167
	Confidence		.153*	.066	.154
	Fit estimates for Step 1	.240**	*F* (5,180) = 11.34 *R2* = .24; *p*< .001		
Step 2	Appraisals		.359**	.067	.365
	Views		-.217	.178	-.082
	Barriers		.011	.032	.029
	Facilitators		.034	.027	.118
	Confidence		.138*	.066	.139
	TSES SE		.081	.076	.168
	TSES IS		.018	.078	.035
	TSES CM		-.055	.073	-.106
	KADDS GK		-.001	.004	-.020
	KADDS S/D		-.003	.003	-.059
	KADDS T		.010*	.003	.199
	TABSIS K		.002	.003	.064
	Training		.038	.229	.011
	Fit estimates for Step 2	.058	*F* (13,172) = 5.61 *R2* = .298; *p*< .001		
Step 3	Appraisals		.366	.068	.372
	Views		-.155	.182	-.059
	Barriers		.003	.032	.007
	Facilitators		.036	.027	.124
	Confidence		.162	.067	.162
	TSES SE		.043	.077	.090
	TSES IS		.013	.078	.025
	TSES CM		-.038	.074	-.074
	KADDS GK		-.002	.004	-.032
	KADDS S/D		-.002	.003	-.055
	KADDS T		.009	.003	.182
	TABSIS K		.003	.003	.088
	Training		.073	.229	.021
	Race		.286	.171	.119
	Gender		.044	.094	.031
	Hispanic		.179	.123	.102
	Geography		.047	.028	.117
	Fit estimates for Step 3	.026	*F* (17,168) = 4.74 *R2* = .32; *p*< .001		

Table B9 (*Continued*)

Requiring the child to isolate for some period of time within classroom (e.g., "time-out")/ how well N= 185				
Predictor	ΔR^2	B	SE	β

Step 1	Appraisals		.187*	.071	.194
	Views		.027	.178	.011
	Barriers		.061*	.032	.175
	Facilitators		.022	.028	.076
	Confidence		.086*	.041	.144
	Fit estimates for Step 1	.152**	F (5,180) = 7.48 R^2 = .15; p< .001		
Step 2	Appraisals		.178*	.073	.184
	Views		.003	.184	.001
	Barriers		.053	.033	.153
	Facilitators		.009	.029	.030
	Confidence		.072	.042	.122
	TSES SE		.097	.080	.206
	TSES IS		-.067	.085	-.138
	TSES CM		.042	.077	.083
	KADDS GK		.001	.005	.018
	KADDS S/D		-.001	.003	-.013
	KADDS T		-.001	.003	-.016
	TABSIS K		-.003	.003	-.078
	Training		.445	.258	.124
	Fit estimates for Step 2	.044	F (13,172) = 3.24 R^2 = .197; p< .001		
Step 3	Appraisals		.133	.074	.138
	Views		-.008	.185	-.003
	Barriers		.051	.033	.145
	Facilitators		.013	.029	.044
	Confidence		.074	.042	.125
	TSES SE		.055	.079	.116
	TSES IS		-.056	.084	-.115
	TSES CM		.063	.076	.124
	KADDS GK		.000	.005	-.004
	KADDS S/D		.000	.003	.009
	KADDS T		-.001	.003	-.015
	TABSIS K		-.001	.003	-.032
	Training		.419	.254	.117
	Race		.582*	.181	.240
	Gender		-.077	.098	-.056
	Hispanic		.149	.126	.089
	Geography		.018	.029	.044
	Fit estimates for Step 3	.051*	F (17,168) = 3.25 R^2 = .25; p< .001		

Table B9 (*Continued*)

Offering tangible rewards at the time the child engages in positive behavior/ how often N=190					
	Predictor	ΔR^2	B	SE	β
Step 1	Appraisals		.046	.063	.052
	Views		.222	.169	.095
	Barriers		-.013	.030	-.041
	Facilitators		.071*	.025	.268
	Confidence		.061	.063	.070
	Fit estimates for Step 1	.083*	F (5,185) = 3.35 R^2 = .08; p= .01		
Step 2	Appraisals		.052	.063	.059
	Views		.221	.173	.095
	Barriers		-.019	.031	-.059
	Facilitators		.061*	.027	.231
	Confidence		.073	.063	.084
	TSES SE		-.084	.073	-.201
	TSES IS		.071	.075	.168
	TSES CM		.073	.070	.160
	KADDS GK		-.001	.004	-.014
	KADDS S/D		-.002	.003	-.043
	KADDS T		.006*	.003	.143
	TABSIS K		-.001	.002	-.044
	Training		-.384	.225	-.125
	Fit estimates for Step 2	.058	F (13,177) = 2.23 R^2 = .14; p= .01		
Step 3	Appraisals		.021	.064	.024
	Views		.128	.175	.055
	Barriers		-.023	.030	-.071
	Facilitators		.058*	.026	.221
	Confidence		.057	.063	.066
	TSES SE		-.116	.073	-.278
	TSES IS		.093	.075	.220
	TSES CM		.082	.069	.180
	KADDS GK		.000	.004	-.009
	KADDS S/D		.000	.003	.010
	KADDS T		.006	.003	.140
	TABSIS K		-.001	.002	-.036
	Training		-.356	.222	-.115
	Race		.265	.164	.122
	Gender		-.119	.091	-.094
	Hispanic		.305*	.113	.204
	Geography		-.034	.027	-.094
	Fit estimates for Step 3	.052*	F (17,173) = 2.43 R^2 = .19; p= .002		

Table B9 (*Continued*)

Offering tangible rewards at the time the child engages in positive behavior how well N= 182					
	Predictor	ΔR^2	B	SE	β
Step 1	Appraisals		.208*	.065	.222
	Views		-.183	.171	-.074
	Barriers		-.025	.031	-.075
	Facilitators		.083*	.026	.294
	Confidence		.176*	.064	.190
	Fit estimates for Step 1	.191**	F (5,177) = 8.35 R^2 = .19; p< .001		
Step 2	Appraisals		.220**	.066	.235
	Views		-.115	.179	-.047
	Barriers		-.031	.032	-.093
	Facilitators		.094**	.028	.335
	Confidence		.180*	.066	.195
	TSES SE		.031	.074	.071
	TSES IS		-.057	.077	-.127
	TSES CM		-.011	.073	-.023
	KADDS GK		-.004	.004	-.073
	KADDS S/D		.000	.003	-.003
	KADDS T		-.002	.003	-.053
	TABSIS K		-.003	.002	-.081
	Training		-.146	.224	-.046
	Fit estimates for Step 2	.029	F (13,169) = 3.67 R^2 = .22; p< .001		
Step 3	Appraisals		.200*	.066	.213
	Views		-.121	.181	-.049
	Barriers		-.035	.031	-.104
	Facilitators		.091*	.028	.324
	Confidence		.163*	.065	.176
	TSES SE		-.004	.073	-.008
	TSES IS		-.052	.076	-.116
	TSES CM		.004	.072	.008
	KADDS GK		-.005	.004	-.088
	KADDS S/D		.001	.003	.021
	KADDS T		-.002	.003	-.050
	TABSIS K		-.002	.002	-.049
	Training		-.140	.221	-.044
	Race		.537*	.168	.235
	Gender		-.004	.093	-.003
	Hispanic		.222	.116	.142
	Geography		.022	.028	.055
	Fit estimates for Step 3	.052*	F (17,165) = 3.64 R^2 = .27; p< .001		

Table B9 (*Continued*)

Understanding the consequence of behavior (FBA)/ how often N=183					
	Predictor	ΔR^2	B	SE	β
Step 1	Appraisals		.204*	.069	.213
	Views		-.043	.175	-.018
	Barriers		.009	.030	.028
	Facilitators		.058*	.025	.224
	Confidence		.011	.070	.011
	Fit estimates for Step 1	.123**	F (5,178) = 4.99 R^2 = .12; p< .001		
Step 2	Appraisals		.206*	.071	.215
	Views		-.030	.183	-.012
	Barriers		.010	.032	.031
	Facilitators		.055*	.027	.212
	Confidence		.008	.072	.008
	TSES SE		-.099	.076	-.232
	TSES IS		.069	.078	.160
	TSES CM		.051	.076	.111
	KADDS GK		-.001	.005	-.026
	KADDS S/D		.003	.003	.066
	KADDS T		.001	.003	.030
	TABSIS K		-.001	.003	-.040
	Training		-.116	.228	-.038
	Fit estimates for Step 2	.017	F (13,170) = 2.13 R^2 = .14, P = .02		
Step 3	Appraisals		.173*	.071	.181
	Views		-.062	.186	-.026
	Barriers		.002	.031	.008
	Facilitators		.048	.027	.185
	Confidence		.010	.072	.010
	TSES SE		-.109	.076	-.254
	TSES IS		.102	.078	.235
	TSES CM		.043	.075	.094
	KADDS GK		.000	.004	-.007
	KADDS S/D		.004	.003	.091
	KADDS T		.001	.003	.031
	TABSIS K		-.002	.003	-.050
	Training		-.078	.225	-.026
	Race		.069	.167	.031
	Gender		.043	.094	.034
	Hispanic		.304*	.122	.193
	Geography		-.042	.029	-.113
	Fit estimates for Step 3	.048*	F (17,166) = 2.27 R^2 = .19, p= .004		

Table B9 (*Continued*)

Understanding the consequence of behavior (FBA) /how well N= 181					
	Predictor	ΔR^2	B	SE	β
Step 1	Appraisals		.453**	.069	.440
	Views		-.023	.174	-.009
	Barriers		-.010	.030	-.029
	Facilitators		.055*	.025	.196
	Confidence		.011	.070	.011
	Fit estimates for Step 1	.255**	F (5,176) = 12.06 R^2 = .26; p< .001		
Step 2	Appraisals		.456**	.070	.442
	Views		-.013	.178	-.005
	Barriers		-.019	.031	-.056
	Facilitators		.046	.026	.164
	Confidence		-.001	.071	-.001
	TSES SE		.119	.075	.259
	TSES IS		-.122	.076	-.261
	TSES CM		.058	.073	.118
	KADDS GK		-.003	.004	-.048
	KADDS S/D		.000	.003	-.005
	KADDS T		.003	.003	.060
	TABSIS K		-.003	.002	-.077
	Training		-.086	.222	-.026
	Fit estimates for Step 2	.037	F (13,168) = 5.33 R^2 = .29; p< .001		
Step 3	Appraisals		.447**	.072	.434
	Views		.005	.183	.002
	Barriers		-.019	.031	-.055
	Facilitators		.043	.027	.153
	Confidence		-.002	.072	-.002
	TSES SE		.103	.076	.223
	TSES IS		-.121	.077	-.259
	TSES CM		.072	.074	.147
	KADDS GK		-.003	.004	-.054
	KADDS S/D		-1.298E-5	.003	.000
	KADDS T		.003	.003	.063
	TABSIS K		-.002	.003	-.062
	Training		-.116	.224	-.035
	Race		.345*	.166	.146
	Gender		-.011	.093	-.008
	Hispanic		.055	.121	.032
	Geography		-.014	.028	-.035
	Fit estimates for Step 3	.019	F (17,164) = 4.36 R^2 = .31; p< .001		

Table B9 (*Continued*)

Strong verbal reprimands or criticism/ how often N=191					
	Predictor	ΔR^2	B	SE	β
Step 1	Appraisals		.219*	.072	.231
	Views		.003	.179	.001
	Barriers		.005	.033	.014
	Facilitators		.032	.027	.114
	Confidence		-.058	.070	-.061
	Fit estimates for Step 1	.087*	F (5,186) = 3.55 R^2 = .09; p= .004		
Step 2	Appraisals		.198*	.074	.209
	Views		.096	.184	.039
	Barriers		-.001	.033	-.002
	Facilitators		.045	.029	.159
	Confidence		-.089	.071	-.093
	TSES SE		-.002	.080	-.004
	TSES IS		-.178*	.082	-.391
	TSES CM		.170*	.076	.353
	KADDS GK		.003	.005	.048
	KADDS S/D		.001	.003	.029
	KADDS T		.001	.003	.011
	TABSIS K		-.004	.003	-.121
	Training		-.019	.244	-.006
	Fit estimates for Step 2	.049	F (13,178) = 2.16 R^2 = .14; p = .01		
Step 3	Appraisals		.185*	.075	.195
	Views		.042	.188	.017
	Barriers		-.008	.033	-.023
	Facilitators		.045	.029	.160
	Confidence		-.099	.072	-.103
	TSES SE		-.018	.080	-.042
	TSES IS		-.166*	.082	-.365
	TSES CM		.175*	.076	.363
	KADDS GK		.003	.005	.052
	KADDS S/D		.002	.003	.053
	KADDS T		.000	.003	.003
	TABSIS K		-.004	.003	-.119
	Training		.032	.245	.010
	Race		.103	.176	.044
	Gender		-.046	.099	-.034
	Hispanic		.301*	.125	.184
	Geography		-.006	.029	-.015
	Fit estimates for Step 3	.029	F (17,174) = 2.03 R^2 = .17, p= .01		

Table B9 (*Continued*)

Strong verbal reprimands or criticism /how well N= 184					
	Predictor	ΔR^2	B	SE	β
Step 1	Appraisals		.334**	.075	.330
	Views		.031	.182	.012
	Barriers		.026	.033	.075
	Facilitators		.022	.027	.078
	Confidence		-.017	.071	-.017
	Fit estimates for Step 1	.159**	F (5,179) = 6.75 R^2 = .16; p< .001		
Step 2	Appraisals		.335**	.076	.331
	Views		.082	.181	.031
	Barriers		.014	.033	.040
	Facilitators		.017	.028	.058
	Confidence		-.055	.071	-.055
	TSES SE		-.020	.078	-.044
	TSES IS		-.120	.081	-.253
	TSES CM		.198*	.074	.397
	KADDS GK		.001	.005	.019
	KADDS S/D		.001	.003	.023
	KADDS T		-.009*	.003	-.192
	TABSIS K		-.001	.003	-.016
	Training		.354	.237	.105
	Fit estimates for Step 2	.075*	F (13,178) = 2.16 R^2 = .14; p = .01		
Step 3	Appraisals		.332**	.076	.328
	Views		.136	.185	.052
	Barriers		.011	.033	.031
	Facilitators		.010	.028	.035
	Confidence		-.048	.071	-.048
	TSES SE		-.046	.078	-.100
	TSES IS		-.116	.081	-.244
	TSES CM		.217*	.074	.436
	KADDS GK		.001	.005	.013
	KADDS S/D		.001	.003	.028
	KADDS T		-.009*	.003	-.185
	TABSIS K		.000	.003	.004
	Training		.327	.237	.097
	Race		.474*	.171	.200
	Gender		.066	.097	.048
	Hispanic		.137	.123	.081
	Geography		-.006	.029	-.014
	Fit estimates for Step 3	.037	F (17,167) = 3.65 R^2 = .27, p< .001		

Table B9 (*Continued*)

Controlling diet (e.g., eliminating sugars)/ how often N=192					
	Predictor	ΔR^2	B	SE	β
Step 1	Appraisals		.204*	.067	.214
	Views		.020	.171	.008
	Barriers		.028	.030	.085
	Facilitators		.055*	.026	.199
	Confidence		-.052	.060	-.059
	Fit estimates for Step 1	.150**	F (5,187) = 6.60 R^2 = .15; p< .001		
Step 2	Appraisals		.208*	.067	.219
	Views		-.081	.174	-.033
	Barriers		.013	.031	.039
	Facilitators		.028	.026	.104
	Confidence		-.065	.060	-.074
	TSES SE		.108	.073	.253
	TSES IS		.019	.075	.043
	TSES CM		-.012	.071	-.026
	KADDS GK		.002	.004	.033
	KADDS S/D		.001	.003	.016
	KADDS T		-.002	.003	-.050
	TABSIS K		.004	.002	.107
	Training		.014	.228	.004
	Fit estimates for Step 2	.066	F (13,179) = 3.79 R^2 = .22; p< .001		
Step 3	Appraisals		.180*	.067	.189
	Views		-.125	.177	-.051
	Barriers		.010	.031	.030
	Facilitators		.028	.027	.103
	Confidence		-.083	.061	-.095
	TSES SE		.087	.074	.203
	TSES IS		.031	.075	.070
	TSES CM		-.004	.071	-.009
	KADDS GK		.002	.004	.038
	KADDS S/D		.002	.003	.045
	KADDS T		-.002	.003	-.049
	TABSIS K		.004	.003	.116
	Training		.039	.229	.012
	Race		.285	.172	.120
	Gender		-.067	.092	-.050
	Hispanic		.255*	.120	.156
	Geography		-.012	.026	-.034
	Fit estimates for Step 3	.027	F (17,175) = 2.297 R^2 = .24; p< .001		

Table B9 (*Continued*)

Controlling diet (e.g., eliminating sugars) /how well N= 185					
	Predictor	ΔR^2	B	SE	β
Step 1	Appraisals		.414**	.069	.408
	Views		.049	.182	.018
	Barriers		-.008	.031	-.022
	Facilitators		.046	.026	.155
	Confidence		.098	.065	.102
	Fit estimates for Step 1	.234**	F (5,180) = 10.99 R^2 = .23; p< .001		
Step 2	Appraisals		.385**	.067	.379
	Views		.095	.180	.035
	Barriers		-.010	.031	-.029
	Facilitators		.040	.027	.135
	Confidence		.103	.063	.107
	TSES SE		.044	.073	.095
	TSES IS		-.242*	.076	-.500
	TSES CM		.246**	.072	.487
	KADDS GK		-.006	.004	-.096
	KADDS S/D		.005	.003	.124
	KADDS T		.005	.003	.094
	TABSIS K		-.003	.003	-.089
	Training		.120	.228	.035
	Fit estimates for Step 2	.092*	F (13,172) = 6.39 R^2 = .33; p< .001		
Step 3	Appraisals		.370**	.068	.365
	Views		.085	.184	.031
	Barriers		-.012	.032	-.034
	Facilitators		.034	.027	.116
	Confidence		.084	.064	.088
	TSES SE		.044	.074	.095
	TSES IS		-.233*	.077	-.481
	TSES CM		.247**	.072	.487
	KADDS GK		-.006	.005	-.093
	KADDS S/D		.006	.003	.127
	KADDS T		.005	.003	.106
	TABSIS K		-.003	.003	-.089
	Training		.097	.230	.028
	Race		.279	.188	.105
	Gender		.047	.093	.033
	Hispanic		.070	.126	.040
	Geography		-.032	.027	-.081
	Fit estimates for Step 3	.429	F (17,168) = 5.11 R^2 = .34; p< .001		

Table B9 (*Continued*)

Identifying triggers of negative behavior/how often N=195					
	Predictor	ΔR^2	B	SE	β
Step 1	Appraisals		.205**	.061	.243
	Views		-.094	.161	-.040
	Barriers		.021	.028	.069
	Facilitators		.050*	.025	.192
	Confidence		-.036	.059	-.042
	Fit estimates for Step 1	.163**	F (5,190) = 7.41 R^2 = .16; p< .001		
Step 2	Appraisals		.186*	.063	.221
	Views		-.153	.166	-.066
	Barriers		.026	.029	.083
	Facilitators		.038	.026	.144
	Confidence		-.039	.060	-.045
	TSES SE		-.030	.070	-.073
	TSES IS		.061	.070	.144
	TSES CM		.018	.067	.041
	KADDS GK		-.005	.004	-.086
	KADDS S/D		.004	.003	.107
	KADDS T		.003	.003	.061
	TABSIS K		.001	.002	.031
	Training		-.029	.217	-.009
	Fit estimates for Step 2	.029	F (13,182) = 3.34 R^2 = .19; p< .001		
Step 3	Appraisals		.174*	.065	.206
	Views		-.218	.171	-.093
	Barriers		.026	.029	.082
	Facilitators		.038	.026	.145
	Confidence		-.053	.061	-.061
	TSES SE		-.016	.071	-.040
	TSES IS		.075	.070	.178
	TSES CM		.004	.067	.008
	KADDS GK		-.004	.004	-.068
	KADDS S/D		.005	.003	.121
	KADDS T		.003	.003	.065
	TABSIS K		.000	.002	.007
	Training		-.003	.218	-.001
	Race		-.262	.159	-.119
	Gender		-.014	.088	-.011
	Hispanic		.083	.112	.055
	Geography		-.030	.025	-.085
	Fit estimates for Step 3	.028	F (17,178) = 2.97 R^2 = .22; p< .001		

Table B9 (*Continued*)

Identifying triggers of negative behavior/how well N= 189					
	Predictor	ΔR^2	B	SE	β
Step 1	Appraisals		.439**	.072	.430
	Views		.042	.195	.015
	Barriers		-.024	.034	-.065
	Facilitators		.022	.029	.069
	Confidence		-.134	.072	-.128
	Fit estimates for Step 1	.206**	F (5,184) = 9.54 R^2 = .21; p< .001		
Step 2	Appraisals		.438**	.074	.429
	Views		.025	.198	.009
	Barriers		-.030	.034	-.079
	Facilitators		-.005	.031	-.016
	Confidence		-.119	.071	-.114
	TSES SE		.073	.082	.143
	TSES IS		-.037	.083	-.070
	TSES CM		.059	.080	.108
	KADDS GK		-.009	.005	-.129
	KADDS S/D		-.002	.003	-.040
	KADDS T		-.004	.004	-.081
	TABSIS K		.002	.003	.057
	Training		.159	.250	.043
	Fit estimates for Step 2	.054	F (13,176) = 4.74 R^2 = .26; p< .001		
Step 3	Appraisals		.402**	.076	.393
	Views		-.008	.202	-.003
	Barriers		-.026	.034	-.068
	Facilitators		-.010	.031	-.031
	Confidence		-.130	.072	-.123
	TSES SE		.084	.084	.165
	TSES IS		-.021	.083	-.039
	TSES CM		.054	.080	.100
	KADDS GK		-.008	.005	-.114
	KADDS S/D		-.001	.003	-.027
	KADDS T		-.003	.004	-.061
	TABSIS K		.002	.003	.045
	Training		.120	.253	.033
	Race		.064	.187	.025
	Gender		.001	.103	.000
	Hispanic		.041	.135	.022
	Geography		-.064*	.031	-.146
	Fit estimates for Step 3	.018	F (17,172) = 3.89 R^2 = .28; p< .001		

Table B9 (*Continued*)

Working with parents to identify which approaches work best with their child how often N=190					
	Predictor	ΔR^2	B	SE	β
Step 1	Appraisals		.209*	.068	.227
	Views		-.144	.177	-.058
	Barriers		.046	.032	.140
	Facilitators		.015	.026	.055
	Confidence		-.021	.065	-.023
	Fit estimates for Step 1	.111**	F (5,185) = 4.61 R^2 = .11; p< .001		
Step 2	Appraisals		.203*	.069	.220
	Views		-.237	.180	-.096
	Barriers		.060	.032	.184
	Facilitators		.002	.027	.008
	Confidence		-.016	.066	-.018
	TSES SE		-.032	.076	-.075
	TSES IS		.071	.078	.164
	TSES CM		-.014	.074	-.030
	KADDS GK		-.011*	.004	-.181
	KADDS S/D		.005	.003	.125
	KADDS T		.009*	.003	.192
	TABSIS K		.001	.003	.033
	Training		-.139	.247	-.040
	Fit estimates for Step 2	.068	F (13,177) = 2.96 R^2 = .18; p< .001		
Step 3	Appraisals		.141*	.068	.153
	Views		-.270	.176	-.109
	Barriers		.060*	.030	.184
	Facilitators		.000	.026	-.002
	Confidence		-.010	.063	-.011
	TSES SE		-.083	.073	-.194
	TSES IS		.083	.075	.191
	TSES CM		.014	.071	.030
	KADDS GK		-.011*	.004	-.190
	KADDS S/D		.007*	.003	.171
	KADDS T		.009	.003	.197
	TABSIS K		.002	.002	.065
	Training		-.089	.236	-.026
	Race		.619**	.166	.266
	Gender		-.126	.090	-.096
	Hispanic		.443**	.116	.273
	Geography		-.009	.025	-.026
	Fit estimates for Step 3	.097**	F (17,172) = 3.89 R^2 = .28; p< .001		

Table B9 (*Continued*)

Working with parents to identify which approaches work best with their child how well N= 181					
	Predictor	ΔR^2	B	SE	β
Step 1	Appraisals		.369**	.076	.357
	Views		.223	.191	.082
	Barriers		-.012	.034	-.034
	Facilitators		.031	.028	.105
	Confidence		.063	.075	.061
	Fit estimates for Step 1	.166**	F (5,176) = 7.01 R^2 = .17; p< .001		
Step 2	Appraisals		.370**	.077	.357
	Views		.179	.196	.066
	Barriers		-.006	.035	-.018
	Facilitators		.023	.030	.078
	Confidence		.056	.076	.055
	TSES SE		-.086	.084	-.176
	TSES IS		.083	.087	.168
	TSES CM		.037	.082	.070
	KADDS GK		.004	.005	.059
	KADDS S/D		.005	.003	.116
	KADDS T		.000	.004	.004
	TABSIS K		.002	.003	.047
	Training		-.014	.267	-.004
	Fit estimates for Step 2	.039	F (13,168) = 3.33 R^2 = .21; p< .001		
Step 3	Appraisals		.313**	.079	.302
	Views		.249	.198	.092
	Barriers		-.009	.035	-.024
	Facilitators		.013	.030	.044
	Confidence		.094	.077	.091
	TSES SE		-.092	.084	-.188
	TSES IS		.081	.087	.163
	TSES CM		.058	.081	.110
	KADDS GK		.004	.005	.055
	KADDS S/D		.005	.003	.116
	KADDS T		.001	.004	.022
	TABSIS K		.003	.003	.070
	Training		-.055	.266	-.015
	Race		.517*	.199	.201
	Gender		.090	.102	.063
	Hispanic		.110	.138	.061
	Geography		-.044	.031	-.104
	Fit estimates for Step 3	.043	F (17,164) = 4.19 R^2 = .25; p< .001		

Table B9 (*Continued*)

Sending the child out of the classroom for a period of time/ how often N=188					
	Predictor	ΔR^2	B	SE	β
Step 1	Appraisals		.147*	.063	.172
	Views		-.181	.162	-.079
	Barriers		-.026	.029	-.084
	Facilitators		.078*	.024	.307
	Confidence		.019	.065	.020
	Fit estimates for Step 1	.119**	F (5,183) = 4.96 R^2 = .12; p< .001		
Step 2	Appraisals		.129*	.065	.151
	Views		-.202	.167	-.088
	Barriers		-.033	.029	-.109
	Facilitators		.071*	.025	.280
	Confidence		.013	.066	.014
	TSES SE		.084	.072	.204
	TSES IS		-.025	.073	-.059
	TSES CM		-.017	.070	-.039
	KADDS GK		-.005	.004	-.100
	KADDS S/D		-.001	.003	-.015
	KADDS T		.002	.003	.050
	TABSIS K		-.001	.002	-.035
	Training		-.342	.218	-.114
	Fit estimates for Step 2	.034	F (13,175) = 2.44 R^2 = .15; p= .01		
Step 3	Appraisals		.120	.065	.140
	Views		-.243	.170	-.106
	Barriers		-.037	.030	-.120
	Facilitators		.069*	.026	.270
	Confidence		.006	.066	.007
	TSES SE		.062	.073	.150
	TSES IS		-.019	.073	-.045
	TSES CM		-.006	.070	-.013
	KADDS GK		-.006	.004	-.103
	KADDS S/D		.001	.003	.022
	KADDS T		.002	.003	.048
	TABSIS K		-.001	.002	-.025
	Training		-.315	.219	-.105
	Race		.182	.163	.084
	Gender		-.059	.090	-.047
	Hispanic		.272*	.113	.182
	Geography		-.005	.027	-.014
	Fit estimates for Step 3	.030	F (17,171) = 2.27 R^2 = .18; p= .00		

Table B9 (*Continued*)

Sending the child out of the classroom for a period of time/ how well N=182					
	Predictor	ΔR^2	B	SE	β
Step 1	Appraisals		.23*	.07	.25
	Views		.099	.13	.06
	Barriers		.04	.03	.11
	Facilitators		-.01	.03	-.04
	Confidence		-.01	.07	-.01
	Fit estimates for Step 1	.087*	F (5,177) = 3.36 R^2 = .09; p= .01		
Step 2	Appraisals		.219*	.073	.237
	Views		.042	.156	.025
	Barriers		.036	.033	.107
	Facilitators		-.020	.028	-.073
	Confidence		-.026	.076	-.025
	TSES SE		-.014	.080	-.030
	TSES IS		.031	.084	.066
	TSES CM		.048	.078	.100
	KADDS GK		.004	.005	.067
	KADDS S/D		-.001	.003	-.021
	KADDS T		-.006	.004	-.133
	TABSIS K		.000	.003	.006
	Training		.390	.244	.122
	Fit estimates for Step 2	.040	F (13,169) = 1.89 R^2 = .13; p=.04		
Step 3	Appraisals		.211*	.073	.228
	Views		.031	.156	.018
	Barriers		.031	.033	.093
	Facilitators		-.023	.028	-.083
	Confidence		-.037	.076	-.036
	TSES SE		-.041	.081	-.091
	TSES IS		.050	.084	.108
	TSES CM		.057	.078	.119
	KADDS GK		.004	.005	.063
	KADDS S/D		.001	.003	.016
	KADDS T		-.007	.004	-.149
	TABSIS K		.000	.003	.006
	Training		.430	.245	.134
	Race		.148	.191	.062
	Gender		-.043	.098	-.033
	Hispanic		.326*	.131	.198
	Geography		-.009	.029	-.023
	Fit estimates for Step 3	.033	F (17,165) = 1.84 R^2 = .16; p=.03		

Table B9 (*Continued*)

Peer support how often N=190					
	Predictor	ΔR^2	B	SE	β
Step 1	Appraisals		.107	.081	.098
	Views		-.139	.201	-.050
	Barriers		.010	.035	.028
	Facilitators		.051	.030	.166
	Confidence		.104	.077	.099
	Fit estimates for Step 1	.073*	F (5,185) = 2.93 R^2 = .07; p= .01		
Step 2	Appraisals		.089	.084	.081
	Views		-.235	.207	-.085
	Barriers		.012	.036	.033
	Facilitators		.049	.031	.159
	Confidence		.104	.078	.098
	TSES SE		.075	.086	.152
	TSES IS		.002	.088	.004
	TSES CM		-.061	.085	-.112
	KADDS GK		-.004	.005	-.056
	KADDS S/D		.007	.004	.148
	KADDS T		.007	.004	.133
	TABSIS K		-.002	.003	-.048
	Training		-.183	.275	-.051
	Fit estimates for Step 2	.043	F (13,171) = 4.33 R^2 = .25; p< .001		
Step 3	Appraisals		.061	.084	.056
	Views		-.299	.211	-.108
	Barriers		.016	.036	.043
	Facilitators		.044	.031	.141
	Confidence		.096	.078	.091
	TSES SE		.088	.087	.180
	TSES IS		.035	.089	.070
	TSES CM		-.085	.086	-.157
	KADDS GK		-.002	.005	-.026
	KADDS S/D		.007	.004	.159
	KADDS T		.007*	.004	.135
	TABSIS K		-.003	.003	-.070
	Training		-.190	.276	-.053
	Race		-.228	.210	-.084
	Gender		.003	.109	.002
	Hispanic		.097	.141	.054
	Geography		-.055	.031	-.135
	Fit estimates for Step 3	.030	F (17,173) = 1.74 R^2 = .15; p = .04		

Table B9 (*Continued*)

Peer support how well N=184					
	Predictor	ΔR^2	B	SE	β
Step 1	Appraisals		.288**	.070	.294
	Views		.084	.175	.033
	Barriers		.000	.030	.001
	Facilitators		.048	.026	.172
	Confidence		.070	.069	.073
	Fit estimates for Step 1	.158**	F (5,179) = 6.73 R^2 = .16; p< .001		
Step 2	Appraisals		.312**	.071	.318
	Views		.038	.175	.015
	Barriers		-.003	.030	-.010
	Facilitators		.029	.026	.104
	Confidence		.061	.068	.064
	TSES SE		-.068	.074	-.153
	TSES IS		.131	.074	.289
	TSES CM		.027	.073	.056
	KADDS GK		.009*	.004	.153
	KADDS S/D		-.004	.003	-.087
	KADDS T		.005	.003	.105
	TABSIS K		.002	.002	.053
	Training		.206	.228	.064
	Fit estimates for Step 2	.090*	F (13,171) = 4.33 R^2 = .25; p< .001		
Step 3	Appraisals		.301**	.072	.307
	Views		.064	.180	.026
	Barriers		-.003	.030	-.010
	Facilitators		.023	.026	.083
	Confidence		.065	.068	.067
	TSES SE		-.075	.076	-.168
	TSES IS		.142	.074	.311
	TSES CM		.037	.074	.076
	KADDS GK		.009*	.004	.160
	KADDS S/D		-.003	.003	-.084
	KADDS T		.006	.003	.117
	TABSIS K		.002	.002	.051
	Training		.171	.230	.054
	Race		.220	.178	.093
	Gender		.052	.092	.039
	Hispanic		.067	.124	.041
	Geography		-.040	.027	-.106
	Fit estimates for Step 3	.030	F (17,167) = 3.56 R^2 = .27; p< .001		

Table B9 (*Continued*)

Sending the student to the office to meet with an administrator/ How often N=195					
	Predictor	ΔR^2	B	SE	β
Step 1	Appraisals		.180*	.075	.178
	Views		-.112	.188	-.042
	Barriers		-.013	.033	-.038
	Facilitators		.045	.028	.155
	Confidence		.078	.068	.081
	Fit estimates for Step 1	.076*	F (5,190) = 3.13 R^2 = .08; p= .01		
Step 2	Appraisals		.158*	.077	.156
	Views		-.057	.191	-.022
	Barriers		-.024	.033	-.069
	Facilitators		.034	.029	.118
	Confidence		.075	.069	.077
	TSES SE		-.061	.081	-.133
	TSES IS		.097	.082	.204
	TSES CM		.042	.079	.085
	KADDS GK		.001	.005	.018
	KADDS S/D		-.002	.003	-.038
	KADDS T		.000	.004	.004
	TABSIS K		-.006*	.003	-.160
	Training		-.115	.251	-.033
	Fit estimates for Step 2	.052	F (13,182) = 2.05 R^2 = .13; p= .02		
Step 3	Appraisals		.137	.078	.135
	Views		-.129	.194	-.049
	Barriers		-.021	.033	-.060
	Facilitators		.031	.029	.106
	Confidence		.070	.069	.072
	TSES SE		-.060	.082	-.131
	TSES IS		.118	.082	.248
	TSES CM		.035	.079	.070
	KADDS GK		.002	.005	.040
	KADDS S/D		.000	.003	-.009
	KADDS T		.001	.004	.011
	TABSIS K		-.006*	.003	-.173
	Training		-.096	.252	-.028
	Race		-.034	.184	-.014
	Gender		-.102	.101	-.073
	Hispanic		.170	.127	.102
	Geography		-.049	.028	-.129
	Fit estimates for Step 3	.032	F (17, 178) = 1.99 R^2 = .16; p= .01		

Table B9 (*Continued*)

Sending the student to the office to meet with an administrator/ how well N=188					
	Predictor	ΔR^2	B	SE	β
Step 1	Appraisals		.415**	.068	.429
	Views		-.060	.169	-.024
	Barriers		.010	.029	.030
	Facilitators		.014	.025	.050
	Confidence		-.048	.066	-.049
	Fit estimates for Step 1	.202**	F (5,183) = 9.26 R^2 = .20; p< .001		
Step 2	Appraisals		.429**	.071	.443
	Views		-.016	.175	-.006
	Barriers		.005	.030	.016
	Facilitators		.021	.027	.074
	Confidence		-.065	.068	-.067
	TSES SE		-.024	.074	-.054
	TSES IS		-.046	.075	-.099
	TSES CM		.063	.072	.131
	KADDS GK		.005	.004	.081
	KADDS S/D		-.003	.003	-.083
	KADDS T		.002	.003	.044
	TABSIS K		.000	.002	-.006
	Training		-.180	.228	-.055
	Fit estimates for Step 2	.021	F (13,175) = 3.87 R^2 = .22; p< .001		
Step 3	Appraisals		.420**	.073	.434
	Views		-.022	.179	-.009
	Barriers		.009	.031	.027
	Facilitators		.015	.027	.053
	Confidence		-.075	.068	-.078
	TSES SE		-.010	.075	-.023
	TSES IS		-.030	.076	-.064
	TSES CM		.054	.073	.113
	KADDS GK		.006	.005	.102
	KADDS S/D		-.003	.003	-.087
	KADDS T		.003	.003	.059
	TABSIS K		-.001	.003	-.027
	Training		-.188	.231	-.057
	Race		-.102	.178	-.043
	Gender		.047	.094	.036
	Hispanic		-.011	.121	-.007
	Geography		-.044	.028	-.115
	Fit estimates for Step 3	.014	F (17, 171) = 3.13 R^2 = .24; p< .001		

Table B9 (*Continued*)

Combining medication with behavioral strategies/ how often N=189					
	Predictor	ΔR^2	B	SE	β
Step 1	Appraisals		.296**	.059	.367
	Views		.036	.156	.016
	Barriers		-.026	.028	-.086
	Facilitators		.043	.024	.167
	Confidence		.058	.059	.067
	Fit estimates for Step 1	.182**	F (5,184) = 8.21 R^2 = .18; p< .001		
Step 2	Appraisals		.294**	.059	.363
	Views		-.006	.158	-.003
	Barriers		-.030	.028	-.099
	Facilitators		.022	.025	.085
	Confidence		.054	.059	.062
	TSES SE		.053	.068	.132
	TSES IS		-.073	.069	-.174
	TSES CM		.109	.066	.245
	KADDS GK		-.005	.004	-.094
	KADDS S/D		.002	.003	.044
	KADDS T		.002	.003	.049
	TABSIS K		.002	.002	.064
	Training		.000	.211	.000
	Fit estimates for Step 2	.053	F (13,176) = 4.17 R^2 = .24; p< .001		
Step 3	Appraisals		.298**	.062	.369
	Views		-.037	.162	-.016
	Barriers		-.030	.029	-.098
	Facilitators		.024	.026	.095
	Confidence		.044	.061	.050
	TSES SE		.060	.070	.147
	TSES IS		-.073	.070	-.175
	TSES CM		.102	.067	.231
	KADDS GK		-.005	.004	-.091
	KADDS S/D		.002	.003	.047
	KADDS T		.002	.003	.047
	TABSIS K		.002	.002	.060
	Training		.011	.214	.004
	Race		-.158	.158	-.074
	Gender		-.047	.087	-.037
	Hispanic		-.011	.112	-.007
	Geography		.002	.026	.005
	Fit estimates for Step 3	.006	F (17,172) = 3.22 R^2 = .24; p< .001		

Table B9 (*Continued*)

Combining medication with behavioral strategies/ how well N=180					
	Predictor	ΔR^2	B	SE	β
Step 1	Appraisals		.245**	.068	.270
	Views		-.081	.172	-.033
	Barriers		.024	.031	.074
	Facilitators		.033	.027	.119
	Confidence		.155*	.069	.157
	Fit estimates for Step 1	.173**	F (5,175) = 7.33 R^2 = .17; p< .001		
Step 2	Appraisals		.241**	.069	.265
	Views		-.173	.175	-.070
	Barriers		.033	.032	.099
	Facilitators		.022	.028	.081
	Confidence		.182*	.070	.184
	TSES SE		.031	.077	.068
	TSES IS		.122	.080	.269
	TSES CM		-.138	.074	-.286
	KADDS GK		-.005	.005	-.087
	KADDS S/D		.005	.003	.122
	KADDS T		.005	.003	.102
	TABSIS K		.000	.003	-.009
	Training		-.025	.230	-.008
	Fit estimates for Step 2	.052	F (13,167) = 3.73 R^2 = .23; p< .001		
Step 3	Appraisals		.234*	.072	.258
	Views		-.199	.181	-.081
	Barriers		.032	.032	.098
	Facilitators		.022	.029	.082
	Confidence		.161*	.073	.163
	TSES SE		.044	.078	.098
	TSES IS		.128	.082	.281
	TSES CM		-.146*	.075	-.302
	KADDS GK		-.004	.005	-.071
	KADDS S/D		.005	.003	.124
	KADDS T		.005	.003	.102
	TABSIS K		-.001	.003	-.024
	Training		-.013	.233	-.004
	Race		-.187	.174	-.082
	Gender		.008	.097	.006
	Hispanic		.019	.126	.012
	Geography		-.018	.029	-.047
	Fit estimates for Step 3	.009	F (17,163) = 2.93 R^2 = .23; p< .001		

Table B9 (*Continued*)

Use of non-stimulant medications (e.g., Strattera)/ how often N=187					
	Predictor	ΔR^2	B	SE	β
Step 1	Appraisals		.197*	.073	.201
	Views		-.129	.181	-.051
	Barriers		-.019	.031	-.059
	Facilitators		.057*	.027	.208
	Confidence		.098	.070	.099
	Fit estimates for Step 1	.103*	F (5,182) = 4.19 R^2 = .10; p=.001		
Step 2	Appraisals		.165*	.076	.168
	Views		-.160	.186	-.064
	Barriers		-.041	.032	-.127
	Facilitators		.050	.028	.182
	Confidence		.091	.073	.092
	TSES SE		.195*	.076	.449
	TSES IS		-.137	.080	-.303
	TSES CM		.020	.074	.042
	KADDS GK		.000	.005	.008
	KADDS S/D		-.002	.003	-.048
	KADDS T		-.001	.003	-.024
	TABSIS K		-.002	.003	-.054
	Training		-.051	.238	-.016
	Fit estimates for Step 2	.058	F (13,174) = 2.57 R^2 = .16; p=.003		
Step 3	Appraisals		.112	.076	.114
	Views		-.189	.184	-.075
	Barriers		-.050	.031	-.153
	Facilitators		.045	.027	.163
	Confidence		.064	.072	.065
	TSES SE		.174*	.075	.399
	TSES IS		-.101	.078	-.222
	TSES CM		.023	.072	.049
	KADDS GK		.002	.005	.038
	KADDS S/D		-.001	.003	-.020
	KADDS T		-.002	.003	-.039
	TABSIS K		-.003	.003	-.079
	Training		.010	.232	.003
	Race		.044	.175	.019
	Gender		.088	.095	.066
	Hispanic		.414*	.126	.251
	Geography		-.040	.028	-.103
	Fit estimates for Step 3	.074*	F (17,170) = 3.06 R^2 = .23; p< .001		

Table B9 (*Continued*)

Use of non-stimulant medications (e.g., Strattera)/ how well N=180					
	Predictor	ΔR^2	B	SE	β
Step 1	Appraisals		.189*	.072	.203
	Views		.177	.178	.074
	Barriers		.004	.031	.013
	Facilitators		.022	.027	.086
	Confidence		.080	.071	.084
	Fit estimates for Step 1	.074*	F (5,175) = 2.798 R^2 = .07; p=.02		
Step 2	Appraisals		.154*	.076	.165
	Views		.130	.184	.054
	Barriers		-.013	.032	-.042
	Facilitators		.008	.028	.030
	Confidence		.086	.075	.090
	TSES SE		.093	.077	.222
	TSES IS		-.040	.082	-.091
	TSES CM		.046	.074	.100
	KADDS GK		-.001	.005	-.013
	KADDS S/D		-.001	.003	-.036
	KADDS T		-.001	.003	-.027
	TABSIS K		.002	.003	.054
	Training		-.058	.236	-.019
	Fit estimates for Step 2	.041	F (13,167) = 1.67 R^2 = .12; p=.07		
Step 3	Appraisals		.175*	.079	.188
	Views		.122	.190	.051
	Barriers		-.008	.033	-.027
	Facilitators		.008	.028	.029
	Confidence		.097	.076	.102
	TSES SE		.106	.079	.256
	TSES IS		-.041	.083	-.093
	TSES CM		.037	.075	.081
	KADDS GK		-.001	.005	-.014
	KADDS S/D		-.002	.003	-.049
	KADDS T		-.001	.004	-.013
	TABSIS K		.002	.003	.048
	Training		-.083	.239	-.027
	Race		-.139	.189	-.061
	Gender		-.029	.098	-.022
	Hispanic		-.174	.132	-.111
	Geography		-.008	.029	-.022
	Fit estimates for Step 3	.011	F (17,163) = 1.38 R^2 = .13; p=.15		

Table B9 (*Continued*)

Working with the child to develop a behavioral contract how often N=189					
	Predictor	ΔR^2	B	SE	β
Step 1	Appraisals		.172*	.070	.182
	Views		-.169	.175	-.069
	Barriers		.021	.031	.064
	Facilitators		.027	.027	.098
	Confidence		.076	.065	.084
	Fit estimates for Step 1	.087*	F (5,184) = 3.50 R^2 = .09; p=.01		
Step 2	Appraisals		.170*	.072	.180
	Views		-.250	.178	-.102
	Barriers		.016	.031	.049
	Facilitators		.014	.027	.051
	Confidence		.052	.065	.057
	TSES SE		-.015	.075	-.034
	TSES IS		.127	.078	.280
	TSES CM		-.031	.073	-.065
	KADDS GK		.000	.005	.002
	KADDS S/D		.006*	.003	.159
	KADDS T		.003	.003	.059
	TABSIS K		-.003	.003	-.076
	Training		.033	.233	.010
	Fit estimates for Step 2	.067	F (13,176) = 2.46 R^2 = .15; p= .004		
Step 3	Appraisals		.144*	.072	.153
	Views		-.269	.180	-.110
	Barriers		.016	.031	.048
	Facilitators		.005	.027	.019
	Confidence		.049	.065	.054
	TSES SE		-.025	.075	-.058
	TSES IS		.146	.078	.324
	TSES CM		-.023	.074	-.048
	KADDS GK		.001	.005	.020
	KADDS S/D		.007*	.003	.187
	KADDS T		.003	.003	.073
	TABSIS K		-.003	.003	-.088
	Training		.037	.232	.012
	Race		.159	.179	.068
	Gender		.027	.095	.021
	Hispanic		.234	.122	.148
	Geography		-.053	.028	-.139
	Fit estimates for Step 3	.039	F (17, 172) = 2.41 R^2 = .19; p = .002		

Table B9 (*Continued*)

Working with the child to develop a behavioral contract how well N=183					
	Predictor	ΔR^2	B	SE	β
Step 1	Appraisals		.41**	.07	.43
	Views		-.02	.12	-.01
	Barriers		-.02	.03	-.06
	Facilitators		.03	.03	.10
	Confidence		-.00	.07	-.00
	Fit estimates for Step 1	.216*	F (5,178) = 9.83 R^2 = .22; p< .001		
Step 2	Appraisals		.411**	.070	.429
	Views		-.035	.141	-.020
	Barriers		-.016	.029	-.048
	Facilitators		.016	.026	.057
	Confidence		-.017	.066	-.018
	TSES SE		-.020	.071	-.045
	TSES IS		-.057	.078	-.118
	TSES CM		.128	.071	.259
	KADDS GK		-.004	.004	-.061
	KADDS S/D		-.003	.003	-.074
	KADDS T		.003	.003	.053
	TABSIS K		.002	.003	.046
	Training		.443*	.224	.138
	Fit estimates for Step 2	.051	F (13,170) = 4.78 R^2 = .27; p< .001		
Step 3	Appraisals		.401**	.070	.419
	Views		-.056	.141	-.033
	Barriers		-.020	.030	-.061
	Facilitators		.015	.027	.053
	Confidence		-.035	.066	-.037
	TSES SE		-.031	.072	-.068
	TSES IS		-.046	.079	-.096
	TSES CM		.134	.072	.270
	KADDS GK		-.004	.004	-.074
	KADDS S/D		-.003	.003	-.077
	KADDS T		.003	.003	.064
	TABSIS K		.003	.003	.071
	Training		.414	.226	.129
	Race		.392*	.194	.154
	Gender		.100	.091	.075
	Hispanic		.055	.122	.034
	Geography		.009	.027	.023
	Fit estimates for Step 3	.021	F (17,166) = 3.97 R^2 = .29; p< .001		

Table B9 (*Continued*)

Allowing children to earn tangible rewards through positive behavior over time / how often N=188					
	Predictor	ΔR^2	B	SE	β
Step 1	Appraisals		.317**	.064	.350
	Views		-.213	.166	-.088
	Barriers		-.009	.030	-.029
	Facilitators		.029	.025	.108
	Confidence		.042	.059	.049
	Fit estimates for Step 1	.155**	F (5,183) = 6.74 R^2 = .16; p< .001		
Step 2	Appraisals		.267**	.066	.296
	Views		-.279	.167	-.116
	Barriers		-.019	.030	-.059
	Facilitators		.001	.026	.002
	Confidence		.059	.059	.069
	TSES SE		.051	.074	.123
	TSES IS		.054	.076	.125
	TSES CM		.023	.069	.050
	KADDS GK		.001	.004	.011
	KADDS S/D		-.001	.003	-.020
	KADDS T		-.001	.003	-.024
	TABSIS K		.003	.002	.079
	Training		-.261	.219	-.083
	Fit estimates for Step 2	.067	F (13,175) = 3.86 R^2 = .22; p< .001		
Step 3	Appraisals		.248**	.069	.274
	Views		-.289	.172	-.120
	Barriers		-.018	.031	-.055
	Facilitators		-.003	.026	-.011
	Confidence		.061	.060	.070
	TSES SE		.046	.076	.110
	TSES IS		.059	.076	.135
	TSES CM		.028	.069	.062
	KADDS GK		.001	.004	.012
	KADDS S/D		.000	.003	.003
	KADDS T		-.001	.003	-.015
	TABSIS K		.003	.002	.080
	Training		-.270	.222	-.086
	Race		.181	.166	.079
	Gender		-.026	.092	-.020
	Hispanic		.113	.115	.073
	Geography		-.021	.026	-.060
	Fit estimates for Step 3	.011	F (17,168) = 3.29 R^2 = .25; p< .001		

Table B9 (*Continued*)

Allowing children to earn tangible rewards through positive behavior over time / how well N=185					
	Predictor	ΔR^2	B	SE	β
Step 1	Appraisals		.422**	.069	.415
	Views		.101	.178	.037
	Barriers		.040	.032	.110
	Facilitators		.017	.027	.058
	Confidence		-.068	.065	-.069
	Fit estimates for Step 1	.232**	F (5,180) = 10.88 R^2 = .23; p< .001		
Step 2	Appraisals		.426**	.074	.419
	Views		.134	.187	.050
	Barriers		.039	.034	.107
	Facilitators		.021	.029	.071
	Confidence		-.064	.067	-.065
	TSES SE		.001	.083	.001
	TSES IS		-.046	.085	-.094
	TSES CM		.032	.077	.063
	KADDS GK		-.001	.005	-.012
	KADDS S/D		.000	.003	-.007
	KADDS T		-.002	.004	-.030
	TABSIS K		-.001	.003	-.021
	Training		.102	.244	.029
	Fit estimates for Step 2	.005	F (13,172) = 4.10 R^2 = .24; p< .001		
Step 3	Appraisals		.409**	.077	.402
	Views		.149	.191	.055
	Barriers		.037	.034	.102
	Facilitators		.018	.029	.062
	Confidence		-.065	.067	-.066
	TSES SE		-.012	.084	-.026
	TSES IS		-.042	.085	-.086
	TSES CM		.039	.077	.077
	KADDS GK		-.001	.005	-.015
	KADDS S/D		.001	.003	.012
	KADDS T		-.001	.004	-.027
	TABSIS K		-.001	.003	-.015
	Training		.105	.247	.030
	Race		.274	.185	.108
	Gender		.004	.102	.003
	Hispanic		.164	.130	.094
	Geography		-.003	.029	-.007
	Fit estimates for Step 3	.013	F (17,168) = 3.29 R^2 = .25; p< .001		

Curriculum Vitae
Laila Abdulwahab Aljumah
laaljuma@iu.edu
Aljumah.laila@yahoo.com

EDUCATION

Doctor of Philosophy in Special Education ***January*** **2025**
Minor in Health Education and Behavior
Indiana University School of Education
Teachers' Reported Implementation of Effective Behavioral Strategies for Students with Attention-Deficit/Hyperactivity Disorder

Master of Arts in Special Education **2017**
Ball State University

Bachelor of Arts, Mental Retardation **2013**
King Faisal University

RESEARCH EXPERIENCE

Research Publications **2024**
Aljumah, L. A., & Alhaddad, F. A. (2024). The Efficacy of the Current ADHD Training Programs in Saudi General Education Elementary Schools: A Systematic Review. *Journal of International Special Needs Education, 27*(1), 1-11.

Data Collection Specialist, Indiana University, Bloomington **2023**

- Conducted over 40 ethnographic observations and recorded observations of students in the course
- Entered observations into a provided data collection web interface and submitted all observation field notes to the Data Collection Group Leader to be processed for analysis
- Conducted semi-structured interviews with students after class as a part of collecting data

Coder, Indiana University, Bloomington **2019**
Wang, T. (2021). Self-Management Interventions for Students with Emotional and Behavioral Disorders: A Meta-Analysis of the Literature. Indiana University.

- Assisted with coding and assessing multiple qualitative studies included in a research study.

CONFERENCE AND SEMINRAL EXPERIENCES

- Proposed Study on The Efficacy of the Current ADHD Training Programs in Saudi General Education Elementary Schools: A Systematic Review at [The 2022 Special Education Research Seminar], 2022.
- Proposed Study on the Influence of Physical Activity on Academic Performance Among Children with Attention-Deficit/Hyperactivity Disorder: A Systematic Review at [The 47th Annual Convention, Association for Behavioral Analysis International], 2021.
- Proposed Study on The Good That's Within You: A Case Study of Early Childhood Curriculum Practice at [The Early Childhood Special Education Conference], 2021.

TEACHING EXPERIENCE

Special Education Aide (paraprofessional), University Elementary School, Bloomington, Indiana **2024-Present**

- Modified instruction for students with disabilities
- Worked with individual students and small groups of students to reinforce learning of material introduced by the teacher
- Provided one on one support to students with disabilities

Support Staff, MCCSC Elementary Schools, Bloomington, Indiana. **2024-Present**

- Assisted in activity implementation and setup
- Engaged students in activities
- Managed students' behavior

Co-Instructor, Indiana University School of Education, Bloomington, Indiana **2021**

- Assisted with teaching K205-Introduction to Exceptional Learners
- Involved from the beginning and worked with the main instructor to develop the syllabus.
- Taught lessons on own and co-taught 2 lessons with the main instructor.

Supervisor, William McKinley Indianapolis Public Schools, School 39 Indianapolis, Indiana **2020**

- Observed each preservice teacher for the first teaching experience
- Helped review some of preservice teachers' assignments and provided appropriate feedback
- Used suitable assessment forms to evaluate preservice teachers' teaching progress and performance
- Attended an orientation meeting at the start of the semester and discussed and provided feedback related to preservice teachers' performance on two assignments
- Maintained accurate files and documentation for each preservice student and sent them their evaluation on the first teaching observation

- Planned and scheduled meetings to attend field experience supervision meetings

Reading Lesson Plan Designer, Jefferson Elementary School Indiana **2019 - 2020**

- Designed seven reading lesson plans for elementary school teachers teaching children in pre-kindergarten

Substitute teacher, Islamic Center of Bloomington, Bloomington, Indiana **2019**

- Taught Pre-Kindergarteners and provided several learning activities

Teacher, The Institute of Children with Mental Disabilities, Saudi Arabia. **2012– 2013**

- Taught children with special needs in grade 2 and high school
- Designed individual education and behavior plans for students with special needs

VOLUNTEERING EXPERIENCE

Service to the City of Bloomington Council for Community Accessibility **2024**

- Conducted multiple surveys in local businesses in Bloomington, IN to ensure accessibility for individuals with disabilities.
- Assisted with celebrating the 34th anniversary of the Americans with Disabilities Act (ADA)

Service to the School of Education, Indiana University Bloomington

- Coordinated the 2022 Special Education Research Seminar **2022**
- Provided free consultations to special education teachers **2022**
- Volunteered for Curriculum and Instruction Research and Creative Action **2019** Symposium (CIRCAS): Assisted the Participant Hospitality Committee by coordinating presentation materials, setting up the name tag table, and providing directions and support to attendees during events.
- Volunteered for the 1-First International Conference on Literacy, Culture, and Language Education Conference: **2019**

AWARDS/RECOGNITIONS/VOLUNTEER WORK

Indiana University, Bloomington **2023**

- Achasa Beechler Dissertation Proposal Fellowship
- Grant-In-Aid Award