

5-6-2015

# Teacher knowledge, skill, and willingness to work with students with attention deficit hyperactivity disorder (ADHD)

Colleen McKnight

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**TEACHER KNOWLEDGE, SKILL, AND WILLINGNESS TO WORK WITH  
STUDENTS WITH ATTENTION DEFICIT HYPERACTIVITY DISORDER  
(ADHD)**

by  
Colleen C McKnight

A Thesis

Submitted to the  
Department of Language, Literacy, and Special Education  
College of Education  
In partial fulfillment of the requirement  
For the degree of  
Master of Arts in Learning Disabilities  
at  
Rowan University  
May 2015

Thesis Chair: S. Jay Kuder, Ed.D.

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## **Acknowledgment**

I would like to express my appreciation to Professor S. Jay Kuder, Ed.D. for his guidance and assistance throughout this research project.

## **Abstract**

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TEACHER KNOWLEDGE, SKILL, AND WILLINGNESS TO WORK WITH  
STUDENTS WITH ATTENTION DEFICIT HYPERACTIVITY DISORDER (ADHD)  
2014/15

S. Jay Kuder, Ed. D.

Master of Arts in Learning Disabilities

This study examined whether or not general education and special education teachers possess the knowledge and skill needed to assist students with ADHD with meeting academic success in their classrooms. Surveys were distributed to all teachers within a pre-kindergarten through sixth grade district in rural Southern New Jersey. An e-mail correspondence specifying the directions for completing the survey as well as a personal request to complete the survey was sent out district-wide to teachers at all grade levels and of all subject areas. Surveys and directions were then placed in teachers' school mailboxes in each of the four district school buildings. This district services approximately 1,700 students. A total of thirty-three teachers participated in the survey.

General and special education teachers agreed on many areas surrounding their beliefs of and attitudes towards working with students with ADHD as well as their knowledge and levels of training of the subject. Special education teachers reported slightly increased levels of training, but the majority of general and special education teachers alike reported experience working with these students. Teachers, in turn, feel prepared and confident in working with these students in their classrooms. Furthermore, the majority of teachers surveyed report they utilize and implement strategies for students with ADHD in their classrooms to help them meet success.

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## **Chapter 1**

### **Introduction**

Today in schools across the United States there is an abundance of students diagnosed with Attention Deficit Hyperactivity Disorder (ADHD). For the purposes of this study, ADHD is defined as having symptoms that include difficulty staying focused and paying attention, difficulty controlling behavior, and hyperactivity (Attention Deficit Hyperactivity Disorder, n.d.). As of 2012, the Center for Disease Control cited morbidity of children age 3-17 ever diagnosed with ADHD to be 5.9 million (Fast Stats ADHD, 2014). These students can be found in a range of classroom settings and meeting varying levels of success. Although there is no classification for ADHD within the New Jersey Administrative Code or under the Individuals with Disabilities Education Act of “ADHD”, students may be classified eligible for special services under the “Other Health Impaired” classification and have an Individualized Education Program (IEP). This classification is defined in New Jersey Administrative Code Title 6A, Subchapter 14 (NJAC 6A:14) as follows: “‘Other Health Impaired’ corresponds to ‘chronically ill’ and means a disability characterized by having limited strength, vitality or alertness, including a heightened alertness with respect to the educational environment, due to chronic or acute health problems, such as attention deficit disorder or attention deficit hyperactivity disorder, a heart condition, tuberculosis, rheumatic fever, nephritis, asthma, sickle cell anemia, hemophilia, epilepsy, lead poisoning, leukemia, diabetes or any other medical condition, such as Tourette Syndrome, that adversely affects a student’s educational performance. A medical assessment documenting the health problem is required” (N.J.A.C. 6A:14, n.d.). Other students may have a 504 Plan. This 504

Accommodation plan provides them with accommodations, for example, to their classroom environments. Such accommodations often include allowing for extended time to complete assignments or preferential seating within the classroom. To be eligible for such a plan, students must have a physical or mental disability that substantially limits one or multiple major life activities such as learning, seeing, or hearing.

Often teachers find it difficult to help students with ADHD meet their full potential for success in their classrooms. The majority of students with ADHD, whether receiving special education and related services under the category of “Other Health Impaired” or not, may not be receiving the support they need to be successful in the least restrictive setting. With the surge of ADHD diagnoses in the recent past, teachers have received more direction and training in meeting the needs of such students, but we continue to find these students labeled as “bad” or “problem” students that teachers are reluctant to feel confident educating. Students whose ADHD warrants a special education classification of “OHI” as defined above may find more success in regards to their placement. These students, for example, may be placed in a smaller class that allows for more attention and possibly a more consistent behavior system or program. The student-to-teacher ratio in such a classroom is lower and therefore teachers may feel more willing and able to tailor their classroom more closely to the specific needs of each student. However, this environment is more restrictive and likely is not the most appropriate placement for this type of student. Unfortunately, the reality that we are facing in schools today is that many of these students are failing to meet success in general education settings and are placed in more restrictive settings due to the impact of teacher related factors hindering their ability to meet success.

Some students diagnosed with ADHD and demonstrating additional special education needs may meet requirements for a classification of “Multiply Disabled” under NJAC 6A:14. This Special Education classification is defined as follows: “‘Multiply Disabled’ corresponds to ‘multiply handicapped’ and ‘multiple disabilities,’ and means the presence of two or more disabling conditions, the combination of which causes such severe educational needs that they cannot be accommodated in a program designed solely to address one of the impairments. Multiple disabilities includes cognitively impaired-blindness, cognitively impaired-orthopedic impairment, etc. The existence of two disabling conditions alone shall not serve as a basis for a classification or multiply disabled. Eligibility for speech-language services as defined in this section shall not be one of the disabling conditions for classification based on the definition of ‘multiply disabled.’ Multiply disabled does not include deaf-blindness.” (N.J.A.C. 6A:14, n.d.).

The nature of such a classification usually leads to a more restrictive classroom setting and individualized programming that students demonstrating disabling conditions in addition to ADHD may find more conducive to success. Teachers in such classrooms are often provided more training and professional development experiences through their district of work which lends itself to more preparedness on part of the teacher.

Unfortunately, again, this setting is more restrictive. If general education teachers were provided the same training and experience, we might find these students meeting success more often in the least restrictive setting.

Child Study Team members are involved not only in finding the appropriate classification under NJAC 6A:14 for students that qualify for Special Education and Related Services, but also in determining an appropriate and least restrictive classroom

setting, and supporting administration, parents, and teachers as a Case Manager. In order to maintain the least restrictive environment, the general education classroom, for students with ADHD it is important to examine the relationships between teacher training and willingness to educate this population of students. How much of an impact does training and knowledge regarding ADHD have on a teacher's willingness and self-rated preparedness for working with these students? I expect that I will find that teachers citing more background knowledge and training in ADHD will feel more confident in educating these students. I also believe that teachers with a greater knowledge and with more experience working with students with ADHD will report higher levels of willingness to work with these students. Unfortunately, although such an environment may be least restrictive and therefore most appropriate, general education teachers may lack the training and experience needed to foster the success of these students in their classrooms. Particularly with younger students, teacher training and willingness to work with all types of students can greatly affect student success. The fault and responsibility of the unfortunate trend affecting the success of students with ADHD in the least restrictive environment lies with not only the teacher but the district in which the teacher is working. It is the responsibility of the district to ensure that teachers being hired to work with this population of students, which would include teachers of any grade and subject area, are prepared to meet the needs of their individual students. Teachers, in turn, must be willing and prepared to implement research-based strategies and interventions for accommodating these students so that they may meet their potential for success. In the ever-changing and developing world of education, Districts must also provide the opportunity for ongoing professional development, training, and support for

teachers. Teachers however, again must be responsible for applying their training to the classroom consistently and effectively. Specific barriers to success for these students include the fact that teachers may have limited training in meeting the needs of such students and may have pre-conceived notions fueled by media and dated thought processes. These teachers may not be provided the support and guidance they need in developing a learning environment conducive to success for such a student. Teachers unwilling or reluctant to work with this population will undoubtedly have a negative impact on their students' education.

The research question that was examined in this study is: do teachers have the knowledge, skill, and willingness to teach students with Attention Deficit Hyperactivity Disorder? A second research question is whether there is a relationship between teachers' knowledge and skill, and their willingness to teach these students. Both practicing special education and general education teachers were included in this study. Students across all types of educational settings were included in the population of this study as well. These settings include students in general education classrooms, in-class resource general education classrooms, pull-out special education classrooms, and self-contained special education classrooms.

## Chapter 2

### Literature Review

#### ADHD Characteristics and Learning Behavior

When considering how attention deficit hyperactivity disorder (ADHD) affects students' classroom performance, it is important to review the symptoms associated with ADHD that teachers are attempting to remediate to lessen the impact of these symptoms on a students' education. The different types of ADHD are associated with varying symptoms and impacts on classroom performance. Students with ADHD, Combined Type may demonstrate symptoms in more than one of the following areas.

**ADHD Inattentive Type.** Symptoms effecting classroom performance associated with Inattentive Type ADHD include failing to pay attention to detail resulting in careless mistakes, difficulty sustaining attention, not focusing on the speaker when being spoken to directly, not following through on instructions and incomplete work, and difficulty organizing activities and tasks (Bose, FALL 2012-SPRING 2013). Students with Inattentive type ADHD may also avoid or dislike activities that require sustained mental effort, lose supplies or paperwork necessary for completing work, and be easily distracted and forgetful in daily activities (Bose, FALL 2012-SPRING 2013).

**ADHD Hyperactive Type.** The symptoms that effect students' with Hyperactive Type ADHD in the classroom may include fidgeting, leaving their seat or an area when they are expected to remain seated, having difficulty engaging in and remaining appropriate and on task during independent activities, appearing restless, and talking excessively (Bose, FALL 2012-SPRING 2013).

**ADHD Impulsive Type.** Students may demonstrate symptoms of blurting out answers, having difficulty waiting their turn, or interrupting or intruding on others (Bose, FALL 2012-SPRING 2013).

The Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition (DSM-5) characterizes ADHD as a pattern of behavior that is present in multiple settings (American Psychiatric Association DSM-5, n.d.). Children must demonstrate at least six symptoms from either or both of inattention group criteria and hyperactive/impulsive group criteria (American Psychiatric Association DSM-5, n.d.). The most significant change regarding the characterization and identification of ADHD from the DSM-IV to the DSM-5 is the age by which symptoms must be present. The DSM-5 now requires that several ADHD symptoms must be present prior to age twelve, in contrast to the previous DSM-IV requirement of age seven (American Psychiatric Association DSM-5, n.d.).

Considering that individuals must demonstrate symptoms of ADHD at a young age, when examining the academic struggles and classroom behaviors of these students, we must begin with the earliest school experiences. Pre-school children with ADHD have demonstrated compromised school readiness, difficulty with impulse control and attentional capacity and hyperactivity (Daley & Birchwood, 2010). These difficulties hinder a child's ability to gain certain skills crucial in an educational setting such as focusing on teachers, interacting with peers and authority figures, and learning emergent literacy, mathematics, and language (Daley & Birchwood, 2010). When compared to non-ADHD peers, pre-schoolers with ADHD experience difficulty with memory,

reasoning, academic skills, conceptual development, general cognitive development, and acquiring basic pre-reading and mathematics skills (Daley & Birchwood, 2010). When pre-schoolers rated with hyperactivity were followed through to adolescence in a longitudinal study, it was found that these students had poorer reading ability than their non-hyperactive peers at ages seven and nine (Daley & Birchwood, 2010). By age fifteen, these same students were again behind their peers in reading performance and significantly more reading-disabled students were observed in the hyperactive group from pre-school than their peers.

Daley and Birchwood (2010) found it important to note that not all children demonstrating early signs of ADHD will fully express the disorder and experience academic difficulties as they go on through school. Pre-schoolers displaying early signs of ADHD that are exposed to firm limits at home and appropriately structured classrooms may not fall into the category of individuals that will continue to struggle academically throughout school (Daley & Birchwood, 2010). However, the symptom most negatively associated with reading, writing, and mathematics difficulty is inattention (Daley & Birchwood, 2010). Difficulties in academic tasks that persist into adolescence and adulthood include study strategies, test taking, test strategies, note taking, summarizing and outlining, time management, concentration, motivation, information processing, and self-testing (Daley & Birchwood, 2010).

The relationships between core ADHD symptoms and co-morbid disorders as well as neuropsychological deficits suggest that students with ADHD are likely to experience difficulties in academic settings (Daley & Birchwood, 2010). Daley and

Birchwood (2010) suggest that a child who is inattentive, has difficulty with working memory, planning, and organization, and is disruptive and aggressive cannot be expected to operate successfully in an academic environment. This statement highlights the need for and importance of the implementation of interventions and strategies for remediating the difficulties and associated symptoms of ADHD in the classroom.

### **ADHD and Comorbidity**

As described above, students with ADHD face many academic and behavioral difficulties. However, it is also important to consider the compounded effects of co-morbid disorders in students with ADHD. These students may face additional academic and behavioral challenges, particularly in school settings. ADHD itself may not be the cause of all hindrances of success and there are factors of ADHD that contribute to success as well. If educating a student with co-morbid ADHD, a teacher must also be knowledgeable in and willing to address the co-morbid disorder and see the child as a whole picture. This idea again relies heavily on the knowledge and skill of teachers in remediating and the willingness to apply interventions and strategies to remediate the classroom challenges faced by students with ADHD and students with co-morbid ADHD disorders.

Some students with ADHD may present with co-morbid Learning Disorders. We find students in varying classroom settings that are classified under the category “Specific Learning Disability” (SLD) within the New Jersey Administrative Code. NJAC 6A:14 definition as follows: “‘Specific Learning Disability’ corresponds to ‘perceptually impaired’ and means a disorder in one or more of the basic psychological processes

involved in understanding or using language, spoken or written, that may manifest itself in an imperfect ability to listen, think, speak, read, write, spell, or to do mathematical calculations, including conditions such as perceptual disabilities, brain injury, minimal brain dysfunction, dyslexia, and developmental aphasia” (N.J.A.C. 6A:14, n.d.). Twenty to thirty percent of children with ADHD demonstrate an associated learning disorder in the areas of reading, spelling, writing, and arithmetic (Daley & Birchwood, 2010). Studies have shown that although negative associations between ADHD and intelligence exist, individuals with ADHD perform lower academically than their IQ would predict (Daley & Birchwood, 2010). This lends itself directly to the discrepancy model that many New Jersey public schools are using to classify learning disorders.

As children with ADHD often exhibit academic performance and achievement difficulties, it is important to examine co-morbidity between ADHD and Learning Disabilities. Children with ADHD perform lower than average on achievement tests and report card grades, are more likely to be retained or drop out of school, and less likely to complete college (DuPaul, Gormley & Laracy, 2012). Since the Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition (American Psychiatric Association DSM-5, n.d.) requires that symptoms of ADHD must lead to academic, social, or occupational impairment (DuPaul, Gormley & Laracy, 2012), it is not surprising that we find these students experiencing academic difficulty in the classroom. The comorbid occurrence of Learning Disabilities in students with ADHD may only increase the impact that teacher factors have on the success of these students. Now, these teachers must meet these students’ individual needs in multiple disorder or disability areas.

In a review of studies conducted between 1982 and 1993, prevalence rates of ADHD in students identified with Learning Disabilities ranged from 18% to 60% across states (DuPaul, Gormley & Laracy, 2012). This demonstrates a prevalence of ADHD among students with Learning Disabilities approximately seven times higher than the prevalence of ADHD in the general population (DuPaul, Gormley & Laracy, 2012). These findings would demonstrate that students with ADHD are at a higher risk than average for having a Learning Disability. However, it is important to consider that comorbidity findings and studies are limited by factors including the variety of methods used in defining ADHD and Learning Disabilities across states and the fact that the referenced study included clinic-referred samples (DuPaul, Gormley & Laracy, 2012). Students with multiple difficulties may be more likely to be referred for clinical services, and this may therefore inflate the findings above (DuPaul, Gormley & Laracy, 2012). However, in my experience as a teacher and as a Learning Disabilities Teacher-Consultant, I have worked with many students demonstrating co morbidity of ADHD and Learning Disabilities.

Another area of difficulty associated with students with ADHD is executive functioning. Executive functioning deficits found in individuals with ADHD typically include working memory. Working memory is the ability to hold and manipulate multiple pieces of information in your short term memory. Consequently, academic difficulties arise from weak working memory skills. Research has found that children with ADHD demonstrating weak executive functioning performed worse on tests of academic achievement than their peers with ADHD not demonstrating difficulties in executive functioning areas (Daley & Birchwood, 2010). Executive functioning skills

include activation, focus, effort, emotion, memory, and action of a learner's cognitive processing (Bose, FALL 2012-SPRING 2013).

Students with ADHD also frequently exhibit co-morbid psychiatric disorders that present challenges in the classroom setting. Teachers may see behavioral concerns as a barrier for students with ADHD meeting success in their classrooms. Between thirty and fifty percent of individuals with ADHD experience oppositional defiant disorder and/or conduct disorder (Daley & Birchwood, 2010). Twenty to thirty percent of individuals with ADHD also experience anxiety while eleven to twenty-two percent exhibit bipolar disorder (Daley & Birchwood, 2010). These co-morbid disorders may play a role in adversely affecting classroom performance.

Studies have shown that the co-morbid incidence of individuals with ADHD as well as Oppositional Defiant Disorder (ODD) or Conduct Disorder (CD) can negatively impact educational outcomes as well as behaviors and psychiatric diagnoses and family dynamics (Connor, Steeber & McBurnett, 2010). Additionally, comorbidity of ADHD and ODD or CD also increases the risk factor for other psychiatric comorbidities (Connor, Steeber & McBurnett, 2010). Individuals with comorbid ADHD and ODD or CD are at a greater risk for major depression, bipolar disorder, and multiple anxiety disorders compared to students with ADHD alone (Connor, Steeber & McBurnett, 2010). ODD is defined as "a recurrent pattern of negativistic, defiant, disobedient, and hostile behavior directed at authority figures that persists for at least six months" (Connor, Steeber & McBurnett, 2010). In schools, we often see ODD manifesting itself in defiance of teachers and staff, feelings of anger and incidences of loss of temper, and

reluctance to accept responsibility for one's actions. Teachers that lack training or knowledge of ODD will often escalate defiant behaviors, anger, and aggression of students through their reaction to an initial incident or concern. Conduct disorder is defined as "a repetitive and persistent pattern of behavior in which the basic rights of others or major age-appropriate societal norms or rules are violated" (Connor, Steeber & McBurnett, 2010). CD generally manifests itself in the same ways as ODD, but in more extreme terms.

Individuals with an Anxiety Disorder (AD) may demonstrate excessive fear and worry, distress and impairment to a high degree, and behavioral avoidance (Halldorsdottir & Ollendick, 2014). The most common Anxiety Disorders in children include Generalized Anxiety Disorder, Social Anxiety Disorder, Separation Anxiety Disorder, Specific Phobias, Obsessive-Compulsive Disorder, and Post Traumatic Stress Disorder (Halldorsdottir & Ollendick, 2014). Individuals that demonstrate comorbidity of ADHD and AD exhibit more difficulty than individuals with either ADHD or AD alone (Halldorsdottir & Ollendick, 2014). When compared, children with ADHD and AD present with a greater severity of symptoms, attentional issues, fears associated with school, and a decrease in social competence (Halldorsdottir & Ollendick, 2014). These individuals experiencing co-morbid ADHD and AD also display increased symptoms of sluggish cognitive tempo and reduced response inhibition than individuals with ADHD alone (Halldorsdottir & Ollendick, 2014).

ADHD comorbidity with bipolar disorder should also be considered in regards to the types of students with ADHD that we are educating in our schools today. When

dealing with school-aged children, early-onset bipolar disorder would be our focus. Symptoms associated with early-onset bipolar disorder may range from mild to extreme (Bardick & Bernes, 2005). These symptoms may include hyperactivity and attention problems, conduct problems, irritability and unpredictability, depression, eating disorders, self-mutilating behaviors, and suicidal ideation (Bardick & Bernes, 2005). For school-based purposes, peer relationships may be the most significant concern in students demonstrating bipolar disorder. Some individuals with bipolar disorder may respond inappropriately to social cues and boundaries, demonstrate “bossy” or “intrusive” behaviors when interacting with peers, act out when they do not get their own way, and may be perceived overall as overwhelming to others (Bardick & Bernes, 2005).

### **The Impact of Teacher Factors**

One of the most important factors in the success of any student is the knowledge and skill their teachers bring to the classroom. Teachers’ knowledge and skill is especially important for students with ADHD as these students must overcome significant academic and behavioral difficulties. Teacher factors include willingness to work with and educate students with ADHD in their classrooms as well as teachers’ level of training and comfort educating these students. These factors of course often rely on each other. For example, a teacher may be unwilling or reluctant to work with students with ADHD because they lack the confidence that they can successfully educate these students based on the lack of training they have received. A teacher who has not received reliable and relevant professional development and training on ADHD may feel as though they lack the understanding and skills needed to work with these students. They may feel

that they don't have the strategies or background to accommodate these students and their needs in order to make them successful, contributing students in their classrooms.

Negative perceptions of students with ADHD affect teachers' and parents' interactions with these students which then often influences students' behavior and academic success (Bell, Long, Garvan & Bussing, 2011). Teachers' perceptions of students with ADHD have been shown to impact their peers' perception of them as well (Bell, Long, Garvan & Bussing, 2011).

Teachers also play an important role in the referral of students to health care professionals. Teachers are often the primary individuals from whom the initial referral of a student with suspected ADHD originates (Sherman, Rasmussen & Baydala, 2008). In regards to diagnosis, teachers often provide a valuable source of information in conjunction with parents and health care professionals. Teachers may be involved in completing a Likert scale questionnaire regarding their observations of students' behaviors in the classroom. Such questionnaires or surveys are often referred to as a rating scale. These scales include statements of behaviors often demonstrated by children with ADHD. The results of the teacher completed scale are compared to a scale completed by the child's parents. It is concerning that teachers who so often play such an important role in identifying and in the diagnosis process of students with ADHD may be unaware of the most effective and appropriate ways to educate these students. In a study conducted by Scitutto, Terjesen, and Bender Frank, it was found that teachers' understanding of symptoms and diagnosis of ADHD was greater than their understanding of treatment options as well as general information of the disorder (Sherman, Rasmussen & Baydala, 2008).

Just as teachers are often involved in the identification and diagnosis of children with ADHD, they are often responsible for implementing classroom interventions recommended by health care professionals and school specialists. When teachers disagree with recommendations, they may implement interventions improperly, refuse to implement recommended interventions, or fail to complete treatment (Vereb & DiPerna, 2004). Teachers' knowledge of the interventions and how appropriate the teacher feels the intervention to be may also influence the effectiveness of recommended treatment (Vereb & DiPerna, 2004). Vereb and DiPerna (2004) surveyed forty-seven elementary teachers in New Jersey and Pennsylvania certified in general education, special education, or both. These teachers had a mean teaching experience of thirteen years and were from five different districts, with representation from urban, suburban, and rural districts. Vereb and DiPerna (2004) used the Knowledge of ADHD Rating Evaluation (KARE) to survey the described teachers on their Knowledge of ADHD, Knowledge of Common Treatments of ADHD, Medication Acceptability, and Behavior Management Acceptability of students with ADHD. The Knowledge of ADHD items measure a teacher's knowledge of etiology, symptoms, and prognoses using a True/False/Don't Know format while the Knowledge of Treatments items question teachers about their knowledge regarding implementation as well as effectiveness of common ADHD treatments for students again using a True/False/Don't Know format (Vereb & DiPerna, 2004). For the Medication and Behavior Management Acceptability items, teachers were asked to rate the acceptability of these two treatment types using a 4-point Likert Scale ranging from "Not at all Likely" to "Very Likely" (Vereb & DiPerna, 2004). For

example, the survey asked the teacher to respond to how appropriate medication is for students with ADHD (Vereb & DiPerna, 2004).

In this study, Vereb and DiPerna (2004) found that the amount of knowledge a teacher has regarding a specific intervention is positively correlated with their acceptability of the intervention. This finding lends itself to the idea that general and special education teachers provided appropriate and effective professional development may be more willing and, in turn, successful in educating students with ADHD. However, teachers' knowledge of ADHD was found to be unrelated to their knowledge of ADHD treatments (Vereb & DiPerna, 2004). Although teachers' knowledge of ADHD was positively related to their feelings regarding medication acceptability, their knowledge of ADHD was unrelated to their feelings regarding the acceptability of behavioral interventions (Vereb & DiPerna, 2004). In this study, it was also found that teachers' knowledge of treatments was negatively correlated with their feelings surrounding medication acceptability, however, again unrelated to their feelings regarding behavior management acceptability (Vereb & DiPerna, 2004). Vereb and DiPerna (2004) expected to find that teachers' training and experience would be somewhat related to their knowledge of treatments and acceptability ratings in regards to medication and behavior management. Based on participants' years of teaching experience, the only significant relationship was found with ratings of medication acceptability, suggesting that teachers with more experience may have more exposure to medication interventions and outcomes of medication interventions than other types of interventions (Vereb & DiPerna, 2004).

Additionally, research has demonstrated that the more competent a teacher feels about their teaching abilities, the more positive their attitude may be toward teaching students with ADHD (Bell, Long, Garvan & Bussing, 2011). In a study conducted by Bell, Long, Garvan, and Bussing (2011) it was found that teachers with special education certifications believed that students with ADHD experience more stigma in their everyday lives than did their counterparts with general education certifications. During this study, teacher participants rated statements such as “worry that others may judge them” and “feel set apart and isolated” in relation to how their students experience stigma (Bell, Long, Garvan & Bussing, 2011). Bell, Long, Garvan, and Bussing (2011) compared their study to others, finding consistency in results that specific training, professional development, and in-service training significantly increases not only knowledge about ADHD, but knowledge about the difficulties students with ADHD face as well as the fact that attitudes toward students with ADHD improves with knowledge of ADHD (Bell, Long, Garvan & Bussing, 2011).

Although the above study indicates that special education teachers and general education teachers may have different feelings regarding the stigma surrounding students with ADHD, these students are often included in general education settings. In a study conducted by Zentall and Javorsky (2007), forty-nine teachers participated in three intervention groups receiving in-service training on ADHD. This included general education and special education teachers. Thirteen teachers were placed in a local education agency (LEA) treatment group, fifteen teachers were placed in a university treatment day one (UT 1) group, and twenty-one teachers were placed in a university treatment day two (UT 2) group (Zentall & Javorsky, 2007). The LEA group was

provided a traditional approach professional development targeting knowledge while the UT 1 group received knowledge and understanding professional development and the UT 2 group received knowledge, understanding, and practice in functional assessment training (Zentall & Javorsky, 2007). Thirty-five of the forty-nine teachers participating in this study completed all procedures of the study (Zentall & Javorsky, 2007).

Teachers in the study conducted by Zentall and Javorsky (2007) self-reported on their attitudes and practices regarding ADHD and observational data were collected from teachers who observed and rated student behavior as well as their responses to this behavior (Zentall & Javorsky, 2007). These measures were completed one week prior to the in-service trainings and again three months after the in-service trainings (Zentall & Javorsky, 2007). Through this study, teachers reported feeling unprepared to work with students with ADHD and only those teachers with experience with students with ADHD or with education about these students were more willing to make instructional changes (Zentall & Javorsky, 2007). However, regardless of the type of in-service received, teachers reported being more willing to learn about ADHD as well as confidence teaching students with ADHD and including students with behavior and learning problems in their classrooms (Zentall & Javorsky, 2007).

In a similar study including teachers from six schools in Washington, DC it was demonstrated that in service training that focused on evidence-based assessment and treatment of ADHD resulted in increased ADHD knowledge in teachers (Jones & Chronis-Tuscano, 2008). Additionally, special education teachers involved in the in service reported increased use of behavior modification techniques directly resulting from

the training (Jones & Chronis-Tuscano, 2008). This study conducted by Jones and Chronis-Tuscano (2008) included one hundred forty-two teachers from six elementary schools who completed in either an immediate in-service or were part of a waitlist group. Data were collected for the immediate in-service group prior to the in-service and one month after the in-service and while data for the waitlist group was collected at the same times, the waitlist group received the in-service after the data collection (Jones & Chronis-Tuscano, 2008). Jones and Chronis-Tuscano (2008) collected data regarding teacher characteristics including prior ADHD training and surveyed teachers based on their knowledge of ADHD, their use of classroom behavior management strategies, and their satisfaction with the in-service training. Although special education teachers reported having more prior training in ADHD than general education teachers, overall teachers reported having little prior training (Jones & Chronis-Tuscano, 2008). Special education teachers demonstrated a significant increase of their use of behavior management with students with ADHD as a result of the in-service over general education teachers (Jones & Chronis-Tuscano, 2008). The findings regarding special education teachers versus general education teachers is concerning being that on average, at least one child per twenty-student classroom may have ADHD and that the majority of children with ADHD are placed in general education classrooms (Jones & Chronis-Tuscano, 2008).

Teacher perceptions of students with ADHD may have a direct effect on their willingness and attitude toward working with students with ADHD. For example, teachers may believe that students with ADHD will need more instructional time and effort than their peers, which may result in negative perceptions about these students

(Bell, Long, Garvin & Bussing, 2010). Studies have also found that teachers as well as parents have negative perceptions about the academic skills of these students (Bell, Long, Garvin & Bussing, 2010), which has been shown in this narrative to be supported in some ways by research. Negative teacher perceptions have also been shown to influence students' behavior and academic success, creating potential for self-fulfilling prophecies of adults' expectations of these students in relation to the success that they find (Bell, Long, Garvin & Bussing, 2010). Self-esteem and self-confidence in children were found to be highly sensitive to perceptions of peers, family, and teachers (Bell, Long, Garvin & Bussing, 2010).

The results of a study conducted by Bell, Long, Garvin, and Bussing (2010), in which two hundred sixty-eight teachers participated, indicated that special education teachers found stigmas surrounding students with ADHD to be more intensive than non special education teachers. Teachers in this study were asked to complete an ADHD Stigma Questionnaire in which teachers' perception of the stigma that students with ADHD may face was measured. For example, teachers used a Likert rating scale to rate their level of agreement with statements such as "People with ADHD worry that others will judge them" (Bell, Long, Garvin & Bussing, 2010). In a discussion of these results, Bell, Long, Garvin, and Bussing (2010) considered factors that may have influenced higher ratings demonstrating a higher expectation of stigma surrounding students with ADHD from special education teachers. These considerations included the fact that special education teachers have additional educational experiences and knowledge resulting from specialized education training (Bell, Long, Garvin & Bussing, 2010). Also, teachers of these students may be functioning in special education classrooms

where more increased interaction with severe cases of ADHD or cases of ADHD with comorbidity are common (Bell, Long, Garvin & Bussing, 2010). Special education teachers may also have increased exposure to individuals with ADHD overall (Bell, Long, Garvin & Bussing, 2010). Bell, Long, Garvin, and Bussing (2010) regard these findings as consistent with other studies that have found training and professional development to significantly increase teachers' knowledge of ADHD and that attitudes toward ADHD improve as knowledge about ADHD improves (Bell, Long, Garvin & Bussing, 2010).

Anderson, Watt, William, and Shanley (2012) reviewed a study conducted in which one hundred forty-nine practicing teachers' knowledge of ADHD was found through the use of a knowledge scale. This study found that the average overall knowledge of ADHD among surveyed teachers was 47.81% correct (Anderson, Watt, William & Shanley, 2012). This knowledge scale included three subscales: symptoms, general information and causes, and treatments for which response options were *true*, *false*, and *don't know* (Anderson, Watt, William & Shanley, 2012). Furthermore, results demonstrated that teachers' knowledge of symptoms was considerably better than their knowledge of the other two areas (Anderson, Watt, William & Shanley, 2012).

After reviewing available research regarding teachers' knowledge of ADHD, Anderson, Watt, William, and Shanley (2012) reviewed research considering how the level of teacher knowledge about ADHD affects attitudes of teachers toward ADHD. A reviewed study from 2008 found that teachers with average to high knowledge of ADHD reported more favorable beliefs about interventions as well as more helpful behaviors toward students with ADHD than their counterparts with low knowledge (Anderson,

Watt, William & Shanley, 2012). However, higher levels of knowledge in teachers was also found to be associated with greater predictions of classroom disruption as a result of these students' behaviors and in turn, lower confidence in managing these students (Anderson, Watt, William & Shanley, 2012).

Anderson, Watt, William, and Shanley (2012) went on to conduct their own study and research to test the differences in knowledge of ADHD and the attitudes toward educating students with ADHD in relation to teaching experience. Research questions addressed in this study included "Total Knowledge of ADHD and Perceived Knowledge", "Knowledge of Characteristics, Treatments, and Causes of ADHD", and "Attitudes Towards Teaching Children with ADHD" (Anderson, Watt, William & Shanley, 2012). A total of one hundred twenty-seven teachers participated in an online survey as the procedure for data collection (Anderson, Watt, William & Shanley, 2012). Results of this study indicated that the more experience teachers have in the classroom the more their knowledge of ADHD increases, the less favorable their affect toward teaching students with ADHD becomes, and the more favorable behaviors toward teaching students with ADHD are reported (Anderson, Watt, William & Shanley, 2012).

The reviewed research indicates that teachers play an important role in the success of their students with ADHD. Teacher factors such as knowledge and skill surrounding the nature of ADHD and how this disorder affects students in their classrooms may impact the level of success these students meet. In addition, teachers' willingness to work with and educate students with ADHD in their classrooms may also impact the success and affect of these students. If a teacher has little knowledge or skill in the area of educating individuals with ADHD, they may be less willing or comfortable to

welcome and work with students with ADHD in their classrooms. This study will examine the level of knowledge, skill, and confidence teachers in a Pre-K through sixth grade Public School District in Southern New Jersey have in educating students with ADHD in varying types of classroom settings. General education and special education teachers will be included. This study will also examine the willingness that teachers have to work with students with ADHD in their classrooms and highlight any relationship between teacher knowledge, skill, and willingness.

## **Chapter 3**

### **Methodology**

#### **Setting and Participants**

This study examined the knowledge and skills possessed by teachers regarding educating students with ADHD in their classrooms as well as the willingness these teachers have to teach these students. This study included an examination of the relationship between the level of skill and amount of training teachers have and the willingness and confidence they have in working with students with ADHD in their classrooms.

The setting was a Pre-Kindergarten through sixth grade school district in Rural Southern New Jersey. There are a total of four school buildings in the district serving approximately 1,700 students. One building houses Pre-Kindergarten and Kindergarten students, another houses students in grades one and two, a third building houses students in grades three through five, and the fourth building houses students in grade six.

Teacher participants in this study included general education and special education teachers from grade levels Pre-Kindergarten through six as well as special area teachers. Classroom settings included general education, in-class resource, pull-out resource, and self-contained. Teachers with a wide range of teaching experience were included.

#### **Materials**

A self-rating scale was distributed to teachers in each of the four district school buildings via their school mailboxes. An attached letter explained the research being

conducted and requested teachers' voluntary and anonymous participation. This information was also sent via district e-mail. Those teachers willing to participate filled out a self-rating Likert scale of statements and included general identifying information such as whether they teach special education, general education, or are a special area teacher and the number of years of experience teaching as well as level of education. Directions provided within the letter instructed teachers to return completed self-rating scales via inter-office mail.

### **Procedure**

Teacher surveys were distributed in each building to all teachers within that building via office mailboxes and with the assistance of case managers from the Child Study Team in each building. Teachers were asked to participate in the voluntary survey and return forms via inter-office mail. An e-mail address and contact phone number were provided for any teachers with questions or concerns. Permission to request teacher participation in this survey was achieved prior to distribution by the Director of Special Services as well as and each building Principal. A general e-mail request for participation in the survey was also sent out to all teachers within the district along with the instructions that would be placed in their mailboxes.

### **Data Collection**

Teacher surveys were returned and collected throughout a one month time period. At the close of the survey period, surveys were organized into groups based on the teachers' role as a general education teacher, special education teacher, or special area teacher.

## **Chapter 4**

### **Results**

Teachers in a Pre-Kindergarten through sixth grade school district serving approximately 1,700 students in Rural Southern New Jersey were surveyed regarding their beliefs about and attitudes toward students with ADHD as well as their level of knowledge of the subject. The survey was in a Likert scale format and was distributed via teacher mailboxes as well as e-mail and the survey period closed after one month's time. A total of thirty-three teachers participated and returned completed surveys. Of this, seventeen were general education teachers, thirteen were special education teachers, and three were special area teachers. Teachers' experience ranged from 0-3 years to beyond 20 years and level of education ranged from Bachelor's Degree to Beyond Master's Degree. Results of special area teachers are not reported due lack of response.

#### **Results for General Education Teachers**

A total of seventeen general education teachers participated in the survey. However, one teacher responded only to certain items. The tables below show the percentage of teachers who responded with each level of agreement or disagreement to survey items.

The results for how the general education teachers feel about the placement of students with ADHD in general education settings versus special education settings are shown in Table 1. The majority of teachers indicated agreement with the idea that students with ADHD should be educated in the general education classroom. Many of the teachers disagreed with the idea that students with ADHD would be better served in a

special education setting. However, the majority of the general education teachers were undecided on this issue.

**Table 1**

***Placement for Students with ADHD: General Education Teachers***

	Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
I believe that students with ADHD should be educated in the general education classroom.	5.8%			47%	47%
Most students with ADHD would be better served in a special education classroom.	.5%	44%	63%		

*\*Item 2 taken from 16 total participants due to 1 no response*

The results for the questions concerning how the general education teachers feel regarding the needs of students with ADHD in the classroom are found in Table 2. The results indicate that the teachers generally did not believe that students with ADHD require too much time from the teacher. The results for the question regarding disruptive behavior were mixed. Although nearly half of the teachers did not feel these students were disruptive, nearly 25% of the teachers did feel that these students were disruptive. The majority of general education teachers disagreed with the idea that including students with ADHD in general education settings would have a negative impact on other students. However, the majority of teachers felt that these students require specific

accommodations to meet success in school. Many teachers (44%) were undecided whether or not students with ADHD need extra time to complete classroom assignments and tasks.

**Table 2**

*Needs of Students with ADHD in the Classroom: General Education Teachers*

	Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
Students with ADHD require too much time from the teacher.	5.8%	65%	12%	18%	
Students with ADHD constantly disrupt classroom instruction.	5.8%	47%	24%	24%	
Including students with ADHD in general education settings has a negative impact on other students.	24%	65%	5.8%	5.8%	
Students with ADHD require specific accommodations to meet success in school.			6.3%	75%	19%
Students with ADHD require extended time to complete classroom tasks and assignments.		19%	44%	31%	6.3%

*\*Items 4 & 5 taken from 16 total participants due to 1 no response*

The results for the teachers' level of training in specific areas of ADHD, their preparedness, experience, and confidence working with students with ADHD in their general education classrooms, and their implementation of strategies for students with

ADHD in their classroom are shown in Table 3. Despite reporting inadequate levels of training in the areas of symptoms, treatment options, and classroom interventions and strategies, teachers still reported higher levels, comparatively speaking, in preparedness, experience, and confidence as well as implementation of strategies for working with students with ADHD.

**Table 3**

***Teacher Training and Experience in Relation to Confidence and Preparedness:  
General Education Teachers***

	Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
I have been adequately trained through my district or otherwise regarding ADHD <i>symptoms</i> .	29%	41%	12%	12%	1%
I have been adequately trained through my district or otherwise regarding ADHD <i>treatment options</i> .	38%	44%	63%	13%	
I have been adequately trained through my district or otherwise regarding ADHD <i>classroom interventions and strategies</i> .	31%	38%	19%	13%	
I feel prepared to work with students with ADHD in my classroom.		5.8%	18%	47%	29%
I have experience working with students with ADHD in my classroom.				53%	47%
I feel confident in supporting students with ADHD so that they may meet their full potential in my classroom.		5.8%	18%	41%	29%

	Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
I regularly implement interventions and strategies for students with ADHD in my classroom.		6.3%		50%	44%

*\*Items 2, 3 & 7 taken from 16 total participants due to 1 no response*

The results for the teachers' understanding of symptoms and treatment options for students with ADHD are found in Table 4. Most of the teachers surveyed indicated disagreement with the idea that hyperactivity is a symptom demonstrated by all students with ADHD and with the idea that medication is the only effective intervention for students with ADHD. The majority of teachers surveyed indicated agreement with the idea that students with ADHD are able to learn to control their behavior through methods such as positive reinforcement and self management.

**Table 4**

***Symptoms and Treatment Options: General Education Teachers***

	Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
Hyperactivity is a symptom demonstrated by all students with ADHD.	44%	44%	6.3%	6.3%	

	Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
Medication is the only effective intervention for students with ADHD.	44%	50%	6.3%		
Students with ADHD can learn to control their behavior through methods such as positive reinforcement and self management.		6.3%	25%	50%	19%

*\*Items 1, 2 & 3 taken from 16 total participants due to 1 no response*

### **Results for Special Education Teachers**

A total of thirteen general education teachers participated in the survey. The tables below show the responses of the teachers to each survey item.

The results for the special education teachers' views on the placement of students with ADHD are shown in Table 5. The majority of teachers agreed that students with ADHD should be educated in the general education classroom while most disagreed that students with ADHD would be better served in a special education classroom.

**Table 5**

***Placement for Students with ADHD: Special Education Teachers***

	Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
I believe that students with ADHD should be educated in the general education classroom.			15%	69%%	15%
Most students with ADHD would be better served in a special education classroom.	31%	31%	31%	7.7%	

Table 6 shows the results for the special education teachers' feelings regarding the needs of students with ADHD in the classroom. Teachers were split overall when considering whether or not students with ADHD require too much of the teachers' time. Most teachers disagreed that these students constantly disrupt instruction in the classroom and have a negative impact on other students. All special education teachers surveyed felt that students with ADHD require specific accommodations to be successful in school, while teachers' opinions regarding whether or not those students require extra time to complete tasks and assignments varied, although half of teachers agreed.

**Table 6**

*Needs of Students with ADHD in the Classroom: Special Education Teachers*

	Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
Students with ADHD require too much time from the teacher.	15%	38%	23%	15%	
Students with ADHD constantly disrupt classroom instruction.		69%	23%	7.7%	
Including students with ADHD in general education settings has a negative impact on other students.	23%	62%	15%		
Students with ADHD require specific accommodations to meet success in school.				54%	46%
Students with ADHD require extended time to complete classroom tasks and assignments.	8.3%	17%	25%	50%	

*\*Item 5 taken from 12 total participants due to 1 no response*

As demonstrated in Table 7, the special education teachers varied greatly on reported levels of training surrounding ADHD in the areas of symptoms, treatment options, and classroom interventions and strategies. However, the majority of the teachers feel prepared to work with students with ADHD in their classrooms. All of the teachers reported having experience with these students in their classrooms and feeling confident in supporting these students so that they may meet their full potential. All teachers reportedly implement interventions and strategies for students with ADHD in their classrooms regularly.

**Table 7**

***Teacher Training and Experience in Relation to Confidence and Preparedness:  
Special Education Teachers***

	Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
I have been adequately trained through my district or otherwise regarding ADHD <i>symptoms</i> .	7.7%	23%	23%	23%	23%
I have been adequately trained through my district or otherwise regarding ADHD <i>treatment options</i> .	15%	38%	15%	7.7%	23%
I have been adequately trained through my district or otherwise regarding ADHD <i>classroom interventions and strategies</i> .	7.7%	23%	15%	31%	23%
I feel prepared to work with students with ADHD in my classroom.			7.7%	54%	38%
I have experience working with students with ADHD in my classroom.				31%	69%
I feel confident in supporting students with ADHD so that they may meet their full potential in my classroom.				69%	31%
I regularly implement interventions and strategies for students with ADHD in my classroom.				69%	31%

Table 8 shows the results for special education teachers regarding symptoms and treatment options for students with ADHD. Most teachers disagree that hyperactivity is demonstrated by all students with ADHD. Although some are undecided, most teachers also disagree with the idea that medication is the only effective intervention for students with ADHD. The majority of special education teachers surveyed believe that students

with ADHD are able to learn to control their behavior through methods including positive reinforcement and self management.

**Table 8**

*Symptoms and Treatment Options: Special Education Teachers*

	Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
Hyperactivity is a symptom demonstrated by all students with ADHD.	31%	62%		7.7%	
Medication is the only effective intervention for students with ADHD.	38%	46%	15%		
Students with ADHD can learn to control their behavior through methods such as positive reinforcement and self management.			23%	54%	23%

## Chapter 5

### Summary, Conclusions, and Recommendations

In this study general education and special education teachers within a Kindergarten through sixth grade district were surveyed. Surveys required teachers to respond using a Likert Scale format ranging from Strongly Disagree to Strongly Agree to seventeen statements surrounding the needs of students with ADHD, appropriate placement options, their level of training and experience, and their options regarding symptoms and treatment options for students with ADHD. Surveys were distributed to teacher mailboxes and an e-mail was sent out explaining the survey to teachers and requesting their participation. At the close of the survey period, thirty-three teachers had participated.

The majority of general education and special education teachers agreed that students with ADHD should be educated in the general education setting. The majority of special education teachers disagreed that students with ADHD would be better served in a special education setting, while the results for the general education teachers were mixed. While general education teachers mostly did not feel that students with ADHD require too much of the teacher's time, special education teachers were split on their feelings. However, one quarter of general education teachers felt that students with ADHD were disruptive in the classroom while the large majority of special education teachers felt that they were not. Neither the majority of general nor special education teachers felt that including students with ADHD in general education classrooms has a negative impact on their peers. When surveyed regarding their thoughts on accommodations for students with ADHD, the majority of general education teachers felt

students need specific accommodations to meet success in school. All of the special education teachers surveyed felt this way. However, close to half of special education and general education teachers, respectively, felt that students with ADHD need extra time to complete class assignments and tasks.

Perhaps the most significant results came from survey questions regarding teachers' training, preparedness, and confidence working with students with ADHD. General education teachers in the district in which the survey was conducted reported inadequate levels of training in the areas of ADHD symptoms, treatment options, and classroom interventions and strategies. Certain teachers even commented on surveys that training provided by the district in these areas would "be nice" and indicated that they would be receptive and eager to receive this type of training. Special education teachers reported great variation on their levels of training. Interestingly, regardless of their reported levels of training, the majority of teachers reported feeling prepared to educate students with ADHD. Additionally, the majority of teachers reported having experience in education these students and feeling confident in educating these students as well. The majority of general education teachers reportedly implement strategies for students with ADHD in their classrooms regularly, while all special education teachers report doing so.

When responding to statements regarding treatment options, most teachers surveyed overall did not believe that all students with ADHD demonstrate hyperactivity. Most teachers also did not feel medication to be the only ineffective intervention for students with ADHD. General education and special education teachers further agreed

overall that students with ADHD are able to learn to control their behavior through methods such as positive reinforcement and self management.

Although the implications of the survey are limited in their interpretation due to the limited number of participants, certain conclusions may be drawn from the information. It is clear that teachers in this particular district do not feel that they have been adequately trained in any area of ADHD by their school district or otherwise. The fact that special education teachers have reported slightly higher instances of training may be due to training they have received through their college education and preparation to become special education teachers. It seems, though, that through experience working with these students that teachers have trained themselves in a sense and have developed strategies that they regularly utilize in their classrooms to support these students.

Future research in surrounding districts is needed to determine whether or not school districts overall properly train their teaching staff in the effective education and support of students with ADHD. Although teachers report that they regularly implement strategies in their classrooms, it would be interesting to know whether or not these strategies are actually appropriate and effective for these students and if they are meeting school success. Also, would the effectiveness of such strategies be greater with additional training or is experience working with these students a greater indicator of success?

Based on the results of this study, teachers seem willing and feel internally prepared to work with students with ADHD in their general and special education classrooms. Limitations of this study include the fact that the effectiveness of the

strategies teachers are reportedly implementing specifically for students with ADHD is unknown. It seems plausible that teachers' experiences in practice working with students with ADHD has more of an impact on their feelings and knowledge regarding ADHD than formalized training for specific areas of ADHD does.

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