ELEMENTARY SCHOOL TEACHERS' ATTITUDES TOWARD WILLINGNESS TO TEACH STUDENTS WITH ADHD IN THEIR CLASSROOMS IN RIYADH CITY IN SAUDI ARABIA

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ELEMENTARY SCHOOL TEACHERS' ATTITUDES TOWARD WILLINGNESS TO TEACH STUDENTS WITH ADHD IN THEIR CLASSROOMS IN RIYADH CITY IN SAUDI ARABIA (176 pp.)

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The present study was designed to measure differences in elementary school teachers' attitudes toward willingness to teach students with ADHD in their classrooms in Riyadh City in Saudi Arabia through a descriptive non-experimental quantitative research instrument. The study examined relationships among many variables through teachers' level of education, years of teaching experience in the education area, grade level of teaching, class size, previous teaching experience with any kind of disabilities, teachers' positions in schools, special education courses taken in college, teachers' in-service training, and teachers' gender. The last variable examined teachers' overall attitudes toward their willingness to teach students with ADHD in their classrooms.

The participants in the study, a total of 300 elementary school teachers including 150 males and 150 females, completed the survey. Overall the results found that elementary school teachers have neutral attitudes toward willingness to teach students with ADHD in their classrooms. Moreover, the findings of the study revealed the significance of the relationship between teachers' willingness to teach students with ADHD in their classrooms and their level of education, grade level of teaching, class size, previous teaching experience with any kind of disabilities, positions in schools,

special education courses taken in college, and in-service training. Finally, the study found there was no relationship among years of teaching experience in the education area or gender and teachers' attitudes toward willingness to teach students with ADHD in their classrooms.

DEDICATION

To those I cannot give but part of their rights whatever I do for them the rest of my life, my beloved parents *Abdullah Abaoud and Aljawharah Almugrin*.

To my kind and faithful wife *Balsam Alshabanat.*

To *Aljawharah*, my little heart, my daughter who I cannot live without and to her sister whose birth is expected very soon.

To all individuals with ADHD and their families in our world.

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CHAPTER I

LITERATURE REVIEW

Historical Overview

Throughout history, many of the great civilizations have alluded to childhood development problems. For example, Galen, a physician in Ancient Greece, prescribed opium for restless infants. In the 1890s, physicians noticed similar patterns between brain-injured individuals and individuals with no history of trauma; both exhibited inattentive, restless behavior. The physicians hypothesized that the behavioral patterns in mentally unstable individuals resulted from some sort of dysfunction in the brain (Goldstein & Goldstein, 1990).

In his collection of writings in *The Lancet,* George Still wrote the first clinical description of what we currently label ADHD. He described the children in his clinical practice as lacking in moral control, which he concisely described as over-activity and a limited attention span (Brock, Jimerson & Hansen, 2009). After a world outbreak of encephalitis, health professionals in 1917 and 1918 observed that a group of children who had physically recovered from the disease presented a pattern of restless, inattentive, and hyperactive behavior not displayed before they were exposed to the illness. This pattern of behavior, described as post-encephalitic disorder, was thought to have resulted from a type of brain injury caused by the disease (Goldstein & Goldstein, 1990).

"Brain damaged" or "brain injured" were the terms used for children displaying ADHD-like symptoms in the 1930s and 1940s because individuals with actual brain damage exhibited similar behaviors (State Education Resource Center, 2005). Further

research in those years supported the idea that deviant behavior and brain damage had some causal connection. While studies revealed a connection between being born with brain trauma and mental retardation in children, behavior disorders similar to post-encephalitic behavior disorder were found in children with head injury histories. Other symptoms associated with various cognitive and behavioral problems involve infections, lead toxicity, epilepsy, and numerous medicines prescribed to help with ADHD symptoms (Lange, Reichl, Lange, Tucha, & Tucha, 2010). In 1937, Dr. Charles Bradley gave a stimulant medicine to a group of children with behavioral problems and reported on the changes that occurred, stating that behaviors improved by the dosage of Benzedrine that they were given (Hoover, 2011).

Despite numerous children displaying a similar array of conduct as those deemed to result from being "brain damaged," neither signs of anything neurologically abnormal nor a history of brain trauma could be documented in the 1950s and 1960s. It was assumed that neurological dysfunctions, however subtle their detection with medical procedures, caused these problems, and this identification led to use of the term "Minimal Brain Dysfunction" (State Education Resource Center, 2005). In the 1960s, the terms "Hyperactive" or "Hyperkinetic" were chosen to characterize these children. Specifically in education and psychology communities, this disorder was argumentatively diagnosed based on behavioral norms rather than on some recorded medical validation (State Education Resource Center, 2005).

In the 1970s, researchers in North America, enlightened by the work of Virginia Douglas (1972) and her colleagues (as cited in Brock et al., 2009), began to think of

hyperactivity as the primary symptom of this disorder, but they focused on the idea of inattention being only one of the primary symptoms. Ten years later, the label "Attention Deficit Disorder" (or ADD) emerged in the *Diagnostic Statistical Manual,* Third Edition (*DSM*), in which the disorder included sub-types, to highlight that students with ADHD do not have to be hyperactive in order to have the disorder. This type of categorization was controversial and heavily questioned, but research validated that there were clinical differences. The American Psychiatric Association (APA) revised *DSM III* in 1987 and changed the name of this disorder to "Attention-Deficit Hyperactivity Disorder" (ADHD), discontinuing the categorization for a short time period (Brock et al., 2009).

In 1980, *DSM-III* revised the term for the syndrome to "Attention Deficit Disorder" (ADD) and specified two categories: with hyperactivity (ADD + H) and without hyperactivity (ADD-H). To be diagnosed as having ADD, patients under the age of seven have to demonstrate an array of behavioral criteria lasting for six months at minimum. These criteria were required to be displayed in the following three symptom areas: attention, hyperactivity, and impulsivity (State Education Resource Center, 2005). In 1987, children were officially classified as having ADHD to reflect that both distractibility and hyperactivity are important factors in this disorder. Children did not have to be hyperactive, but could have any of the three problems to be given the diagnosis of ADHD (Silver, 1999).

In 1994, the *DSM-IV R* renamed the syndrome as Attention-Deficit/Hyperactivity Disorder (ADHD) for recognition purposes. The syndrome at that time was classified into four main categories; separating attention problems from hyperactivity and

impulsivity that still exist in the initial three areas of diagnosis (State Education Resource Center, 2005). "In 1996, a new medication called Adderall was approved by the FDA for the treatment of ADHD. After a period of time, it was deemed to be better at treating the disorder since it lasted longer" (Londrie, 2006). Three years later, other medications such as Concerta and Focalin also were used to treat ADHD. The first non-stimulant medication, Strattera, was introduced in 2003 to care for children with ADHD. Acting as an antidepressant, this drug boosts the quantity of nor-epinephrine in the brain (Londrie, 2006).

Definition of ADHD

As a component of the *Diagnostic and Statistical Manual* (*DSM-IV-TR* 4th ed.), ADHD was defined as "a persistent pattern of inattention and/or hyperactivity-impulsivity that is more frequently displayed and more severe than is typically observed in individuals at a comparable level of development" (Rosenberg, Westling, & McLeskey, 2008, p. 237). Symptoms that cause impairment, such as inattentiveness or impulsive hyperactivity, must have been present before the child was seven, but many diagnoses have been made several years after the symptoms were first exhibited. In at least two settings, as a school and home, impairment from the symptoms must be evident regarding the interference of developmentally academic, social, or occupational functioning (Robin, 1998).

Comorbidity With ADHD

According to the Ontario Child Health Study, Jackson and King (2004) discovered that over half of their sample of CD-diagnosed boys, aged 4–11, met the criteria for ADHD. Girls of a similar age range who met versus failed to meet the ADHD

criteria were 40 times more at risk of being diagnosed with conduct disorder (CD). Additionally, a study found that oppositional defiant disorder (ODD) was frequent among elementary school-aged children diagnosed with a combined type of ADHD, 62% being boys and 71% girls. In the same study, 37% of boys and 36% of girls were diagnosed with ODD. As mentioned by August and Realmuto (1996), ADHD is a diverse disorder with a variety of comorbidity issues and is less frequent in association with anxiety and mood disorders. Comorbidity may be more artificial than real when symptoms are not assessed conscientiously or behavioral symptoms involving disorders are either common or not well defined. However, comorbidity may be authentic and contribute a certain type of greater susceptibility to children with ADHD.

Externalizing disorders that frequently occur during childhood includes ADHD, ODD, and CD. Though their comorbidity is not entirely understood, the overlap of such disorders has been studied by employing latent class analysis (Dick, Viken, Kaprio, Pulkkinen, & Rose, 2005). Since distinct classes with and without comorbidity have been found, it is plausible that ADHD or ODD could have a genetic source for the comorbid disorders. With this in mind, ODD is found to be the most common type of comorbidity, with an ADHD-C subtype, while CD is displayed in entire subtypes. In the general population, however, gender distinctions exist between ODD and CD (Martin, Levy, Pieka, & Hay, 2006). Dick et al. (2005) examined understanding the covariation among childhood externalizing symptoms: genetic and environmental influences on CD, ADHD, and ODD symptoms. The data from more than 600 14-year-old Finnish twin pairs, who had finished standardized interviews, were analyzed. In order to analyze the

contribution of hereditary/ecological aspects to every symptom and their covariations, behavior genetic methods were utilized. The study discovered substantial genetic effects regarding each disorder with slight evidence of shared environmental influences, suggesting that the comorbidity among the diseases is primarily explained by genetic influences. Despite all of this, the distinction of each disorder was supported by the fact that each was under specific genetic influences.

Clinic-based studies show that the combined subtype has consistently been affiliated with externalizing disorders while inattentive subtypes have been present with greater impairment in academic achievement (Heckel, Clarke, Barry, McCarthy, & Selikowitz, 2009). Miranda, Soriano, Fernández, and Meliá (2008) detailed that more than 50% of children identified with ADHD suffer another disorder, and in conferring with community-based sampling, two or more additional disorders are shown in between 23% and 43% of the children. According to clinical samples of students with ADHD, 87% have a comorbid disorder, and 67% of the subjects have two or more associated disorders. The diagnostic criteria for ODD or CD are met in between 30% and 67% of children with clinical diagnoses of ADHD.

Diagnostic Criteria of ADHD

ADHD includes three different subtypes, each specifically identified in the *DSM IV-TR* through the American Psychiatric Association (APA, 2000). In *DSM IV-TR*, ADHD was put in a subclass of "Disorders Usually First Diagnosed in Infancy, Childhood, or Adolescence," generally referred to as "Attention-Deficit and Disruptive

Behavior Disorders." Besides ADHD, "this subclass includes Conduct Disorder and Oppositional Defiant Disorder" (Brock et al., 2009, p. 50).

According to the *DSM IV-TR*, to be classified as having ADHD an individual should have one of the following:

1. A combined type of ADHD is to be used if a combination of A1 and A2 (see Table 1) has been met within the past quarter year.
2. The predominantly inattentive type of ADHD is to be used if the first criterion is met, but the second one has not been met in the past six months.
3. The predominantly hyper-active type of ADHD is to be used if the second criterion is met, but the first one has not been met in over six months (Silver, 1999).

Assessment Methods

Interviews and behavior rating scales among parents and teachers, as well as observing the child's interaction skill, are among the assessment methods used to determine the diagnosis of ADHD (e.g., classroom, lunchroom, and playground). Reviews of the student's school records and medical examinations have also proven to be of good use. The American Academy of Pediatrics 2000 supports this use by recommending a number of methods to determine an ADHD diagnosis, ranging from questionnaires and check-lists to behavior rating scales. These methods are then utilized to identify the students with or without a medical condition of ADHD (Rosenberg et al., 2008).

Table 1

DSM IV-TR, Diagnostic Criteria for ADHD

A. Either (1) or (2):

1. Six (or more) of the following symptoms of *inattention* have been present for at least six months to a degree that is maladaptive and inconsistent with developmental level:

Inattention

a. often fails to give close attention to details or makes careless mistakes in schoolwork ,work, or other activities;
b. often has difficulty sustaining attention in tasks or play activities;
c. often does not seem to listen when spoken to directly;
d. often does not follow through on instructions and fails to finish schoolwork, chores, or duties in the workplace (not due to oppositional behavior or failure to understand instructions);
e. often has difficulty organizing activities;
f. often avoids, dislikes, or is reluctant to engage in tasks that require sustained mental effort (such as schoolwork or homework;)
g. often loses things necessary for tasks or activities (e.g., toys, school assignments, pencils, books, or tools);
h. is often easily distracted by extraneous stimuli;
i. is often forgetful in daily activities.

2. Six (or more) of the following symptoms of *hyperactivity-impulsivity* have been present for at least 6 months to a degree that is maladaptive and inconsistent with developmental level

Hyperactivity

a. often fidgets with hands or feet or squirms in seat;
b. often leaves seat in classroom or in other situations in which remaining seated is expected;
c. often runs about or climbs excessively in situations in which it is inappropriate (in adolescents or adults, may be limited to subjective feelings of restlessness);
d. often has difficulty playing or engaging in leisure activities quietly;
e. is often "on the go" or often acts as if "driven by a motor";
f. often talks excessively.

Impulsivity

g. often blurts out answers before questions have been completed;
h. often has difficulty awaiting turn;
i. often interrupts or intrudes on others (e.g., butts into conversations or games).

B. Some hyperactive-impulsive or inattentive symptoms that caused impairment were present before age 7 years.

C. Some impairment from the symptoms is present in two or more settings (e.g., at school [or work] and at home).

D. There must be clear evidence of clinically significant impairment in social, academic, or occupational functioning.

E. The symptoms do not occur exclusively during the course of a Pervasive Developmental Disorder, Schizophrenia, or other Psychotic Disorder and are not better accounted for by another mental disorder (e.g., Mood Disorder, Anxiety Disorder, Dissociative Disorder, or a Personality Disorder).

Source: Reprinted from the Diagnostic and Statistical Manual of Mental Disorders, 4th ed., TR. (Copyright 2000), pp. 92–93. American Psychiatric Association.

Interviews With Parents and Teachers

Parents and teachers have crucial information that can help plan education interventions for students with ADHD. Interviews are mainly used to gather information from parents about the student's behavior in settings outside of school, whether at home or in the community (Culatta, Tompkins, & Werts, 2003). Interviews are useful to identify students with ADHD because a large number of articles suggest that interviews among the parents, teachers, and/or students are an important aspect regarding the ADHD diagnostic process. According to Brock et al. (2009), this strategy is extremely important to diagnostic evaluation, as well as a complement to behavior rating scales. Interviews can range from being heavily scripted and structured to completely unstructured and open.

Behavioral Rating Scales

Rating scales deal with the gathering of subjective information about students who exhibit the syndrome. Teachers, parents, students, and others are given a set of statements or questions to help rate the behavior of the individual (Culatta et al., 2003). Rating scales are useful to identify students with ADHD because many pieces of literature reviewed suggest that behavior rating scales are critical to the ADHD diagnosis process, especially since they are relatively inexpensive, easy to understand, and quick to administer. However, using only those instruments is not enough for diagnosing ADHD. The minimum rating scale should include a *DSM IV-TR* ADHD symptom checklist, as well as one parent, one teacher, and one adolescent rating scale. Since there is a wide

range of specific rating scales from which to choose, the tester can select which one he or she prefers, as long as psychometrically valid measures are used (Robin, 1998).

Behavioral Observations

A systematic observation is most often conducted in a setting that is quite natural for the student, and is designed to determine whether or not certain target behaviors are present. Observations can be used to obtain global impressions, record a variety of behaviors, or record the occurrence of a specific type of behavior (Culatta et al., 2003). Behavioral observations can help identify students with ADHD because, as found in many studies, direct behavioral observations are important parts of the diagnosis process of ADHD (Brock et al., 2009). Behavioral observation systems have been developed for use with children with ADHD in the classroom, home, and clinic (Braswell & Bloomquist, 1991). It is highly recommended that the practitioner obtain data of the child's behavior at school to be used to check the accuracy of the teacher's responses on the questionnaires, and to provide insight into how the teacher affects the child's behavior (Goldstein & Goldstein, 1990).

Review of School Records

School records and students' discipline histories can potentially entail information about the extent of symptoms and how severe they have been over time. These records can also be used to analyze information relating to a child's focus during class, from his or her work habits to academic functioning (Brock et al., 2009). As part of the ADHD diagnostic, Brock and Clinton (2007) suggested these records might not be as useful when it comes to identifying a student with ADHD. These considerations may reflect

that much of the literature reviewed addresses an ADHD diagnosis from a clinical perspective as opposed to a school-based one (Brock et al., 2009).

Medical Examinations

Medical reasons other than ADHD must be ruled out because identification of the symptoms and aspects of the syndrome are not an exact science. Many of the symptoms can point to more than one problem (Culatta et al., 2003). Researchers have claimed that the "best person to make a diagnosis is a specialist pediatrician with an interest and expertise" (Brock et al., 2009, pp. 74-75). However, others have noticed how inadequate medical evaluations alone were regarding ADHD diagnosis and that "routine physical examinations of children with ADHD frequently indicate no physical problems and are of little help in diagnosing the condition or suggesting its management" (Brock et al., 2009, pp. 74-75). To the contrary, a medical exam potentially can help identify students with ADHD because, according to Brock et al. (2009), research indicated that medical evaluations could support the diagnostic process if they give access to information regarding differential diagnosis. By ruling out rare medical conditions that are potential causes of ADHD, medical examinations can help with the diagnosis process.

Prevalence of ADHD in School-Age Children

Although it is agreed that ADHD is one of the most common behavior disorders among children, the prevalence of this disorder varies. In a report given by the American Psychiatric Association in 2000, 3 to 7% of school-age children are estimated to suffer from ADHD (Rosenberg et al., 2008). According to the 2003 National Survey of Children's Health at the Centers for Disease Control, about 4.4 million American children

between the ages of four and 17 have been diagnosed with ADHD (Brock et al., 2009), and parents affirmatively responded to, "Has a doctor or health professional ever told you that your child has attention-deficit/hyperactivity disorder, that is ADD or ADHD?" (p. 21). According to this statistic, fewer than 10% of children in elementary school were diagnosed with ADHD at some point in their lives (Brock et al., 2009). The question is whether or not there should be separate diagnostic thresholds for the different genders, as research and related characteristics regarding ADHD suggest that, in general, males display greater frequencies and higher intensities of these characteristics than females do (Robin, 1998).

Characteristics of Students With ADHD

Academic Characteristics

Students with ADHD display a significant number of problems regarding the struggle with academia. Students with ADHD exhibit a significant decrease in full-scale IQ, but on the average score within the normal range. With regards to academic limitations, students with ADHD have significantly lower reading and mathematics achievement test scores than do students without ADHD (Loe & Feldman, 2007). Approximately 25% of students with ADHD are diagnosed with learning disorders, and these students typically obtain grades below their potential, thereby putting them more at risk for dropping out and not attending post-secondary schools (DuPaul & White, 2005).

According to Rosenberg et al. (2008), 53 to 80% of students with ADHD will probably have academic problems regarding core courses by the time they reach middle school, which is probably why many of these students have difficulties progressing

academically. A smaller portion of students (19 to 26%) will probably display difficulties in reading or mathematics. According to Trout, Lienemann, Reid, and Epstein (2007) who have evaluated underachievement, 80% of students with ADHD exhibit problems regarding learning or academic performance; approximately half of the students may require tutoring and have special educational needs. Students with ADHD tend to receive academic achievement test scores that fall below those of their "normal" peers.

Behavioral Characteristics

Students with ADHD often have short attention spans, usually running and climbing inappropriately, failing to listen when spoken to and often interrupting or intruding. These behaviors are usually unwelcomed by friends, as they are deemed generally unacceptable. As a result, students with ADHD often are avoided by other students (Rosenberg et al., 2008). The development of significant conduct problems, particularly aggressive behavior, may represent the most grave difficulty for students diagnosed with ADHD, because such behavioral difficulties often complicate peer relations and behavioral adjustments in the school and home environments (Braswell & Bloomquist, 1991), and may eventually be diagnosed as ODD as in the comorbidity with ADHD section above.

Global teacher reports show moderate to strong correlations with observed student behaviors (Lauth, Heubeck, & Mackowiak, 2006). According to these reports, the strongest relationships were demonstrated with on-task behavior. Students with ADHD were more disruptive and inattentive than their peers, as expected. In the findings of DuPaul and White (2005),

> Approximately 50 percent to 60 percent of those with ADHD exhibit significant symptoms of other disruptive behavior disorders, including oppositional defiant disorder (i.e., excessive defiance of authority figures and problems following rules) and conduct disorder (e.g., stealing, fighting, and truancy). (p. 28)

Compared to children with only ADHD or control children, studies have found that families of children with behavioral problems and comorbid ADHD display a higher rate of negative behaviors (Johnston, Murray, Hinshaw, Pelham, & Hoza, 2002). Teachers often notice that students with ADHD are hard to handle, as they have a lower attention span and usually need to move around. Their parents also find them to be restless, hyperactive, demanding of attention, and persistently curious regarding their environment (Vaughn, Bos, & Schumm, 2003).

Social Characteristics

Students with ADHD typically have difficulty maintaining friendships due to their aggressive behaviors. Familial problems could also be a factor because children with this disorder tend to argue with adults and fail to follow orders (DuPaul & White, 2005). Students with ADHD tend to engage in more negative social behaviors than do their more normal peers. For example, students with ADHD observed in playgroups were found to produce 10 times as many negative verbal statements and three times as many aggressive behaviors as their peers (Braswell & Bloomquist, 1991).

Research consistently has documented that students identified with ADHD symptoms are significantly impaired in their peer functioning (Wan-Ling, Kawabata, & Gau, 2011). Core symptoms of ADHD put both genders at a substantial risk for

difficulties in social relationships, which are in turn associated with negative outcomes later in life. These negative social outcomes occur for 5 to 10% of all students worldwide. In order to control this situation, it is necessary to examine closely the interactive settings where these problems are found, as they may serve as contexts for intervention (Zentall, Kuester, & Craig, 2011).

Psychological Characteristics

Students with ADHD may experience psychologically unstable conditions such as depression, low self-esteem, and anxiety (Robin, 1998). As students with ADHD become older, their steadily increasing failure in life experience starts to take a toll on their self-esteem, often leading to periods of depression (Robin, 1998). Depression is typically hard to recognize in students because many of its symptoms might reflect an entirely different problem (e.g., guilt, self-blame, feelings of rejection, lethargy, low self-esteem, and negative self-image), therefore, the idea of the student possibly having depression might be ignored altogether (Smith, 2004). According to Robin (1998), 45% of the teenagers in his follow-up study met the *DSM IV* criteria for Major Depressive Disorder. From this, it may be assumed that an increased risk of suicide might be caused by depression among teenagers with ADHD, but this possibility would require further research (Robin, 1998).

In relation to the school performance of students with ADHD, demanding teachers produce situations where students with ADHD may experience repeated failure and anxiety. However, such anxiety may be proportional to the situation at hand, whereas the worries of the student with Overanxious Disorder are considered to be excessive or

unrealistic (Braswell & Bloomquist, 1991). Ten to 40% of the clinical population has been found to have an overlap between anxiety disorders and ADHD. Unlike a conduct disorder, the presence of an anxiety disorder tends to diminish the negative effects of the anxiety disorder. Students with comorbid ADHD and anxiety have been found to have lower externalizing behaviors in general and less impulsivity in particular (Wenar & Kerig, 2006). Also, students with ADHD tend to have problems with low self-esteem. The research indicated that the hyperactive subjects were found to have a lower level of self-esteem than that of their sibling controls, along with lower educational achievements (Penix, 1991).

School Problems Experienced by Students With ADHD

Students with ADHD display a large amount of developmentally disruptive behavior. Due to their symptoms, these students find it difficult to cope with their school settings, as they normally have academic as well as behavioral problems (DuPaul & Weyandt, 2006b). Academically, students with ADHD tend to score poorly on exams and run a greater risk of needing special education attention (DuPaul, Weyandt, & Janusis, 2011). These students also tend to attend classes less than their "normal" peers and are at a higher risk of dropping out of high school (DuPaul et al., 2011).

Throughout their time in school, students with ADHD usually display low academic achievements and, as a result, their average dropout and grade retention rates are quite high compared to their peers. Since reading and basic mathematical understanding are critical for a successful adulthood, the problems students with ADHD have regarding these subjects are vital (DuPaul, Jitendra, & Volpe, 2006). A number of

studies found that students with ADHD were persistently academically deficient due to a percentage of low grades, course incompletions, and dropout rates (U.S. Department of Education, 2003).

DuPaul et al. (2004) examined a class with 238 students, 63 of whom did not have ADHD. Observation revealed that students with ADHD displayed rates of off-task behavior that were significantly higher than expected and their teachers reported they were more disruptive. "They often have significant difficulty developing and maintaining positive relationships with peers, teachers, and other school personnel" (DuPaul, 2007, p. 185). There is a parallel situation regarding suspensions/expulsions and disruptive behavior by students with ADHD. Barkley (1990) discovered that about half the students with ADHD in their study group had been suspended and 11 were expelled. Furthermore, longitudinal studies found there are higher risks of problematic academic outcomes for students with ADHD, including dropping out of high school, being in classes involving some sort of special education and low rates of post-secondary enrollment (DuPaul & Weyandt, 2006b).

Service Provision for Students With ADHD

Behavioral interventions/modifications/accommodations, medicine, and psychological counseling are the three major services of the current status of service provision for students with ADHD.

Behavioral Interventions/Modifications/Accommodations

Effective evidence and accommodations for students with ADHD now have a sizeable amount of research evidence proving their benefits (e.g., Abramowitz &

O'Leary, 1991; DuPaul & White, 2005; Harlacher, Roberts & Merrell, 2006). Cooperative learning, modified assignments, strategic seating, interventions for behavior modification, and consultations specialized for students and teachers are a few of the things observed in studies, but the extent to which these ideas have been used by teachers has been poorly documented (Schnoes, Reid, Wagner, & Marper, 2006). However, strongly structured behavioral management programs and academic/organized skill training in schools have proven to be effective throughout the years (Leslie, Lambros, Aarons, Haine, & Hough, 2008). One study conducted by Schnoes et al. (2006) discovered that a large number of special education teachers were using modified seating, one-on-one teaching, and behavioral modification. Instructors of special education were more drawn to using these techniques than were their general education colleagues, with the exception of modified seating.

Medication

ADHD is commonly treated with psychotropic medicine. As studies suggest, more than three-fourths of students medically diagnosed with ADHD are prescribed medication for some time period, and its use is increasing (Schnoes et al., 2006). Schnoes et al. analyzed state and regional data, reporting that the usage of stimulant medication increased by a factor of 2.5 within five years. They also saw an increase in the use of poly-pharmacy (i.e., the use of two or more medications to treat a single condition). Medication has been found to be more effective than behavioral therapies for students with ADHD, even though behavioral therapy by itself has been proven to be quite valuable. ADHD treatment protocols highly recommend combining medication

with behavioral modification in both the school and home settings. Several evidence-based treatments have addressed ADHD. In the home setting, it is recommended that behavioral interventions and psychotropic medication be used (Leslie et al., 2008). Recent research shows that receiving both types of treatments has the most powerful outcome for those students who receive them (OSEP's National Longitudinal Studies, 2004).

Psychological Counseling

Although it has not been found to mend the core symptoms of ADHD, psychological counseling has been used for a long time (OSEP's National Longitudinal Studies, 2004) because it helps the student understand ADHD and cope with the negative effects usually associated with it. Psychological consulting is most effective when the student's entire family is involved because they need to understand every aspect of the condition just as much as the student does. That way, everyone can cope with the effects of the condition and truly understand what the family member with ADHD must be going through. This also means that the students must understand the consequences of their behaviors, how much control they have over them, and what actions they need to take regarding each consequence (Culatta et al., 2003).

Strategies of Intervention for Teaching Students With ADHD

An alternative to individualized school-based interventions is class-wide interventions—the type used with the entire classroom—directed at students with ADHD. The advantages of a class-wide intervention are two-fold. First, it is considered more cost-effective and efficient than individualized interventions despite targeting a better

classroom performance for the students. Other students in the classroom may benefit from its use to improve their performance as well. Second, whole-class intervention assures the anonymity of the individual student whose behavior causes the use of the intervention (Barkley, 2005).

Many terms are given for when an entire class participates in an intervention. Each of these terms involves the word "class:" interventions at the classroom level, class level, or even class-wide (DuPaul & Stoner, 2003; Greenwood, Delquadri, & Carta, 1997). Despite the interchangeable nature of these terms, we use "class-wide interventions" for consistency when referring to any intervention used with an entire class, regardless of the intervention's reasoning (e.g., to benefit one student vs. the entire class). ADHD class-wide interventions can be categorized as either academic and/or behavioral. Interventions targeting distractive performance and the inability to stay seated (Barkley, 2005) are regarded as behavioral. However, academic interventions often target the negative aspects of academic performances associated with the diagnosis of ADHD, such as low performance and the inability to complete a task in a timely manner (Harlacher et al., 2006). Many teachers, however, may not be aware of the availability of class-wide interventions, of their effectiveness, and of possible outcomes resulting from their use (Witt, Martens, & Elliot, 1984).

Academic Interventions

Class-wide peer tutoring (CWPT). CWPT is a method involving two students, one being the tutor and the other the tutee. The attention span of students with ADHD tends to expand, as the instructional characteristics of peer tutoring (e.g., working

one-on-one with another individual or frequent, immediate feedback about performance quality) exist in several models of peer tutoring (DuPaul & Weyandt, 2006b). "CWPT is one of the most widely researched and implemented peer tutoring models. CWPT has been found to enhance the mathematics, reading, and spelling skills of students of all achievement levels" (DuPaul & Weyandt, 2006a, p.167). DuPaul and Weyandt (2006b) also described a study that evaluated the behavior and academic motivation of 19 children with ADHD and the effects that CWPT had on them. "Depending on the academic area that each teacher identified as weakest for the student with ADHD" (p. 347), CWPT was used regarding spelling, reading or mathematics. Results showed a significant increase in active engagement, 21.6% to 82.3%, when CWPT was used with students with ADHD (DuPaul & Weyandt, 2006b).

Tutoring naturally "is individualized—and that is what makes it such a great complement to classroom teaching (and, for some students, an absolutely necessary supplement to classroom learning)" (Chin, Rabow, & Estrada, 2011, p. 1). Tutors have more flexibility than teachers in teaching what students really need to learn at a particular time, readjusting schoolwork according to individual students' needs, interests, and abilities. In a very short time both tutors and their students can have a personal relationship as a result of their shared experience of learning from each other. The personalized nature of tutoring potentially can have immediate significant impacts (Chin et al., 2011).

In some research, results indicated that "class peer tutoring increased active engaged time for students with ADHD and reduced their disruptive off-task behavior,"

and increased their academic performance as well (DuPaul, Ervin, Hook & Mcgoey, 1998, p. 589). Class-wide peer tutoring interventions can significantly increase the attention span of a student, even among children who have serious problems staying alert and focused (Fuchs, Fuchs, Phillips, Hamlett, & Karns, 1995). The increase in these attention-grabbing behaviors is similar to those of children diagnosed with ADHD who were treated with methylphenidate, which is the most practical manner of treating this disorder. Data were obtained on similar changes in behavior related to the task for most students compared to the peer, indicating that it is not the deficit that is crucial but how it is arranged in an educational environment (DuPaul et al., 1998). Furthermore, the results indicate that behavior problems for students with ADHD in first through fifth grades improved after class peer tutoring with regards to academia, especially activity levels in math, reading and spelling. Class peer tutoring was found to reduce the disturbance in off-task behavior of children with ADHD (Harlacher et al., 2006), as well as to show remarkably similar changes in the behavior of the task relevant for children compared to the peer without a disability (Fabiano et al., 2010).

For those students with ADHD, Jitendra, DuPaul, Someki, and Tresco (2008) have investigated several models of peer tutoring. Most of them included features proven to help students with ADHD such as working personally with another person, and determining the frequency of learner education, as well as continually prompting academic responses, and providing immediate feedback toward the performance and its quality. For example, in a study by DuPaul et al. (1998, as cited in Jitendra et al., 2008), the assessment of efficiency for class peer tutoring of 18 learners with ADHD was

developed for students in the first through fifth grades. The results show class peer tutoring develops not only in terms of the academic performance of these students, with an array of effects regarding math and spelling, but it also led to behavior reduction away from the educational location.

Class-wide peer tutoring is a flexible strategy and allows adjustments to suit the specific environment of a classroom. It allows students to receive one-to-one attention and to correct errors immediately (Harlacher et al., 2006). An important aspect regarding individual interventions for students with ADHD is that they are a favored and valuable option for learners. Using class-wide peer tutoring intervention can be quite advantageous since the method could potentially be beneficial to all children in the classroom, not just for students with ADHD (Rogevich & Perin, 2008).

Instructional modification. Instructional modification is a proactive method used to target a child's academic needs, making the changes necessary to an actual assignment. For example, a teacher might divide an assignment into thirds, allotting frequent due dates for the assignments at hand (Harlacher et al., 2006). Altering the instructional materials presented and the tasks being given is another example of instructional modification. According to recent research results, "children with ADHD are more likely to attend to and complete tasks that include engaging stimuli within the task" instead of tasks that include extra things for them to do (DuPaul & Weyandt, 2006b, p. 167). Disruptive behavior has been proven to decrease, whereas academic performance in writing and reading increased along with academic performance while using instructional modifications (Harlacher et al., 2006).

Computer-assisted instruction (CAI). According to DuPaul and Weyandt (2006a), CAI allows students with ADHD to focus on academics with the aid of computerized or software generated instructional features. "CAI software typically is designed to address specific instructional objectives, provides highlighting of essential material (e.g., large print, color), utilizes multiple sensory modalities, divides content material into smaller bits of information, and provides immediate feedback about response accuracy" (p. 168). Additionally, it might limit features which could distract, such as animations and sound effects, but these instructional features could benefit students with behavioral and attention difficulties (DuPaul & Weyandt, 2006a).

According to several studies, using CAI in mathematics and reading led to massive improvements regarding academic performance and attention span for students with ADHD relative to conditions involving written seatwork (DuPaul et al., 2011). Despite having not yet been studied on a class-wide scale, using CAI in a given classroom setting would be quite logical (Harlacher et al., 2006). However, results of single-subject research design studies have proven that CAI can be quite efficient (DuPaul, 2007). For example, research indicated that CAI can improve fluency in oral reading and performance in mathematics on a curriculum-based measurement for small samples of children with ADHD. Large samples involving a design for this type of group research have not been made, to date (DuPaul et al., 2006).

Behavior Interventions

Contingency management (CM). CM can be described as one of the most common behavioral interventions for ADHD. It is defined as applying consequences

contingent to specific behaviors. By providing positive reinforcement, this approach is used to increase frequency of certain behaviors (Harlacher et al., 2006). Self-evaluation and self-management are suggested as viable alternatives to the traditional approach for decreasing disruptive behaviors for elementary school children with ADHD (Miranda, Jarque, & Tárraga, 2006). Positive results have been recorded for the usage of CM, as students displaying ADHD symptoms have steadily increased their focus, task and academic performances in school. Additionally, CM has decreased a majority of the negative symptoms associated with ADHD, such as disruptive behavior, hyperactivity and off-task performance (Harlacher et al., 2006).

Self-management. Also known as self-regulation, self-management interventions encourage students with ADHD to take the time to assess their behavior and achievement levels following successful applications of teacher-mediated behavioral approaches (DuPaul et al., 2011). Self-management requires a person to evaluate some aspect of his or her own behavior against some sort of criteria, which makes it similar to self-monitoring, as self-management requires students to self-assess their behavior at certain intervals (Reid, Trout & Schartz, 2005). Several studies noted how effective combining self-monitoring and self-reinforcement can be, as it improves a variety of behaviors of the student at hand (DuPaul & Weyandt, 2006b).

Self-management by students in special educational settings has been proven to be quite useful, according to the demonstration of several studies. Self-management of school children with ADHD in a regular class setting has also expressed the likelihood of behavior change (Davies & Witte, 2000). In a study by Harris, Friedlander, Saddler,

Frizzelle, and Graham (2005) monitoring of attention and performances was used to see if there was a differentiation regarding the effects on the focus and study management regarding the spelling ability of six primary students with ADHD. Both performances achieved positive results regarding the focus and spelling study motivation of the students. Even though the improvement of focus was comparable for both interventions, self-monitoring of attention showed an increase of spelling study behavior in two-thirds of the students.

Choice-making interventions. Choice-making interventions allow students to choose among pre-presented options. No matter which option they choose, the outcomes will be quite similar (DuPaul et al., 2011). In 2006, Harlacher et al. found a decrease in misconduct behavior in a study that focused on a seven-year-old child diagnosed with ADHD who was using the choice-making method. Another study noticed that two boys, each aged 11, with ADHD symptoms, though not formally diagnosed with ADHD, improved their task engagement skills.

Peer monitoring. Peer monitoring allows students to monitor each other's behaviors while using positive reinforcement. Similar to self-management, with this intervention the children themselves, not the teachers, are the key to change (Davies & Witte, 2000). This typically involves drawing the line between appropriate and inappropriate behavior and having students distinguish between the two, and providing reinforcement for students who display appropriate behavior (Harlacher et al., 2006). Peer monitoring has proven to be just as effective, sometimes even more helpful, than procedures administered by teachers, and it is also cost effective. Peer monitoring also

has the advantage of not using precious class time dealing with disruptive behavior (Davies & Witte, 2000). Despite few studies addressing the benefits of peer intervention for the entire class, the students reported that they enjoyed it. With a little help, peer monitoring shows how peers can positively impact one another's behavior, which is quite advantageous in itself (Harlacher et al., 2006).

Concept of Attitudes

An attitude is "a relatively enduring organization of beliefs, feelings, and behavioral tendencies towards socially significant objects, groups, events or symbols" (Hogg & Vaughan, 2005, p. 150). Described as a hypothetical feeling representing an individual's like or dislike of something, an attitude is discernment towards the "attitude object," for example, a person, place, or event. Such judgments could be helpful, harmful, or impartial, and they derive from pre-existing values or beliefs that eventually develop throughout the ages. In his writing on psychological categories, Jung defines attitude as "the readiness of the psyche to act or react in a certain way" (Kumar, 2012). The implication that attitudes are a means to evaluate psychological objects would seem to suggest that people have a one-sided attitude towards any given issue or object. However, recent work implies that this conception is too simplistic because when attitudes change, a new one may override, but not replace, the old one (Ajzen, 2001).

The two basic components of attitudes are values and beliefs. Beliefs are factual statements that are correct or right when they reflect the world and false when they contradict it. Values are worth statements, such as *expensive* or *cheap*, *good* or *bad*, *efficient* or *inefficient*, *useful* or *useless*. When combined, attitudes are formed from these

beliefs, cognitions, and values (Benoit, 2012). Two different attitudes regarding a certain object in the same context can be held simultaneously, the first being implicit or habitual while the latter is explicit. In order for an explicit attitude to be obtained in favor of an implicit one, evaluative response motivation and capacity are assumed to be used. With respect to the perspective in use, contrasting assessments of an identical object in varying conditions could be an indication for several attitudes towards the identical object, or attitudes toward varying psychological objects (Ajzen, 2001). As follows, attitudes influence behavior and are learned from experience, as they are composed of pairs of beliefs and values. An attitude is a compilation of all of a person's belief/value pairs, with an attitude influence from the more important ones (Benoit, 2012). Individuals' attitudes can be changed "by changing their belief or value (but not both), or by creating new ones (or changing relative importance of belief/value pairs)" (Benoit, 2012).

The ABC model can be used to describe attitudes: Affective, Behavioral and Cognitive (Kumar, 2012). "The affective response is the emotional response to any task or entity;" the behavioral response displays verbal or behavioral habits towards a task or entity and the cognitive response evaluates the entity established from an internal belief system. The overlap in semantics of beliefs, attitudes and values is considerable, but there are distinct compositions (Kumar, 2012). The development of attitudes may be due to a range of varying motives a person may have, which are developed and maintained and are subject to change because of their functions. Katz (1960) implied that at least one of four functions serves each attitude:

1. Adaptive: Unpleasant things can be avoided as desirable ones are obtained.

2. Knowledge: A comprehension of the otherwise overwhelming amount of information the world has to offer is satiated. This helps us simplify our worldly perceptions so that it is more manageable, safe and predictable.
3. Self-expressive (sometimes ego-expressive): We are able to relate to others, presenting an image with which others can interact and which can aid in establishing our identity.
4. Ego-defensive: We are able to protect ourselves from others and explain our actions that are deemed undesirable.

Helpful Versus Harmful Attitudes Toward Individuals With Disabilities

Attitude research projects are highly important because they influence behavior, which could be either helpful or harmful towards a person or object (Goreczny, Bender, Caruso, & Feinstein, 2011). According to these researchers, a number of attitudes could help individuals with disabilities by potentially increasing cognizance regarding contact with them. If individuals with similar experiences and backgrounds interact, the resulting factor could be a more positive and helpful attitude towards disabilities (Shannon, Schoen, & Tansey, 2009). Individuals with disabilities can fully engage in society, and a helpful attitude has been found to be associated with personal issues related to a person's disability, use of skills and self-concept (Goreczny et al., 2011; Hergenrather & Rhodes, 2007). As a result of a study by Goreczny et al. (2011), the more positive attitudinally the better for the person with disabilities; individuals with disabilities are more likely to be able to fully engage in integrated activities than had previously been the case.

Since young children can categorize individuals into disabled and nondisabled (usually favoring the nondisabled), negative viewpoints regarding individuals with disabilities arise from an early age due to socio-cultural conditioning (Krahé & Altwasser, 2006). For this reason, researchers deem these negative attitudes and beliefs to be adverse to individuals with disabilities. According to previous research, individuals with disabilities have a decreased chance of successfully integrating into the community due to negative stereotypes and views associated with them (Goreczny et al., 2011).

Children with disabilities can have their self-confidence shattered completely if they are aware of their peers' harmful views. Low social acceptance could potentially rob them of positive self-perception, thereby inhibiting academic progress (Rillotta & Nettelbeck, 2007). A number of studies have discovered the parallel between negative conceptions of persons with disabilities and the threatening impact these perceptions have on persons with disabilities, including their self-esteem and perception of their disability (Goreczny et al., 2011).

According to Wahl and Aroesty-Cohen (2010), the general public views individuals with disabilities as having undesirable traits including unpredictability and exhibiting dangerous behaviors, they tend to be discriminated against in a number of activities. Such baneful conceptions against disabilities and persons with them can be "invisible barriers" as persons with disabilities try to engage in community activities. In turn, their chances of successfully uniting with the community are decreased because such barriers reduce potential opportunities for persons with disabilities (Goreczny et al., 2011).

Teachers' Attitudes Toward Students With ADHD

Numerous studies have been published in regard to students with ADHD and how to assess and deal with the problem, but very little is known about how much teachers believe about the disorder and how they cope with it. Apparently, only a few studies have coherently evaluated the amount of ADHD attitudes teachers have and how their teaching characteristics correspond with these attitudes. Moreover, even fewer studies have evaluated teachers' beliefs and feelings towards ADHD (Kos, Richdale, & Hay, 2006). However, the teachers are often the ones who initially recognize if a child has a problem with concentration or hyperactivity. Therefore, they frequently make incorrect assessments regarding students with ADHD, and many teachers lack adequate comprehension of the nature, symptoms, causes, management, and interventions relating to ADHD (Kypriotaki & Manolitsis, 2010). Prior research has pointed out that teachers' attitudes toward ADHD mainly derive from the media or friends and relatives instead of from scientific resources. In addition, parents of children with ADHD often complain about not receiving appropriate direction and assistance at school, due to the deficiency in positive attitude by teachers (Kypriotaki & Manolitsis, 2010).

Research reported by West, Taylor, Houghton, and Hudyma (2005) reported data relating to the attitudes teachers and undergraduate education students have regarding ADHD. Together, a combination of 70 teachers and education students executed the Jerome et al. (Jerome, Gordon, & Hustler, 1994; Jerome, Washington, Laine, & Segal, 1999) instrument, along with a bonus item that asked what they thought about students with ADHD. The teachers and undergraduate education students were found to have

similar attitudes, but the teachers responded a little more accurately than the students. Both groups displayed similar data regarding questions about ADHD myths, revealing a lack of positive attitude.

Bekle (2004) decided that the data displayed a need for further instruction for teachers so they could properly address the needs of students with ADHD, but she noted that one should not generalize the data due to the small sample size. Generally, these results display a concern towards educators lacking understanding of ADHD because they might not have positive attitudes towards students with the disorder. Teachers exhibiting a small amount of positive attitude of ADHD might additionally display conceptions contrary to those teachers with better positive attitudes who also use the intervention methods (Martinussen, Tannock, & Chaban, 2011). Also, studies of teacher attitudes toward ADHD have generalized that teachers often misconceive ADHD. For example, Martinussen, Tannock, Chaban, McInnes, and Ferguson (2006) stated in a study that surveyed American and Canadian teachers that a common misconception held by many in-service teachers was that ADHD symptom severity could be reduced by dietary changes. Given the significant lack of training chances provided to teachers regarding ADHD, it is not shocking that many teachers have an attitude towards students with ADHD based on fallacious information.

An idea generally perceived by teachers is that acting-out behaviors are significantly more problematic than withdrawn behaviors (Kos et al., 2006). This could result from classes being less disrupted by withdrawn behaviors than by overt problem behaviors, or alternatively, teachers believe that internalizing problems yield a far better

prognosis than externalizing childhood problems (Kos et al., 2006). Students with ADHD often exhibit significant behavioral challenges within general education classes. For a majority of the time, these students are placed in general education classrooms typically without the necessary services. Teachers find that they are ill-prepared to work with such students and educators with experience handling students with ADHD or who have been educated about such students are more than eager to make instructional changes (Zentall & Javorsky, 2007).

According to research, exposure to students with ADHD in the classroom is beneficial to the teachers' attitudes about the disorder (Kos et al., 2006). Teachers reporting earlier exposure to students with ADHD displayed a much better understanding of the disorder than teachers who had yet to be exposed to it. In addition, the amount of ADHD understanding corresponds to the degree of this exposure because it shows how ADHD understanding is related to the number of students with ADHD taught throughout said teacher's career (Kos et al., 2006). In a study examining teachers' point of view towards instructional barriers and how self-efficient they were in working with students with ADHD based on previous training, Snider, Busch, and Arrowood (2003) discovered that the more training teachers had, the more confident they were, compared to inexperienced teachers. However, the teachers all identified important barriers regarding effective teaching and these included an absence of discipline, large classes, and the gravity of the students' dilemmas.

A limited number of studies have focused on teachers' attitude toward teaching students with ADHD, and even fewer have dealt with the teachers' attitude and beliefs

regarding the treatment of ADHD with stimulant medication (Snider et al., 2003). Results have shown that teachers lacked adequate preparation regarding the use of stimulants with students with ADHD, and that their training needed to be improved for their own sake. However, a number of recent studies noted that many teachers prefer combining behavior programming and medication to manage students' ADHD symptoms (Weyandt, Fulton, Schepman, Verdi, & Wilson, 2009).

According to Martinussen et al. (2006), elementary teachers reported their insecurity about their ability to develop instructional plans for children with ADHD because of how stressful such children can be. Teachers displaying high stress levels corresponding to a child's behavioral characteristics might have difficulty developing a good relationship with the student. Students who have negative relationships with their teachers typically have lower levels of achievement and functioning in the classroom. According to Kos et al. (2006), teachers tend to be pessimistic when it comes to teaching children with ADHD since the students, themselves, often exhibit negative attitudes. Despite these difficulties, teachers feel they are generally prepared to handle such challenges in their classes.

Variables Affecting Teachers' Attitudes

One of the most important qualities in the education of children with disabilities is teacher quality (Parasuram, 2006). Recent research in relation to teacher attributes determined the relationship between those characteristics and attitudes towards special needs children. Age, gender, level of education, grade level, years of teaching, and contact with persons with disabilities and pupils' grades, which might influence teachers'

acceptance of the working principle with students with disabilities, are just a few specific teacher variables that researchers have examined. Recent studies have also endeavored to relate teacher attitudes toward mainstream practice to teacher-related behavior with these variables, but conclusive results are quite scarce (Beyene & Tizazu, 2010; Larrivee & Cook, 2001; Rizzo, 1985).

A number of variable background characteristics such as gender, age, income level, acquaintance with a person with disability, frequency of contact, and closeness to a person with disability have been studied by Parasuram (2006). These were used to test teachers' attitudes regarding persons with disability and what the teachers thought about working with such students in regular schools. The analyses discovered that, while some of the variables did affect teachers' perspectives toward disabilities, prior association with a person with disability was the only variable that affected teachers' perspective toward disabilities.

A study by Beyene and Tizazu (2010) investigated the significance of attitudes, a factor that might influence teachers' attitudes toward students with disabilities. This study explored whether teachers' attitudes toward students with disabilities were influenced by the severity and nature of the disabling conditions, the training teachers would have to endure, experience, gender, and support availability. Assumptions from this review advise the need for training availability, adapted curriculum, positive attitude, and responsibility from teachers.

Regarding gender, reports found that male teachers were more negative toward students with disabilities than were their female colleagues. Research on teachers'

experiences revealed that the acceptance of students with disabilities by teachers is associated with prior experience with such students and teachers' overall contact and interactions with them. Despite studies indicating that teachers with higher degrees respond more negatively toward students with disabilities than do their colleagues, other studies found the opposite (Dupoux, Wolman, & Estrada, 2005).

A teacher's attitude was influenced by student variables such as the type and severity of disability and their grades, according to Briggs, Johnson, Shepherd and Sedbrook (2002). Professional educators' views toward teaching students with disabilities are recognized by various authors since teachers' attributes are crucial to the success of such efforts. Research argues that attitudes displayed toward teaching students with disabilities seem to be the most significant quality required for teachers to successfully assimilate students with special needs into regular classrooms.

Cross-Cultural Studies in ADHD Research

Several ADHD studies have been conducted in developed European countries, using *DSM-IV* criteria, after historical controversy between England and the United States regarding the differing prevalence of attention deficit syndromes and ADHD. After partially administering the *DSM-IV* ADHD criteria to an elementary school sample in Germany, ADHD prevalence was discovered to be much higher (17.8%) than the usual rates (i.e., 3-6%) encountered in the United States (Rohde, 2002). ADHD prevalence was found to be 9% in boys and 3% in girls in Canada, with probable differences due to age (*DSM-III-R* rather than *DSM IV-TR* symptoms). While 8.7% prevalence was found in Germany (excluding *DSM-IV* Inattentive Type), there was a 7.7% prevalence in Japan

using *DSM-III-R* symptoms. Prevalence was estimated at 1-2% in the United Kingdom after using the ICD-10 criteria and up to 5% after applying the *DSM-III-R* symptoms. The diagnosis of hyperactivity was not recognized in China until 1978 and since such recognition, prevalence rates ranging from 2 to 13% have been published. While no girls were diagnosed in China, a survey found that in Hong Kong 8.9% of boys between four and 15 years old were "hyperactive'' (Alban-Metcalfe, Cheng-Lai, & Ma, 2002).

The cross-cultural nature of ADHD has been globally acknowledged, with prevalence rates changing due to variations in defining diagnosis and conducting detection in each nation. The reported prevalence rate is widely accepted at 3-5% in school-aged children, as previously proposed by the *DSM-IV*. However, documentation of this rate varies for China, Canada, Hong Kong, the United Kingdom, and other nations, and for rural versus urban populations (Slone, Durrheim & Kaminer, 1996). Evidence of socio-cultural factors have appeared to assist with prevalence; studies have reported variations among different socio-economic strata. The evidence shows that in early and mid-childhood prior biological factors are less powerful predictors of inattentiveness and hyperactivity than are caregiving surroundings. However, to date there is no adequate test of a socio-cultural basis of ADHD. It is advised that study of conditions similar to ADHD should go deeper into a culture's belief system, as it is both biologically and culturally caused. The biological functioning of the individual may be affected though (Alban-Metcalfe et al., 2002).

Saudi Arabia Overview

Situated at the intersections of Europe, Africa, and Asia, Saudi Arabia extends from the Red Sea in the west to the Arabian Gulf in the east. Sharing borders with Jordan, Iraq, and Kuwait in the north, Yemen and Oman in the south, and the United Arab Emirates, Qatar, and Bahrain in the east, Saudi Arabia is a true crossroads between the East and West. It is the biggest country on the Arabian Peninsula, occupying an area approximately equal to the United States east of the Mississippi River (Royal Embassy of Saudi Arabia, 2012). Saudi Arabia covers approximately 80% of the Arabian Peninsula, 2,000,000 km^2. Typically, the climate is dry and hot in the summer, and mild during the winter. The winter rainfall never exceeds 100 mm per year in most regions, excluding the Asir Mountains, where it rains more in the summer (AI-Hazmi, 2012).

Saudi Arabia is home to Makkah, Islam's holiest city, where the Prophet Muhammad (peace be upon him) was born. Muslims from all over the world come to perform an Islamic Pilgrimage (*Hajj*), and the Holy Kaaba is located there. The capital city of Saudi Arabia is Riyadh, situated in the central part of the country. A period of development in the city that commenced with the oil boom continues today. As Riyadh is the headquarters for the Gulf Cooperation Council (GCC), Saudi Arabia has a major position in regional affairs. The second largest city, Jeddah, is the main Saudi Arabian port on the Red Sea and the arrival point for pilgrims arriving via air or sea and transiting on to Makkah. Dammam, known as the "World Energy Capital," is the largest town in the eastern region and a plethora of important centers for production and refining

petroleum are located nearby (King Abdullah University of Science and Technology [KAUST], 2012).

The 2011 population for Saudi Arabia was estimated at 26 million, including 5.6 million resident foreigners. Over a thousand persons per square kilometer (2,600 per sq. mi) occupy some cities and oases. As of 2011, the annual population growth rate for Saudi Arabia was 1.5%. The country has a strong work force of 7.3 million, approximately 80% of which are foreign workers (2010 est.); 72% of the work is services (including governmental services), 21% is industrial, and the other 7% is agricultural. The free market in Saudi Arabia has undergone drastic changes in a short time span, evolving from a basic agricultural society to a global and regional economic powerhouse with modern infrastructure. Consisting of 45% of Saudi Arabia's GDP, petroleum is a highly revered part of the economy, and Saudi Arabia as the biggest oil producer and exporter in the world, accounting for 20% of the world's oil reserves (KAUST, 2012).

Saudi Arabia is a monarchy, led currently by the Kingdom's sixth monarch, King Abdullah bin Abdulaziz Al-Saud (also known as the "Custodian of the Two Holy Mosques"). The Council of Ministers, the Cabinet, aids the King in his rule and there are 22 government ministries within the Cabinet. Each minister specializes in a different part of the government. A house of representatives called the Consultative Council also gives advice to the King (*Majlis Al-Shura*). The Council acts as a sort of legislature, proposing new laws and amending existing ones. Every four years the King appoints 150 members to the Council. Thirteen provinces make up Saudi Arabia, and each has its own governor and deputy governor, as well as its own council that helps the governor deal with

developing the province. Presided over by the King, the legal system of Saudi Arabia is founded on Islamic Law (Shari'ah; KAUST, 2012).

*Riyadh City***,** from the Arabic word *rawadah* denoting "a place of gardens and trees," is the Saudi Arabian capital and its largest city. The 18th century saw the First Saudi State, with Riyadh being part of it and Diriyah as the capital. In 1818, the Turks destroyed Diriyah and that allowed the capital to be shifted to Riyadh. In 1932, Saudi Arabia was established by Abdulaziz bin Abdulrahman Al-Saud with Riyadh as its capital (Maps of World, 2012). As the Saudi Arabian capital, Riyadh houses all governmental ministries and foreign embassies, including those of the United States and Canada (Helen Ziegler and Associates, 2012). Located 530 miles east of Jeddah on the Red Sea and 240 miles from Dammam on the Arabian Gulf, Riyadh is in the interior of the country. About 50 miles south of Riyadh is Al Kharj, an expansively irrigated agricultural region (The Saudi Network, 2012).

Education Development in Saudi Arabia

In the 1930s, formal primary education commenced in Saudi Arabia and by 1945 the country's founder, King Abdulaziz bin Abdulrahman Al-Saud, began running extensive programs to constitute schools in Saudi Arabia. In 1951, 226 schools enrolling 29,887 students were in the country (Royal Embassy of Saudi Arabia, 2012). On December 24, 1953, a new era developing modern education commenced with the establishment of the Ministry of Education as part of the Council of Ministers. After being appointed the first Minister of Education, King Fahd bin Abdulaziz Al-Saud advised the Ministry's expansion and modernization of educational resources. More

schools were opened and public education was augmented throughout the country. The educational expansion was so rapid that the Ministry of Education thought it necessary to create "school districts" in different parts of the country to aid the Ministry by distributing parts of its responsibilities. In 1958, Saudi Arabia and other Arab League members agreed on a uniform educational system that administered a six-year elementary program, a three-year intermediate, a three-year secondary cycle (the equivalent of high school), and a separate higher education program (Kingdom of Saudi Arabia Ministry of Higher Education, 2006).

In 1964, the first government school for girls was built and such institutions had been decreed in every part of Saudi Arabia by the end of the 1990s. Over half of the approximate 5 million students currently registered in Saudi universities and schools are female (Royal Embassy of Saudi Arabia, 2012). There are four special characteristics in a Saudi Arabian education: statewide financial support, Islamic emphases, a centralized education system and separate education for men and women. As Islam is the heart of each Muslim's curriculum, a certain weekly time is devoted to studying the Qur'an, Islamic traditions, jurisprudence, and theology for students at all levels (State University, 2012).

The Saudi educational policy has established an efficient educational system that meets the country's social, religious, and economical needs while eliminating illiteracy among Saudi adults. A number of governmental agencies are involved with administering, implementing, and planning the entire Saudi governmental educational policy. The Ministry of Education determines the standards for both the public and

private educational systems of Saudi Arabia, as well as overseeing special education for those in need. After being torn apart in early 2003, the General Presidency for Girls' Education was taken over by the Ministry and for good reason, as it supervised kindergartens and nursery schools, sponsored literacy programs for females and administered schools and colleges for girls (Saudi Arabian Cultural Mission to the U.S. [SACM], 2010).

Aware of the paramount power of equality in economic and social developments of the country, the Saudi government accommodates general education for everyone through the Ministry of Education. It also gives general and higher education and financial aid for some male and female students in certain areas of general education. College students receive not only financial aid and free housing, but their books, transportation and meals are given at an endowed price. Free transportation is given to male and female students (Arabian Campus, 2012).

In 1980, the General Organization for Technical Education and Vocational Training (GOTEVT) was instituted to adapt and implement Saudi plans for developmental manpower, and to look after all corresponding training centers and institutes. Five years earlier, the Ministry of Higher Education was established to contrive a higher education policy in Saudi Arabia in response to the swift expansion of post-secondary education. The Ministry of Education administered and supervised higher education prior to 1975 (SACM, 2010). Saudi Arabia has been constantly taking the educational process forward, directing a large portion of its revenues to educational development. It has undergone a complete educational revival, driven by the

establishment of four non-governmental universities and 21 governmental universities, including 19 colleges that are geographically located to accomplish Saudi needs. In the 2007-2008 educational school year, 70,681 students and 30,246 staff members made up the universities and with 32,000 schools for boys and girls, the total number of enrolled students is tallied at more than five million (The Majalla, 2011).

Special Education Policies in Saudi Arabia

Saudi Arabia lays its foundation on the Islamic Shari'ah, which highlights the necessity of human rights, especially people with disabilities' rights to live with self-respect and assistance from welfare. After wanting to develop itself socially and economically two decades ago, the Kingdom has been focusing on aiding people with disabilities, offering current and proper welfare for such individuals to assist them with the adjustment to the social order, their surroundings, and life by considering their rational, mental, physical, and occupational characteristics. In 1970, governmental education policies were issued to incorporate special education programs for individuals with disabilities. The Ministry of Education not only runs specialized institutions for children with disabilities but also provides educational rehabilitation through educational institutions (Japan International Cooperation Agency Planning and Evaluation Department, 2002).

As the first piece of legislature passed in 1987 for individuals with disabilities in Saudi Arabia, Legislation of Disability attested that the disabled had equal rights in society. The Legislation of Disability comprises articles that define what a disability is and exemplifies intervention and prevention programs, as well as assessment procedures

and diagnoses to aid in the determination of special education services. It also submits that rehabilitation services and training services in support of independent living be paramount for public agencies. Since mandating the Disability Code through legislation, which passed in 2000, Saudi Arabia has accepted an inclusion policy modeled after the American Disabilities Act (Alquraini, 2011). Its purpose is to "guarantee that people with disabilities have access to free and appropriate medical, psychological, social, educational, and rehabilitation services through public agencies" (p. 140).

In a further development regarding Saudi Arabian policy for students' with disabilities special education, a delegate from the Directorate General of Special Education in Saudi Arabia and experts of King Saud University's Special Education Department analyzed special education policies in America. In 2001, the Regulations of Special Education Programs and Institutes (RSEPI) program was brought into motion and was based on American policies. As the first set of codification for students with disabilities in Saudi Arabia, RSEPI frames the rights such students have, as well as the requirement for special education services. The prime categories of disabilities and duties for experts working with special education students are stated in the RSEPI. Furthermore, the RSEPI specifies an Individual Education Program (IEP), components of the program, as well as the type of individuals who ought to work on arranging and administering the IEP (Alquraini, 2011).

School Practices of Special Education in Saudi Arabia

In 1996, the General Secretariat of Special Education commenced the application of programs for students with disabilities throughout Saudi Arabia, regardless of the

severity of the disability, in order to establish new educational administrations for these students. The General Secretariat of Special Education pinpointed students who would benefit from special education programs in Saudi Arabia. Students with visual and auditory impairment, along with learning disabilities, emotional and behavior disturbances, speech and language impairments, mental retardation, autism, or multiple disabilities were among the beneficiaries. With the exception of traumatic brain injury, these disability branches are basically identical to the ones cited in the United States' IDEA (Al-Hamli, 2008).

Students with mild learning disabilities acquire their education in a standard classroom setting, but are aided by special education services. The only difference between these students and "normal" ones is that their curricula are slightly modified to accommodate the disabilities. However, separate classrooms are used to teach students with mild and cognitive disabilities in public schools. The majority of children with severe or several disabilities received their learning in different institutions throughout the 2007–2008 school year. Usually, these children are taught in sequestered settings where they cannot contact their more normally developing peers, allowing their chances to increase communication, academic and social skills to falter. Students with moderate to severe disabilities, autism, and various impairments are given assistance, financial aid, residences, and food in those institutions. During the weekdays, students live at school, returning home for the weekends (Alquraini, 2011).

Purpose of the Present Study

The present study was purposed to measure differences in elementary school teachers' attitudes toward willingness to teach students with ADHD in their classrooms in Riyadh City in Saudi Arabia. This study focused on examined relationships between many variables through teachers' level of education, years of teaching experience in the education area, grade level of teaching, class size (i.e., the number of students), previous teaching experience with any kind of disabilities, teachers' positions in schools (i.e., special or general education teachers), special education courses taken in college, teachers' in-service training, and teachers' gender. The last variable examined teachers' overall attitudes concerning their willingness to teach students with ADHD in their classrooms.

Chapter Summary

This chapter has focused on the historical overview about ADHD, definition of ADHD, comorbidity with ADHD, diagnostic criteria of ADHD, assessment methods, and prevalence of ADHD in school-age children. It also discussed characteristics of students with ADHD including academic, behavioral, social, and psychological characteristics, school problems experienced by such students, service provision for them and strategies of academic and behavior interventions for teaching students with ADHD. Lastly, it described the concept of attitudes, helpful versus harmful attitudes toward individuals with disabilities, teachers' attitudes toward students with ADHD, variables affecting teachers' attitudes, and cross-cultural factors in ADHD research, as well as a Saudi Arabia overview.

CHAPTER II

METHODOLOGY

The purpose of this study was to measure differences in teachers' attitudes toward and willingness to teach students with ADHD in their classrooms in Riyadh in Saudi Arabia. This chapter includes details about the methodology of the study, including the purpose of the current study, the research questions with hypotheses, the research design, and independent and dependent variables. This chapter also describes the identification of the setting and participants, sample size, and the statistical instrument that guided the study. A final section outlines the validity and reliability of the survey instrument, the survey translation, ethical considerations**,** procedures for data collection and data analysis, and a brief summary that concludes the chapter.

Purpose

The purpose of this study was to measure differences in elementary school teachers' attitudes toward and willingness to teach students with ADHD in their classrooms. The current study examined relationships among many variables through teachers' level of education, years of teaching experience in the education area, grade level of teaching, class size (i.e., the number of students), previous teaching experience with any kind of disabilities, teachers' positions in schools (i.e., special or general education teachers), special education courses taken in college, teachers' in-service training, and teachers' gender. The last variable examined teachers' overall attitudes toward their willingness to teach students with ADHD in their classrooms.

Research Questions

The research questions that guided the current study were: Do teachers' attitudes toward and willingness to teach students with ADHD differ depending on demographic characteristics, teachers' level of education, years of teaching experience in the education area, grade level of teaching, class size (i.e., the number of students), years of previous teaching experience with any kind of disabilities, position in schools (i.e., special or general education teachers), having taken special education courses during college, teachers' in-service training, and teachers' gender? What are teachers' overall attitudes concerning willingness to teach students with ADHD in their classrooms?

Research Hypotheses

The research hypotheses tested in the current study were as follows: Null hypotheses; there are no differences in teachers' attitudes concerning their willingness to teach students with ADHD based on their level of education, their years of teaching experience in the education area, their grade level of teaching, their class size (i.e., the number of students), their years of previous teaching experience with any kind of disabilities, their position in schools (i.e., special or general education teachers), their having taken special education courses during college, teachers' in-service training, and teachers' gender.

Research Design

The main purpose of study was to measure differences in elementary school teachers' attitudes toward and willingness to teach students with ADHD in their classrooms in Riyadh in Saudi Arabia. There was also interest in examining relationships

among many variables through teachers' level of education, years of teaching experience in the education area, grade level of teaching, class size (i.e., the number of students), previous teaching experience with any kind of disabilities, teachers' positions in schools (i.e., special or general education teachers), special education courses taken in college, teachers' in-service training, and teachers' gender.

A research design method that appropriately meets the objectives for this study would involve a non-experimental quantitative research design to measure teacher attitudes and other variables quantitatively using a survey instrument, and to describe and analyze teacher attitudes in relation to variables of interest. The non-experimental quantitative research design, due to its high degree of validity and substance regarding the examinations of individuals based upon broad observation, has the capacity to assess the significance between the variables' relationship (Perl & Noldon, 2000). The non-experimental quantitative research design also tests and validates theories concerning a phenomenon and its importance (Velez, 2012). This method is used to test hypotheses that try to answer questions regarding how often a phenomenon occurs or to simplify the reason for a certain event (Perl & Noldon, 2000).

Since data collection for the non-experimental quantitative research design is relatively quick, data are precise and allow for a standard when large samples of data are being obtained. Data from quantitative methods can be replicated, and the instruments created for such studies are often used to enhance other research due to the hardships of creating an effective measurement instrument that is reliable and precise (Velez, 2012). Results obtained from studies that used the quantitative method enable individuals to

design environments that are sure to deliver the type of results that researchers want to achieve (Perl & Noldon, 2000).

Variables

Several independent variables were included in this study: (a) teachers' level of education, (b) years of teaching experience in the education area, (c) grade level of teaching, (d) class size (i.e., the number of students), (e) previous teaching experience with any kind of disabilities, (f) teachers' positions in schools (i.e., special or general education teachers), (g) special education courses taken in college, (h) teachers' in-service training, and (i) teachers' gender. The only dependent variable in this study was teachers' overall attitudes concerning their willingness to teach students with ADHD in their classrooms.

Setting and Participants

According to McMillan and Schumacher (2001), a population is defined as a group of cases or elements, whether they be individuals, events, or objects, that conforms to certain criteria and to which one attempts to generalize the research results. Selection of participants in this study focused on elementary school teachers because they are the largest number of teachers employed by the Ministry of Education. In addition, the study considered students with ADHD sharing the classroom with their peers, though their teachers' attitudes toward them were not known, even though the most important stage of intervention for students with ADHD is in elementary school. Furthermore, the study was conducted in Riyadh City because it is the capital of Saudi Arabia, and is a large city with a large population. In addition, it has the most Ministry of Education elementary

schools and the greatest concentration of teachers and students. Issued in the 2011–2012 academic year, a Ministry of Education Statistical Report noted that Riyadh had 13,845 elementary schools serving 2,530,744 students with 232,453 teachers (Ministry of Education, 2013).

Referred to as the target population, the group addressed in the current study comprised male and female general and special elementary school teachers in Riyadh during the 2012–2013 academic year. The schools are gender specific in order to follow cultural and religious rules, with male teachers teaching at the boys' schools and females at the girls' schools. Most Riyadh schools have special education programs and everyone working in the elementary schools is under the Ministry of Education.

Sample Size

McMillan and Schumacher (2001) noted some important components by which the sample size should be determined. They said a researcher should consider several aspects: the nature of the research and hypotheses, monetary limitations, significance of outcome, quantity of variables investigated, techniques of data collection, and the measure of accuracy required. In this study, the researcher surveyed one of the largest cities in Saudi Arabia in terms of size of population and city area. Every participant was a Saudi male or female elementary school teacher in Riyadh. The study randomly selected participants representative of a larger population by following the distribution by the Ministry of Education to schools districts which include five districts: North, South, East, West, and Downtown.

The sample size in this study was 300 participants, of whom 150 were male teachers and 150 were female. The survey was distributed to 20 randomly selected Riyadh school districts, which included 10 boys' schools and 10 girls' schools from the five school districts, two boys' schools and two girls' schools from each district. All selected schools offered special education programs. The researcher conducted the study with permission of the General Manager of Education Administration in the Ministry of Education (See Appendix G).

Instrumentation

Since a review of the literature about teachers' willingness to teach students with ADHD did not produce a specific instrument needed to address information obtained from this study, the researcher designed and developed a survey. It measured teachers' attitudes and willingness to teach students with ADHD in their classrooms in Riyadh in Saudi Arabia. The development of this survey was based on areas of concern that were identified in the variables. In order to establish the validity of the content for the survey, the questionnaires were reviewed by two special education experts and a rehabilitation counseling expert from Kent State University in Ohio. Their feedback was considered and various questions were omitted from the demographic portion; a number of statements were also re-worded in the survey.

There were three parts to the survey, the first of which invited participants to a research study. Consent forms included information regarding the research project, as well as what participants would need to do and what the risks and benefits from the research would be (See Appendix A for the English version and Appendix C for the

Arabic version). The second part of the survey had nine questions regarding the participants' demographic information: (a) teachers' level of education, (b) years of teaching experience in the education area, (c) grade level of teaching, (d) class size (i.e., the number of students), (e) previous teaching experience with any kind of disabilities, (f) teachers' positions in schools (i.e., special or general education teachers), (g) special education courses taken in college, (h) teachers' in-service training, and (i) teachers' gender (See Appendix B for the English version and Appendix D for the Arabic version).

The third section of the survey consisted of 33 positively or negatively phrased statements divided into four categories which related to teachers' attitudes regarding their willingness to teach students with ADHD in their classrooms: The first section, group of questions about Students' Characteristics in Classroom, included 12 items: 9, 17, 18, 19, 22, 23, 24, 25, 26, 27, 28, and 29; the second section, which covered a group of questions about Teachers' Needs, included five items: 3, 4, 5, 6, and 11; the third section, a group of questions about Teacher Behavior, included seven items: 1, 16, 20, 30, 31, 33 and 35; and the fourth section, a group of questions about Teacher Abilities, included nine items: 2, 7, 8, 12, 13, 14, 15, 32, and 34. In the last section, the researcher decided to add two items: 10 and 21, which asked participants to circle specific numbers on the survey. These were included to make sure that participants were reading each statement and not simply selecting numbers (See Appendix B for the English version and Appendix D for the Arabic version).

This survey was researcher-designed, consisting of items taken from measures of attitudes toward willingness to teach students with ADHD used in previous studies.

Hayes (2000) commented that the most reliable and straightforward way to measure attitude was through questionnaires or surveys with Likert-Scale type items. Teachers were told to circle their responses, rating their level of acceptance on a five-point Likert Scale (1 = *strongly disagree*, 2 = *disagree*, 3 = *neutral*, 4 = *agree*, and 5 = *strongly agree*). Hayes further noted that Likert Scale questionnaires and surveys tend to help researchers to easily obtain data, as these types of instruments can establish changes in the responses that are formed based on their opinions. Likert Scales also aid researchers in measuring attitudes in a thorough way.

Validity and Reliability of Survey Instrument

Validity

Validity is the degree to which an intended test is measured; a test is valid for a particular purpose and group (Gay, 1981). Content validity means that items measure the intended content. Predictive validity means that scores predict criterion measure. Construct validity means that hypothetical concepts are measured by items. Face validity means that items apparently measure what the instrument purports to measure (Borg, Gall, & Gall, 1993; Fraenkel & Wallen, 2000).

Since every item used in the survey was based on a review of the literature, its content validly represented all of the dependent variables and other categories in the study. To establish the survey's content validity, two experts in Special Education and one expert Rehabilitation Counseling specialist at Kent State University in Ohio reviewed questionnaires. They were asked to evaluate the survey and critique its clarity and completeness and the importance of the items on the instruments. Their feedback was

considered and a number of questions were re-worded, while others were omitted from the demographic section of the survey.

Reliability

According to Morgan, Gliner, and Harmon (2006), "reliability refers to consistency of scores on a particular instrument" (p. 44). In this study, the instrument's reliability was determined by utilizing Cronbach's Alpha, a reliability test technique calling for only one test application to give a single estimation of the particular test's reliability. Cronbach's Alpha gives the common reliability coefficients value for all likely groupings of items when divided into two half-tests (Gliem & Gliem, 2003). The degree to which a survey *consistently* measures what is intended is its reliability (Gay, 1981). Cronbach's Alpha calculates internal consistency reliability by estimating how the items of one instrument relate to each other and to the instrument's total (Gay & Airasian, 2000).

In order to establish the estimate of internal consistency, the Statistical Package for Social Sciences program (SPSS) was utilized. Internal consistency is a measurement of reliability used to indicate the accuracy of how each item in a scale represents the domain being studied (Nunnally, 1967). Thirty-three items were responded to in order to establish the internal consistency. George and Mallery (2003, p. 231, as cited in Gliem & Gliem, 2003, p. 87) administered these general principles: "$\alpha > .9$ – Excellent, $\alpha > .8$ – Good, $\alpha > .7$ – Acceptable, $\alpha > .6$ – Questionable, $\alpha > .5$ – Poor and $\alpha < .5$ – Unacceptable" (p. 87). Even though the increase of the alpha value depends partly on the quantity of items in the scale, it does have its curtailing return. Another factor to note is

that an alpha of 0.8 in this current study is a quite reasonable goal (Gliem & Gliem, 2003). "It should also be noted that while a high value for Cronbach's alpha indicates good internal consistency of the items in the scale, it does not mean that the scale is unidimensional" (p. 87).

Survey Translation

The study survey was first stated in the English language and was then translated into Arabic. Hambleton (1992) classified the most suitable translation procedures that applied to research surveys in order to ensure high-quality translation. To commence the procedures, people whose first language was Arabic and who had adequate knowledge of the subject and age-appropriate language were selected. Maxwell (1996) determined five characteristics an appropriate translator had to have: adequate knowledge of English, great knowledge of the target language, experience in both cultures and languages, experience with target populations, and survey development skills. Four types of procedures are used for verifying translations: back translation, multiple-forward translation, statistical review, and translation reviewed by bilingual judges.

A bilingual professional translator (See Appendix E), who is a Ph.D. candidate in Translation Studies at Kent State University (KSU), translated the study survey. She is a faculty member of the Department of Modern and Classical Language Studies in KSU, Kent, Ohio, and in addition, she teaches Arabic courses in the same department. In order to confirm the validity of the translated survey, it was reviewed by two other bilingual judges (See Appendix E), each of whom holds an MA in Linguistics from the Middle East. They are faculty members in the Department of Modern and Classical Language

Studies in KSU, Kent, Ohio. Each has had long years of experience in teaching Arabic courses at KSU. The researcher chose the procedure of translation reviewed by bilingual judges because along with checking the translation's accuracy it checked that the instrument fits in with the Saudi culture and it checked the clarity and truth of the Arabic language.

Ethical Consideration

In order to make sure the study was conducted in an ethical manner, the researcher has completed the CITI course and submitted the Institutional Review Board (IRB) form for approval. The study has been reviewed and permission has been granted by Kent State University (See Appendix H) to ensure an ethical research study. Each participant was informed of the purpose and the method of the study. No one was obliged to participate in the survey; completion of it was voluntary, and therefore any participant could have stopped the survey at any time. There was no penalty for deciding not to complete the survey. Participation in the survey was anonymous and involved minimal risk to participants. The data were held in strict confidence and were used for research purposes only, and participants' identities would not be revealed in research reports or publications.

Data Collection Procedure

By writing a letter to the General Manager of Education Administration in Riyadh, of the Ministry of Education in Saudi Arabia (See Appendix F), a request was made for permission to distribute the surveys in 20 elementary schools. The letter proposed access by the researcher to teachers at certain elementary schools and, after

approval from the Institutional Review Board (IRB) at Kent State University (See Appendix H), the study was conducted. As soon as IRB and ministerial approval were settled, the researcher traveled to Saudi Arabia to distribute the surveys to schools.

As Tuckman (1999) suggested, a sample group from this population was chosen by the researcher to act as the respondents. To ensure that this sample was representative of the population (Saudi elementary school teachers), the researcher could draw a random sample to limit biased probability. The survey in this study was distributed to (n = 300) 20 randomly selected Saudi schools equally divided between male and female. Within 10 business days, the surveys were delivered by the researcher to 20 randomly selected Riyadh elementary school districts, including 10 boys' and 10 girls' schools. Two boys' schools and two girls' schools were selected from each of the five districts established in Riyadh by the Ministry of Education– North, South, East, West, and Downtown– with differences in school size and numbers of teachers, students, and classrooms. The principals of these schools were asked to allocate the survey to 15 teachers, inviting them to participate in the survey. Participants were asked to drop the completed surveys into a designated folder within a week of completion; on the due date, the researcher collected the survey folders from schools.

Data Analysis Procedure

To facilitate the approach to the research questions and the null hypotheses in this study, descriptive statistics were utilized. The first step to analyzing data is to describe it by using descriptive statistics. Data obtained from the survey include demography and responses to 33 survey items. These were analyzed using frequency, percentage, mean,

and standard deviation to determine if the questionnaire responses indicated any identifiable patterns of agreement among organizational partners. Responses were keyed and coded into a computer using SPSS (version 18) data analysis program for general statistical analysis.

An ANOVA and *t*-test were used to identify differences among independent variables in this study. ANOVA tests are a statistical way of determining whether or not the means of several groups are equal, and the result of this generalizes the *t*-test into multiple groups. The *t*-test is used to determine whether or not the two averages, or means, are the same. The ANOVA is preferable when comparing more than two averages (DifferenceBetween.net, 2011). To be more specific, an ANOVA test was utilized to establish the differences in the attitudes within each participating group in the areas of teachers' level of education, teaching experience in the education area, grade level of teaching, and class size. The independent sample *t*-test was used to analyze differences between the two groups' attitudes. Moreover, it was used to figure out the differences in the five areas covering previous teaching experience with any kind of disabilities, teachers' positions in schools, special education courses taken in college, teachers' in-service training, and teachers' gender.

Chapter Summary

This chapter described and deciphered the research methodology used in the current study, which included descriptions of the purpose of study, the research questions with hypotheses, the research design, and independent and dependent variables. It also included details of the identification of setting and participants, sample size, and

statistical instrument that carried the study. Finally, this chapter outlined the survey instrument's reliability and validity, as well as survey translation, and those of ethical consideration, agenda for data collection, and data analysis procedures.

CHAPTER III

RESULTS

The purpose of this study was to measure differences in elementary school teachers' attitudes toward and willingness to teach students with ADHD in their classrooms in Riyadh in Saudi Arabia. This chapter includes details of the results of analysis of data collected for the study, including statistical reliability analysis, demographic information of respondents, statistical analyses related to the research questions and hypotheses, descriptive statistics to survey items, and a brief summary that concludes the chapter.

Statistical Reliability Analysis

In this study, the instrument's reliability was determined by utilizing Cronbach's (α), a reliability test technique that provides a single estimation of the particular items' reliability. Cronbach's (α) gives the common reliability coefficients value for all likely groupings of items when divided into two half-tests (Gliem & Gliem, 2003). The degree to which a survey consistently measures what is intended is its reliability (Gay, 1981). The values of the Cronbach's (α) coefficient resulted from performing item analyses for 300 responses. The results indicated a high degree of reliability. The Cronbach's (α) for the overall survey items = .962 and included 33 items (See Appendix I). The reliability (i.e., internal consistency) was excellent in this study where the mean was 89.86 with standard deviation of 28.07. This mean varies little overall. The Item-Total Statistics (See Appendix J) provided the strength of the relationship between items. Items with

high correlations (r > .85) are very similar in some way and indicate that participants responded close to the same way on both.

Demographic Information of Respondents

Rates of Response

The survey in this study was distributed to 300 Saudi participants, equally divided between males and females, at 20 randomly selected Riyadh elementary school districts, including 10 boys' schools and 10 girls' schools. Two boys' schools and two girls' schools were selected from each of the five districts established in Riyadh by the Ministry of Education– North, South, East, West, and Downtown– with differences in school size and numbers of teachers, students, and classrooms. The principals of these schools were asked to allocate the survey to 15 elementary teachers, inviting them to participate. In Table 2, a total of 300 surveys were returned by 300 total participants, a 100% overall response rate. The total participants were 150 males, which was a 50% response rate, and 150 females, which was a 50% response rate.

Table 2

Participants and Percentage of Response Rates

Gender	*N*	%	Number of Surveys Returned
Male	150	50	150
Female	150	50	150
Total	300	100	300

Description of Participants' Demographic Information

The participants were asked to answer nine questions regarding their demographic information: (a) level of education, (b) years of teaching experience in the education area, (c) grade level of teaching, (d) class size (i.e., the number of students), (e) previous teaching experience with any kind of disabilities, (f) positions in schools (i.e., special or general education teachers), (g) special education courses taken in college, (h) in-service training, and (i) gender. The sample totaled 300 elementary school teachers, who responded to most of the questions. The following section provides the results of the participants' demographic information from those surveys.

Teachers' level of education. As Table 3 shows, 249 participants, 83% of the total participants, had undergraduate degrees. Nineteen had master's degrees, totaling 6.3% of the participants. Three participants (1%) had doctoral degrees. Twenty-eight participants (9.3%) had other degrees. Finally, one participant did not respond to this question, which was 0.3% of the total participants.

Years of teaching experience in the education area. As Table 4 presents, 81 participants had five years or less of teaching experience in the education area, which represented 27.0% of the total participants. Fifty-five participants had between six and 10 years, which was 18.3% of the total participants. Finally, 163 participants had 11 or more years of teaching experience, which was 54.3% of the total participants. However, one person failed to respond, which was 0.3% of the total participants.

Table 3

Frequency and Percent of Education Level

Education Level	Frequency	%
Undergraduate	249	83.0
Master	19	6.3
Doctoral	3	1.0
Other	28	9.3
Missing	1	0.3
Total	300	100.0

Table 4

Frequency and Percent of Years of Teaching

Years of Teaching	Frequency	%
5 years or less	81	27.0
6-10 years	55	18.3
11 years or more	163	54.3
Missing	1	0.3
Total	300	100.0

Grade level of teaching. As Table 5 shows, 47 participants, 15.7% of the total, taught first grade; 39 (13%) taught second grade. Thirty-five participants taught third grade, for 11.7% of the total. Forty-seven participants taught fourth grade, 15.7% of the total participants. Forty participants taught fifth grade, which was 13.3% of the total; 40

participants, 13.3%, taught sixth grade, and finally, 50 participants, 16.7% of the total number of participants, responded that they taught other grade levels. However, two participants failed to respond to this question, which amounted to 0.7% of the total participants.

Table 5

Frequency and Percent of Level of Teaching

Level of Teaching	Frequency	%
1st grade	47	15.7
2nd grade	39	13.0
3rd grade	35	11.7
4th grade	47	15.7
5th grade	40	13.3
6th grade	40	13.3
Other	50	16.7
Missing	2	0.7
Total	300	100.0

Class size (i.e., number of students). As Table 6 shows, 41 participants had between 0 and 15 students in their classrooms, which amounted to 13.7% of the total participants. One hundred forty-one participants had from 16 to 25 students, which was 47.0% of the total. One hundred ten participants had 26–35 students in their classrooms, which was 36.7% of the total participants. Five participants had 36 or more students in

their classrooms, 1.7% of the total participants. Only three participants failed to respond, which was 1.0% of the total participants.

Table 6

Frequency and Percent of the Number of Students

Number of Students	Frequency	%
0-15	41	13.7
16-25	141	47.0
26-35	110	36.7
36 or more	5	1.7
Missing	3	1.0
Total	300	100.0

Previous teaching experience with any kind of disabilities. As Table 7 indicates, 114 participants had taught students with disabilities in their classrooms, which totaled 38.0% of the participants. One hundred eighty-four, 61.3% of the total participants, had not taught students with disabilities in their classrooms. Finally, two participants, 0.7%, did not respond.

Table 7

Frequency and the Percent Who Taught Students With Disabilities

Taught Students with Disabilities	Frequency	%
Yes	114	38.0
No	184	61.3
Missing	2	0.7
Total	300	100.0

Teachers' positions in schools (i.e., special or general education teachers). As Table 8 indicates, 259 participants were general teachers in this study, which is 86.3% of the total. Forty participants, 13.3% of the total, were special education teachers. Only one participant failed to respond to this question, which was 0.3% of the total participants.

Table 8

Frequency and the Percent of Teaching Positions

Teaching Position	Frequency	%
General Teacher	259	86.3
Special Education Teacher	40	13.3
Missing	1	0.3
Total	300	100.0

Special education courses taken in college. As Table 9 shows, 89 participants had taken a special education course in college, which amounted to 29.7% of the total participants. Two hundred eight had not taken a special education course, which was 69.3% of the total participants. Three participants, 1.0% of the total, did not respond to this question.

Table 9

Frequency and the Percent Who Had Taken a Special Education Course

Had Taken a Special Education Course	Frequency	%
Yes	89	29.7
No	208	69.3
Missing	3	1.0
Total	300	100.0

Teachers' in-service training. As Table 10 shows, 72 participants had in-service training courses in special education or in the ADHD area, which was 24.0% of the total participants. Two hundred twenty-five participants had not had any in-service training courses in special education or in the ADHD area, which came to 75.0% of the total participants. Three participants (1.0%) did not respond to this question.

Teachers' gender. Table 11 shows that out of 300 total participants, 150 (50%) were male and there were 150 (50%) female participants.

Table 10

Frequency and the Percent of In-Service Training

In-service Training	Frequency	%
Yes	72	24.0
No	225	75.0
Missing	3	1.0
Total	300	100.0

Table 11

Frequency and the Percent of Gender

Gender	Frequency	%
Male	150	50
Female	150	50
Missing	0	0
Total	300	100

Statistical Analyses Related to the Research Questions and Hypotheses

The research questions that guided the current study were: Do teachers' attitudes toward and willingness to teach students with ADHD differ depending on demographic characteristics, teachers' level of education, years of teaching experience in the education area, grade level of teaching, class size (i.e., the number of students), years of previous teaching experience with any kind of disabilities, position in schools (i.e., special or

general education teachers), having taken special education courses during college, teachers' in-service training, and teachers' gender?

The research hypotheses tested in the current study were as follows: Null hypotheses—there are no differences in teachers' attitudes concerning their willingness to teach students with ADHD based on their level of education, their years of teaching experience in the education area, their grade level of teaching, their class size (i.e., the number of students), their years of previous teaching experience with any kind of disabilities, their position in schools (i.e., special or general education teachers), their having taken special education courses during college, teachers' in-service training, and teachers' gender.

In order to examine the first research question, an ANOVA and *t*-test were used to identify differences among independent variables in this study. ANOVA tests are a statistical way of determining whether or not the means of several groups are equal, and the result of this generalizes the *t*-test into multiple groups. The *t*-test is used to determine whether or not the two averages, or means, are the same. An ANOVA is preferable when comparing more than two averages (DifferenceBetween.net, 2011).

To be more specific, an ANOVA test was utilized to establish the differences in the attitudes within each participating group in the areas of teachers' level of education, teaching experience in the education area, grade level of teaching, and class size. The independent sample *t*-test was used to analyze differences between the two groups' attitudes. Moreover, it was used to figure out the differences in the five areas covering previous teaching experience with any kind of disabilities, teachers' positions in schools,

special education courses taken in college, teachers' in-service training, and teachers' gender. The second question was analyzed using frequency, percentage, mean, and standard deviation to determine if the questionnaire responses indicated any identifiable patterns of agreement among organizational partners. The results of frequency and percentage distributions for the second question can be found in Appendix K.

Research Question 1.1

Do teachers' attitudes toward and willingness to teach students with ADHD differ depending on teachers' level of education? To answer this question a one-way ANOVA was used to measure significant differences in teachers' attitudes concerning their willingness to teach students with ADHD based on their level of education (undergraduate, master, doctoral, and other) through assumptions of an alpha significance level ($p \leq .05$). In order to determine whether there were equal variances within the independent groups, a Test of Homogeneity of Variance was done by Levene's Test and the results' included F-value was 2.471, $p = .062$; thus the homogeneity of variance assumption indicated no significant violation of assumption was found which means this assumption was met.

Tables 12 and 13 summarize differences of the results of a one-way ANOVA between groups which indicated there was significant difference in the level of education where these results indicated the F-value was 3.123, $p = .026$, as was the significance value. There was a significant difference in teachers' attitudes concerning their willingness to teach students with ADHD based on their level of education. Samples did not have equal variances since the significance level of Levene's Test was less than 0.05,

Table 12

The Result of an ANOVA for Level of Education

Level of Education	*M*	*SD*	*N*
Undergraduate	89.3454	28.40379	249
Master	101.5263	24.36156	19
Doctoral	124.3333	12.42310	3
Other	84.3214	20.66855	28
Total	90.0000	27.76193	299

Table 13

The Result of an ANOVA for Level of Education

Source	*Sum of Squares*	*Df*	*MS*	*F*	*P*
Between	7070.192	3	2356.731	3.123	.026
Within	374966.333	1	374966.333		
Total	2651576.000	299			

so the assumption of homogeneity of variance was not met. One of the assumptions of an ANOVA is homogeneity of variance, meaning that the variance within groups is equivalent. When this assumption is violated, results may suggest significance where there is not a significant difference. Under this situation, the "equal variance not assumed" value is used, which is a more conservative estimate. The results also indicated the mean for those who responded at the doctoral level of education was higher than the other means (M = 124.3333, SD = 12.42310), which showed that teachers with high

levels of education have a higher willingness to teach students with ADHD in their classrooms than do others. The post-hoc analysis indicated that significant differences in means exist between the "Other" group and the "Doctoral" group ($p <$. 001). To see the full results for the post-hoc analysis, see Appendix L. So, the first null hypothesis can be rejected.

Research Question 1.2

Do teachers' attitudes toward and willingness to teach students with ADHD differ depending on years of teaching experience in the education area? To answer this question a one-way ANOVA was used to measure significant differences in teachers' attitudes concerning their willingness to teach students with ADHD, based on their years of teaching experience (i.e., 5 years or less, 6-10 years, and 11 years or more) in the education area through assumptions of an alpha significance level ($p \leq$.05). In order to determine whether there were equal variances between the independent groups, a Test of Homogeneity of Variance was done by Levene's Test and the included F-value was 3.260, p = .040. As a result, the homogeneity of the variance assumption indicated a significant violation of assumption was found, which means this assumption was not met. One of the assumptions of an ANOVA is homogeneity of variance, meaning that the variance within groups is equivalent. When this assumption is violated, results may suggest significance where there is not a significant difference. Under this situation, the "equal variance not assumed" value is used, which is the more conservative estimate.

Tables 14 and 15 summarize differences in the results of a one-way ANOVA between groups, which indicated no significant difference in years of teaching experience

Table 14

The Result of an ANOVA for Years of Teaching

Years of Teaching	*M*	*SD*	*N*
5 years or less	94.0247	30.12846	81
6-10 years	89.0000	31.43011	55
11 years or more	87.8773	24.94284	163
Total	89.7492	27.71089	299

Table 15

The Result of an ANOVA for Years of Teaching

Source	*Sum of Squares*	*df*	*MS*	*F*	*P*
Between	2082.691	2	1041.345	1.359	.258
Within	2001717.184	1	2001717.184		
Total	2637251.000	299			

in the education area where these results indicated the F-value was 1.359, $p = .258$ as was the significance value. Samples did have equal variances since the significance level of Levene's Test was greater than 0.05, so the assumption of homogeneity of variance was met. Significant difference in teachers' attitudes concerning their willingness to teach students with ADHD, based on their years of teaching experience, led to the conclusion that the second null hypothesis cannot be rejected.

Research Question 1.3

Do teachers' attitudes toward and willingness to teach students with ADHD differ depending on teachers' grade level of teaching? To answer this question a one-way ANOVA was used to measure significant differences in teachers' attitudes concerning their willingness to teach students with ADHD based on their grade level of teaching (i.e., 1st, 2nd, 3rd, 4th, 5th, 6th, and other) through assumptions of an alpha significance level ($p \leq .05$). In order to determine whether there were equal variances between the independent groups, a Test of Homogeneity of Variance was done by Levene's Test which results' included an F-value of 1.108, $p = .358$. As a result, the homogeneity of variance assumption indicated there is no significant violation of the assumption, which means this assumption was met.

Tables 16 and 17 summarize differences in the results of a one-way ANOVA between groups which indicated there was a significant difference in grade level of teaching where these results indicated the F-value was 6.010, $p < .001$, as was the significance value. Samples did not have equal variances since the significance level of Levene's Test was less than 0.05, so the assumption of homogeneity of variance was not met. One of the assumptions of an ANOVA is homogeneity of variance, meaning that the variance within groups is equivalent. When this assumption is violated, results may suggest significance where there is not a significant difference. Under this situation, the "equal variance not assumed" value is used, which is a more conservative estimate. So there was a significant difference in teachers' attitudes concerning their willingness to teach students with ADHD based on their grade level of teaching. The results also

Table 16

The Result of an ANOVA for Level of Teaching

Level of Teaching	*M*	*SD*	*N*
1st grade	87.4255	25.82697	47
2nd grade	85.0000	25.08092	39
3rd grade	85.3429	25.97617	35
4th grade	84.4468	24.34963	47
5th grade	85.2000	25.46108	40
6th grade	88.5000	27.08959	40
Other	110.3600	30.27679	50
Total	90.0872	27.75881	298

Table 17

The Result of an ANOVA for Level of Teaching

Source	*Sum of Squares*	*df*	*MS*	*F*	*P*
Between	25230.819	6	4205.137	6.010	< .001
Within	2351926.990	1	2351926.990		
Total	2647336.000	298			

indicated the mean for those who responded in the *Other* grade level of teaching was higher than between the other means (*M* = 110.3600, SD = 30.27679), which implies that teachers with other grade levels of teaching have a higher willingness to teach students with ADHD in their classrooms than do other teachers. The post-hoc analysis indicated

that significant differences in means exist between the *Other* group compared to each of the other grade levels of teaching (1st, 2nd, 3rd, 4th, 5th, 6th; $p < .001$ to $p = .002$). To see the full results for the post-hoc analysis, see Appendix M. So, the third null hypothesis can be rejected.

Research Question 1.4

Do teachers' attitudes toward and willingness to teach students with ADHD differ depending on class size (i.e., the number of students)? To answer this question a one-way ANOVA was used to measure significant differences in teachers' attitudes concerning their willingness to teach students with ADHD based on their class size through assumptions of an alpha significance level ($p \leq .05$). In order to determine whether there were equal variances between the independent groups, a Test of Homogeneity of Variance was done by Levene's Test which results included F-value was 4.134, $p = .007$. As a result, the homogeneity of variance assumption indicated that a significant violation of assumption was found which indicates this assumption was not met. One of the assumptions of an ANOVA is homogeneity of variance, meaning that the variance within groups is equivalent. When this assumption is violated, results may suggest significance where there is not a significant difference. Under this situation, the "equal variance not assumed" value is used, which is a more conservative estimate.

Tables 18 and 19 summarize differences in the results of a one-way ANOVA between groups which indicated there were significant differences in class size where these results indicated the F-value was 15.092, $p < .001$, as was the significance value. Samples did not have equal variances since the significance level of Levene's Test was

Table 18

The Result of an ANOVA for Class Size

Class Size	*M*	*SD*	*N*
0-15	114.2439	33.29999	41
16-25	87.8936	24.86038	141
26-35	82.8000	24.11966	110
36 or more	97.8000	33.58124	5
Total	89.8114	27.84631	297

Table 19

The Result of an ANOVA for Class Size

Source	*Sum of Squares*	*df*	*MS*	*F*	*P*
Between	30720.076	3	10240.025	15.092	< .001
Within	608912.034	1	608912.034		
Total	2637251.000	299			

less than 0.05, so the assumption of homogeneity of variance was not met. One of the assumptions of an ANOVA is homogeneity of variance, meaning that the variance within groups is equivalent. When this assumption is violated, results may suggest significance where there is not a significant difference. Under this situation, the "equal variance not assumed" value is used, which is a more conservative estimate. So there was a significant difference in teachers' attitudes concerning their willingness to teach students

with ADHD based on their class size. As the results also indicated, the mean for who responded for 0-15 students was higher between the other means (M = 114.2439, SD = 33.29999), which indicated teachers with few students have a higher willingness to teach students with ADHD in their classrooms than do other teachers. The post-hoc analysis indicated that significant differences in means exist between "0-15 students" compared to both "16-25 students" and "26-35 students" ($p < .001$). To see the full results for the post-hoc analysis, see Appendix N. So, the fourth null hypothesis can be rejected.

Research Question 1.5

Do teachers' attitudes toward and willingness to teach students with ADHD differ depending on previous teaching years of experience with any kind of disabilities? To answer this question a *t*-test of independent means was used to measure significant differences in teachers' attitudes concerning their willingness to teach students with ADHD based on their previous years of teaching experience with any kind of disabilities and those with no experience through assumptions of an alpha significance level ($p \leq .05$). In order to determine whether there were equal variances between independent groups a Test of Homogeneity of Variance was done by Levene's Test, the results concluded F-value was 5.546, $p = .019$. As a result, the homogeneity of variance assumption indicated a significant violation of assumption was found which means this assumption was not met. One of the assumptions of a *t*-test is homogeneity of variance, meaning that the variance within groups is equivalent. When this assumption is violated, results may suggest significance where there is not a significant difference. Under this

situation, the "equal variance not assumed" value is used, which is a more conservative estimate.

Table 20 summarizes differences in the result of a *t*-test of independent means between groups which indicated there was a significant difference between teachers with previous teaching years of experience with any kind of disabilities and those without, where these results indicated *t*-value was 7.423, $p < .001$ as was the significance value. Samples did not have equal variances since the significance level of Levene's Test was less than 0.05, so the assumption of homogeneity of variance was not met. One of the assumptions of a *t*-test is homogeneity of variance, meaning that the variance within groups is equivalent. When this assumption is violated, results may suggest significance where there is not a significant difference. Under this situation, the "equal variance not assumed" value is used, which is the more conservative estimate. Since the significance level was less than 0.05, there was a significant difference in teachers' attitudes concerning their willingness to teach students with ADHD based on their previous teaching years of experience with any kind of disabilities. As the results also indicated, the mean for those who had taught students with disabilities was higher than those who had not ($M = 104.4035$, SD = 28.43241), which indicated that teachers who had taught students with disabilities have a higher willingness to teach students with ADHD in their classrooms. So, the fifth null hypothesis can be rejected.

Table 20

The Result of a t-Test for Taught Students With Disabilities

Taught Students with Disabilities	*N*	*M*	*SD*	*T*	*P*
Yes	114	104.4035	28.43241	7.423	< .001
No	184	80.8750	23.32078		

Research Question 1.6

Do teachers' attitudes toward and willingness to teach students with ADHD differ depending on their school positions (i.e., special or general education teachers)? To answer this question a *t*-test of independent means was used to measure significant differences in teachers' willingness to teach students with ADHD based on position in school through assumptions of an alpha significance level ($p \leq .05$). In order to determine whether there were equal variances between the independent groups a Test of Homogeneity of Variance was done by Levene's Test; the results' included F-value was 5.315, $p = .022$. As a result, the homogeneity of variance assumption indicated there was a significant violation of assumption found which means this assumption was not met. One of the assumptions of a *t*-test is homogeneity of variance, meaning that the variance within groups is equivalent. When this assumption is violated, results may suggest significance where there is not a significant difference. Under this situation, the "equal variance not assumed" value is used, which is a more conservative estimate.

Table 21 summarizes differences of the result of a *t*-test of independent means between groups, which indicated there was a significant difference between special and

general education teachers where these results' indicated *t*-value was 7.749, $p < .001$ as was the significance value. Samples did not have equal variances since the significance level of Levene's Test was less than 0.05, so the assumption of homogeneity of variance was not met. One of the assumptions of a *t*-test is homogeneity of variance, meaning that the variance within groups is equivalent. When this assumption is violated, results may suggest significance where there is not a significant difference. Under this situation, the "equal variance not assumed" value is used, which is a more conservative estimate. Since the significance level was less than 0.05, there was a significant difference in teachers' attitudes concerning their willingness to teach students with ADHD based on their teaching position in schools (i.e., special or general education teachers). The results also indicated the mean for special education teachers was higher than for general teachers ($M = 118.9000$, SD = 31.06222), which implies special education teachers have a higher willingness to teach students with ADHD in their classrooms. So, the sixth null hypothesis can be rejected.

Table 21

The Result of a t-Test for Teaching Position

Teaching Position	*N*	*M*	*SD*	*T*	*P*
General Teacher	259	85.4402	24.44959	7.749	<.001
Special Education Teacher	40	118.9000	31.06222		

Research Question 1.7

Do teachers' attitudes toward and willingness to teach students with ADHD differ depending on their having taken special education courses during college? To answer this question a *t*-test of independent means was used to measure significant differences in teachers' attitudes concerning their willingness to teach students with ADHD based on those having taken special education courses during college and those having not, through assumptions of an alpha significance level ($p \leq .05$). In order to determine whether there were equal variances between the independent groups a Test of Homogeneity of Variance was done by Levene's Test which results' included F-value was 7.009, $p = .009$. As a result, the homogeneity of variance assumption indicated significant violation of assumption was found which means this assumption was not met. One of the assumptions of a *t*-test is homogeneity of variance, meaning that the variance within groups is equivalent. When this assumption is violated, results may suggest significance where there is not a significant difference. Under this situation, the "equal variance not assumed" value is used, which is a more conservative estimate.

Table 22 summarizes differences in the result of a *t*-test of independent means between groups, which indicated there was a significant difference between who had taken special education courses during college and who had not, where these results' indicated *t*-value was 7.927, $p < .001$ as was the significance value. Samples did not have equal variances since the significance level of Levene's Test was less than 0.05, so the assumption of homogeneity of variance was not met. One of the assumptions of a *t*-test is homogeneity of variance, meaning that the variance within groups is equivalent.

Table 22

The Result of a t-Test for Who Had Taken a Special Education Course

Had Taken a Special Education Course	*N*	*M*	*SD*	*T*	*P*
Yes	89	109.1573	28.90183	7.927	<.001
No	208	81.7692	23.04490		

When this assumption is violated, results may suggest significance where there is not a significant difference. Under this situation, the "equal variance not assumed" value is used, which is the more conservative estimate. Since the significance level was less than 0.05, so there was a significant difference in teachers' attitudes concerning their willingness to teach students with ADHD based on their having taken special education courses during college. As the results also indicated, the mean for who had taken a special education course was higher than for those who had not (M = 109.1573, SD = 28.90183), which indicated that teachers who had taken a special education course have a higher willingness to teach students with ADHD in their classrooms. So, the seventh null hypothesis can be rejected.

Research Question 1.8

Do teachers' attitudes toward and willingness to teach students with ADHD differ depending on teachers' in-service training? To answer this question a *t*-test of independent means was used to measure significant differences in teachers' attitudes concerning their willingness to teach students with ADHD based on who had had in-service training and who had not, through assumptions of an alpha significance level

($p \leq .05$). In order to determine whether there were equal variances between the independent groups a Test of Homogeneity of Variance was done by Levene's Test which results' included F-value was .319, $p = .573$. As a result, the homogeneity of variance assumption indicated no significant violation of assumption was found which indicates this assumption was met.

Table 23 summarizes differences of the result of a *t*-test of independent means between groups which indicated there was a significant difference between who had had in-service training and who had not, where these results' indicated *t*-value was 4.728, $p < .001$, as was the significance value. Samples did not have equal variances since the significance level of Levene's Test was less than 0.05, so the assumption of homogeneity of variance was not met. One of the assumptions of a *t*-test is homogeneity of variance, meaning that the variance within groups is equivalent. When this assumption is violated, results may suggest significance where there is not a significant difference. Under this situation, the "equal variance not assumed" value is used, which is the more conservative estimate. Since the significance level was less than 0.05, so there was a significant difference in teachers' attitudes concerning their willingness to teach students with ADHD based on whether or not they had had in-service training. The results also indicated the mean for who had had in-service training was higher than for those who had not ($M = 102.9306$, SD = 25.37123), which suggested teachers who had in-service training have a higher willingness to teach students with ADHD in their classrooms. So, the eighth null hypothesis can be rejected.

Table 23

The Result of a t-Test for Who Had In-Service Training

Had In-service Training	*N*	*M*	*SD*	*T*	*P*
Yes	72	102.9306	25.37123	4.728	<.001
No	225	85.7289	27.32497		

Research Question 1.9

Do teachers' attitudes toward and willingness to teach students with ADHD differ depending on teachers' gender? To answer this question a *t*-test of independent means was used to measure significant differences in teachers' attitudes concerning their willingness to teach students with ADHD based on the teachers' gender (male or female) through assumptions of an alpha significance level ($p \leq .05$). In order to determine whether there were equal variances between the independent groups a Test of Homogeneity of Variance was done by Levene's Test which results' included F-value was .501, $p = .480$. As a result, the homogeneity of variance assumption indicated there is no significant violation of assumption, which means this assumption was met.

Table 24 summarizes differences of the results of a *t*-test of independent means between groups which indicated there was no significant difference between males and females where these results' indicated *t*-value was .021, $p = .983$, as was the significance value. Samples did have equal variances since the significance level of Levene's Test was greater than 0.05, so the assumption of homogeneity of variance was met. Since the significance level was greater than 0.05, so there was no significant difference in

Table 24

The Result of a t-Test for Teachers' Gender

Gender	*N*	*M*	*SD*	*T*	*P*
Male	150	89.9267	28.04553	.021	.983
Female	150	89.8600	27.59973		

teachers' attitudes concerning their willingness to teach students with ADHD based on the teachers' gender, which meant the ninth null hypothesis cannot be rejected.

Research Question 2

What are teachers' overall attitudes concerning willingness to teach students with ADHD in their classrooms? This question consisted of 33 positively or negatively phrased statements divided into four categories which related to teachers' attitudes regarding their willingness to teach students with ADHD in their classrooms: The first section, group of questions about Students' Characteristics in Classroom, included 12 items: 9, 17, 18, 19, 22, 23, 24, 25, 26, 27, 28, and 29; the second section, which covered group of questions about Teachers' Needs, included five items: 3, 4, 5, 6, and 11; the third section, group of questions about Teacher Behavior, included seven items: 1, 16, 20, 30, 31, 33, and 35; and the fourth section, group of questions about Teacher Abilities, included nine items: 2, 7, 8, 12, 13, 14, 15, 32, and 34. These four categories were included, using a Likert scale in which the teachers rated their degree of agreement on a scale of one to five (1 = *strongly disagree*, 2 = *disagree*, 3 = *neutral*, 4 = *agree*, and 5 = *strongly agree*). Answers to this question were analyzed using mean and standard

deviation to determine if the questionnaire responses indicated any identifiable patterns of agreement among organizational partners.

Table 25 summarizes the results of the first section, group of questions about Students' Characteristics in Classroom, which included 12 items. As noted in the table, the majority of teachers agreed in item 9 that they are not willing to teach students with ADHD because such students need more teaching time than their peers in the classroom, with the mean (M = 3.7926, SD = 1.22494). Most of them were neutral on item 17 which stated they are not willing to teach students with ADHD who have trouble following instructions in the classroom, with the mean (M = 3.3667, SD = 1.23720). In item 18 most of them were neutral on willingness to teach students with ADHD because the students' peers avoid them in the classroom, with the mean (M = 3.2107, SD = 1.21197).

Most of the participants were neutral in item 19 which stated that they are not willing to teach students with ADHD because such students make too much noise in the classroom, with the mean (M = 3.4950, SD = 1.25418). Most of them were also neutral on item 22, that they are not willing to teach students with ADHD because they will fail in the classroom, with the mean (M = 2.9667, SD = 1.26658). However, on item 23, that they are not willing to teach students with ADHD because they have poor classroom learning skills, most participants were neutral, with the mean (M = 3.1003, SD = 1.22473). Most of the teachers were neutral on item 24, that they are not willing to teach students with ADHD because most of them have learning disabilities, with the mean (M = 3.1037, SD = 1.22582). With item 25 most of them were neutral that they are not

Table 25

The Result of Group of Questions About Students' Characteristics in Classroom

Number of Items	*N*	*M*	*SD*
9	299	3.7926	1.22494
17	300	3.3667	1.23720
18	299	3.2107	1.21197
19	299	3.4950	1.25418
22	300	2.9667	1.26658
23	299	3.1003	1.22473
24	299	3.1037	1.22582
25	300	3.3867	1.18399
26	300	3.3867	1.17833
27	300	3.4933	1.21994
28	299	3.5719	1.17468
29	299	3.4247	1.16587

willing to teach students with ADHD because such students exhibit persistent patterns of disruptive behavior in the classroom, with the mean (M = 3.3867, SD = 1.18399).

On item 26 most participants were neutral about being unwilling to teach students with ADHD because such students exhibit persistent patterns of off-task behavior in the classroom, with the mean (M = 3.3867, SD = 1.17833). Most of them were neutral on item 27, that they are not willing to teach students with ADHD because they exhibit persistent patterns of inattention in the classroom, with the mean (M = 3.4933, SD =

1.21994). On item 28, most of them agreed that they are not willing to teach students with ADHD because they exhibit persistent patterns of hyperactivity in the classroom, with the mean (*M* = 3.5719, SD = 1.17468). Finally, most of the teachers were neutral on item 29, that they are not willing to teach students with ADHD because such students exhibit persistent patterns of impulsivity in the classroom, with mean (*M* = 3.4247, SD = 1.16587).

Table 26 summarizes the results of the second section, group of questions about Teachers' Needs, which includes five items. As noted in the table, the majority of teachers were neutral on item 3, that they are willing to teach students with ADHD but need help from a special education teacher, with the mean (*M* = 3.0805, SD = 1.37812). On item 4 most of them were neutral about being willing to teach students with ADHD but the teachers need to collaboratively consult with psychological counseling specialists, with the mean (*M* = 3.2033, SD = 1.43137). On item 5 most participants were neutral that they are not willing to teach students with ADHD because the teachers need training courses about ADHD, with the mean (*M* = 3.3433, SD = 1.32083). Therefore, on item 6 most of them were neutral that they are not willing to teach students with ADHD because they need an assistant teacher with them in the classroom, with the mean (*M* = 3.3633, SD = 1.33814). Finally, on item 11, most teachers agreed that they are not willing to teach students with ADHD because they do not have assistive technology in their classrooms, with the mean (*M* = 3.6633, SD = 1.26321).

Table 26

The Result of Group of Questions About Teachers' Needs

Number of Items	*N*	*M*	*SD*
3	298	3.0805	1.37812
4	300	3.2033	1.43137
5	300	3.3433	1.32083
6	300	3.3633	1.33814
11	297	3.6633	1.26321

Table 27 summarizes the results of the third section, group of questions about Teachers' Behavior, which includes seven items. As noted in the table, the majority of teachers were neutral on item 1, that they are willing to teach students with ADHD because such students have the right to get an education with their peers in the teachers' classrooms, with the mean (M = 2.9200, SD = 1.31632). On item 16 most of them were neutral that they are not willing to teach students with ADHD because they will punish such students in their classrooms, with the mean (M = 2.5933, SD = 1.42410). On item 20, most participants were neutral that they are not willing to teach students with ADHD because the teachers will lose time with such students in their classrooms, with the mean (M = 3.2367, SD = 1.32911).

Most participants were neutral on item 30, that they are not willing to teach students with ADHD because they have little knowledge about such students, with the mean (M = 3.0800, SD = 1.29584). On item 31 most of them were neutral, that they are

Table 27

The Result of Group of Questions About Teachers' Behavior

Number of Items	*N*	*M*	*SD*
1	300	2.9200	1.31632
16	300	2.5933	1.42410
20	300	3.2367	1.32911
30	300	3.0800	1.29584
31	300	3.0667	1.30174
33	300	3.3133	1.34207
35	299	2.9030	1.36616

not willing to teach students with ADHD because they still do not understand who these students are, with the mean (M = 3.0667, SD = 1.30174). In addition, most of them were neutral on item 33, that they are not willing to teach students with ADHD because they believe this is not their business, with the mean (M = 3.3133, SD = 1.34207). Finally, most teachers were neutral on item 35 that they are willing overall to teach students with ADHD in their classrooms, with the mean (M = 2.9030, SD = 1.36616).

Table 28 summarizes the result of the fourth section, group of questions about Teachers' Abilities, which includes nine items. As noted in the table below, the majority of teachers were neutral on item 2, that they are willing to teach students with ADHD because they have taught them before, with the mean (M = 2.5167, SD = 1.22804). On item 7, most of them were neutral that they are not willing to teach students with ADHD because they have many students in their classrooms, with the mean (M = 3.4497, SD =

Table 28

The Result of Group of Questions About Teachers' Abilities

Number of Items	*N*	*M*	*SD*
2	300	2.5167	1.22804
7	298	3.4497	1.34558
8	299	3.7692	1.18020
12	300	2.7933	1.24195
13	300	2.7067	1.19389
14	299	2.6923	1.23660
15	300	2.8000	1.23223
32	300	3.3800	1.29403
34	299	2.9933	1.13218

1.34558). In addition, most participants agreed on item 8 that they are not willing to teach students with ADHD because they have a lot of teaching hours in their weekly schedules, with the mean (M = 3.7692, SD = 1.18020). But on item 12 most of them were neutral about willingness to teach students with ADHD because they can help such students to learn more easily in their classrooms, with the mean (M = 2.7933, SD = 1.24195).

Most of the teachers were neutral on item 13, that they are willing to teach students with ADHD because they can devise intervention strategies such as peer tutoring in their classrooms, with the mean (M = 2.7067, SD = 1.19389). Most of them were neutral on item 14, that they are willing to teach students with ADHD because they can

make accommodations in their classrooms, with the mean (M = 2.6923, SD = 1.23660). On item 15 most participants were neutral that they are willing to teach students with ADHD because they can make appropriate reinforcements for such students in their classrooms, with the mean (M = 2.8000, SD = 1.23223). Most of them were neutral on item 32, that they are not willing to teach students with ADHD because they do not know how they can deal with these students in their classrooms, with the mean (M = 3.3800, SD = 1.29403). Finally, on item 34 most teachers were neutral that they are willing to teach students with ADHD because they are perfect teachers, with the mean (M = 2.9933, SD = 1.13218).

Overall, after reporting the four categories above, correlated to teachers' attitudes regarding their willingness to teach students with ADHD in their classrooms, the results of the study indicated that for most of the survey items elementary school teachers have neutral attitudes toward their willingness to teach students with ADHD. However, the mean for the 33 survey items together is 89.8671 (SD = 28.07615), which indicates a neutral attitude toward teaching students with ADHD in their classrooms in Riyadh City in Saudi Arabia.

Chapter Summary

This chapter presented the results of analysis of data collected for the study. It has provided details about statistical reliability analysis, demographic information of respondents, statistical analyses related to the research questions and hypotheses, and, finally, descriptive statistics about survey items.

CHAPTER IV

DISCUSSION

The purpose of this study was to measure differences in elementary school teachers' attitudes toward and willingness to teach students with ADHD in their classrooms in Riyadh in Saudi Arabia. This chapter outlines the summary of the study and findings, discussion of the findings, and limitations of the study. In addition, the chapter includes the implications and recommendations for the study, implications for future research, and a conclusion at the end of study.

Summary of the Study and Findings

Summary of the Study

The purpose of the study was to measure differences in elementary school teachers' attitudes toward and willingness to teach students with ADHD in their classrooms. The current study examined relationships among many variables through teachers' level of education, years of teaching experience in the education area, grade level of teaching, class size (i.e., the number of students), previous teaching experience with any kind of disabilities, teachers' positions in schools (i.e., special or general education teachers), special education courses taken in college, teachers' in-service training, and teachers' gender. The final variable examined teachers' overall attitudes toward their willingness to teach students with ADHD in their classrooms.

The research questions that guided the current study were: Do teachers' attitudes toward and willingness to teach students with ADHD differ depending on demographic characteristics, teachers' level of education, years of teaching experience in the education

area, grade level of teaching, class size (i.e., the number of students), years of previous teaching experience with any kind of disabilities, position in schools (i.e., special or general education teachers), having taken special education courses during college, teachers' in-service training, and teachers' gender? What are teachers' overall attitudes concerning willingness to teach students with ADHD in their classrooms?

Summary of the Study Findings

According to the finding with the first question, the study has found there was a significant difference in elementary school teachers' attitudes toward willingness to teach students with ADHD based on their level of education. Teachers with high levels of education have a greater willingness to teach students with ADHD in their classrooms than do others. The study found also no significant difference in elementary school teachers' attitudes toward willingness to teach students with ADHD based on years of teaching experience in the education area. It found that there was a significant difference in teachers' attitudes concerning their willingness to teach students with ADHD based on their grade level of teaching where teachers in the higher grade levels of teaching have a greater willingness to teach students with ADHD in their classrooms than do teachers who teach first through sixth grade levels. In addition, the study found a significant difference in teachers' attitudes concerning their willingness to teach students with ADHD based on class size (i.e., the number of students). Teachers with few students are more willing to teach students with ADHD in their classrooms than are teachers with a large number of students.

In response to the first question the study found that there was a significant difference in teachers' attitudes concerning their willingness to teach students with ADHD based on their previous teaching years of experience with any kind of disabilities where teachers who had taught students with disabilities have a greater willingness to teach students with ADHD in their classrooms. Therefore, it was found that there was a significant difference in teachers' attitudes concerning their willingness to teach students with ADHD based on their teaching position in schools (i.e., special or general education teachers) where special education teachers have a greater willingness to teach students with ADHD in their classrooms. It further found there was a significant difference in teachers' attitudes concerning their willingness to teach students with ADHD based on their having taken special education courses during college where teachers who had taken such courses have a greater willingness to teach students with ADHD in their classrooms.

The study found there was a significant difference in teachers' attitudes concerning their willingness to teach students with ADHD based on whether they had had in-service training where teachers who had in-service training have a greater willingness to teach students with ADHD in their classrooms. Finally, the study found that there was not a significant difference in teachers' attitudes concerning their willingness to teach students with ADHD based on the teachers' gender. However, according to the second question, it was found that elementary school teachers have neutral attitudes toward willingness to teach students with ADHD in their classrooms in Riyadh City in Saudi Arabia.

Discussion of Findings

The overall finding in this study was that elementary school teachers have neutral attitudes toward willingness to teach students with ADHD in their classrooms in Riyadh City in Saudi Arabia. The findings of the current study have not given support to the related argument that teachers have negative attitudes toward teaching students with ADHD. These findings differed generally with what was found in previous studies, which indicated teachers have negative attitudes in their beliefs about teaching students with ADHD in their classrooms. For instance, a study conducted by Anderson, Watt, Noble, and Shanley (2012) indicated that teachers have negative awareness and attitudes toward teaching students with ADHD. In another study, conducted by Kos et al. (2006), about children with ADHD and their teachers, the authors pointed out that teachers have unfavorable beliefs about teaching students with ADHD. Also, Downs and Williams (1994) found in their study that teachers have negative attitudes toward teaching students with disabilities in their classrooms. Tripp and Rizzo (2006) found that teachers have negative attitudes toward teaching students labeled as having disabilities but not toward the same students who were not so labeled. However, the difference between the findings of the current study and those of other studies could be a result of the cross-cultural aspect of the research, which the present study applied with Saudi elementary school teachers. Most of the previous studies applied to teachers in the United States.

The present study further found that the level of education of teachers has an effect on their willingness to teach students with ADHD where the results indicated that teachers with high levels of education have a greater willingness to teach students with

ADHD in their classrooms than do others, particularly when compared with the results of previous studies. Many studies had mixed results that agreed and disagreed with what was found. For example, Stormont, Reinke, and Herman (2011) found in their study that the level of education had an effect on teachers' practices toward students with behavior problems. They found that teachers with high levels of education have better practices than those with lower levels of education. On the other hand, what a study by Mahar and Chalmers (2007) found differed with what was found in this study, where the study results showed no significant difference in teachers' perceptions toward students with ADHD based on their level of education where teachers were inclined to answer equally to all of the survey questions.

Another result of the study found that years of teaching experience in the education area did not have an effect on teachers' attitudes toward willingness to teach students with ADHD where the results point to no significant difference in teaching experience. The findings in this study both agreed and disagreed with other previous studies. When compared to the findings of studies that agreed, there was no significant relationship between years of teaching experience and attitude toward students with ADHD and their teaching. These previous studies included Anderson et al. (2012); Daniel (2011); Kleynhans (2005); Kos et al. (2006); and Martinussen et al. (2011). However, there were other studies that disagreed with the results of this study and found that there were significant differences for previous teaching experience to pre-service physical education teachers' attitudes toward teaching students with ADHD (Oh et al., 2010).

A further finding in this study was that the grade level of teaching has an effect on teachers' attitudes toward their willingness to teach students with ADHD where the finding indicated that teachers with other grade levels of teaching have a higher willingness to teach students with ADHD in their classrooms than do teachers who teach at the first through sixth grade levels. However, other studies, such as one by Mahar and Chalmers (2007), confirm what was found here, which indicated there is a significant difference in grade level of teaching for teachers' perceptions toward students with ADHD. In addition, the other finding of this study were that the class size (i.e., the number of students) has an effect on teachers' attitudes toward their willingness to teach students with ADHD where the results found teachers with few students have a greater willingness to teach students with ADHD in their classrooms than do teachers with large classes. Other research confirmed what was found in this study. Reid, Maag, Vasa, and Wright (1994) also found that the class size (i.e., the number of students) has an effect on teachers' management of students with ADHD in the classroom, which confirmed what was found in this study.

Likewise, the finding of the current study showed that previous teaching years of experience with any kind of disabilities had an effect on teachers' attitudes toward their willingness to teach students with ADHD. It was found that teachers who had taught students with disabilities are more willing to teach students with ADHD in their classrooms. Comparing other studies confirmed what was found in this study, that teachers' previous experience with students with ADHD has an effect on their attitudes toward working with students with ADHD (Reid et al., 1994; Zentall & Javorsky, 2007).

It was found in another study that teachers' perceptions of students with ADHD were affected by who was currently teaching a student with ADHD and who was not (Mahar & Chalmers, 2007). Furthermore, other studies found significant relations between experience with teaching students with ADHD and teachers' awareness of students with ADHD (Kos et al., 2006; Perold, Louw, & Kleynhans, 2010). Oh et al. (2010), therefore, pointed out that years of experience teaching students with disabilities affect pre-service physical education teachers' attitudes toward teaching students with disabilities.

This study has found, therefore, that teaching position in schools (i.e., special or general education teachers) has an effect on teachers' attitudes toward their willingness to teach students with ADHD where the findings indicated that special education teachers have a greater willingness to teach students with ADHD in their classrooms. Though findings in the current study confirm what was found in other research of significant differences between teachers' position, opposite results were found in other studies. For example, Mahar and Chalmers (2007) found that teachers' positions have an effect on teachers' perceptions toward students with ADHD but general education teachers have more positive attitudes toward students with ADHD in their classrooms than do special education teachers.

The present study found that having taken special education courses during college has an effect on teachers' attitudes toward their willingness to teach students with ADHD where the results indicated that teachers who had taken a special education course have a greater willingness to teach students with ADHD in their classrooms. When compared with other studies, Oh et al. (2010) found having special education coursework

in college has an effect on pre-service physical education teachers' attitudes toward teaching students with ADHD. Additionally, Anderson et al. (2012) found that university courses about ADHD affect teachers' attitudes and awareness about teaching students with ADHD. These findings confirm what was found in this study.

This study found that in-service training has an effect on teachers' attitudes toward their willingness to teach students with ADHD where the findings point out that teachers who had in-service training have a greater willingness to teach students with ADHD in their classrooms. However, this finding confirms what was found in previous studies. For instance, Martinussen et al. (2011) indicated that teachers with little training in ADHD have negative attitudes toward students with the disability. However, in another study Perold et al. (2010) found a significant relation between experience with teaching students with ADHD and teachers' awareness of students with ADHD. Likewise, Daniel (2011) found a training module significantly improved teachers' awareness toward students with ADHD.

To end with, the study found that teachers' gender did not have an effect on teachers' attitudes toward their willingness to teach students with ADHD where the results indicated no significant difference in teachers' gender. The finding of this study conforms to previous studies such as Mahar and Chalmers (2007) who found that there were no significant differences in teachers' perceptions toward students with ADHD with regards to gender. Moreover, West et al. (2005) found there were no significant differences in a comparison of teachers' and parents' awareness and beliefs about ADHD concerning gender. Additionally, it has been found there are no significant differences in

pre-service physical education teachers' attitudes regarding teaching students with ADHD based on their gender, which conforms with what was found in the current study (Oh et al., 2010).

Limitations of the Study

This study demonstrated results of elementary school teachers' attitudes toward willingness to teach students with ADHD in their classrooms in Riyadh City in Saudi Arabia. However, the study has some limitations. Surveys were distributed in only one geographical area in Saudi Arabia, which might have resulted in different responses than those of elementary school teachers in other Saudi areas. Thus, one cannot generalize the results of this study to all cities in Saudi Arabia. The study was conducted and applied just with in-service elementary teachers, so the results cannot be generalized to middle or high school teachers. Other limitations in this study center about the family of the researcher involved in filling out the survey in their schools, so their participation may affect the results because they have more positive attitudes. Furthermore, the honesty of the participants might be questionable, as their responses in the survey could not be controlled. Finally, some teachers might not have comprehended some of the questions and others might have answered without awareness of what was meant by some questions.

Implications and Recommendations

In this part of the study, many implications and recommendations that are expected to be supportive of students with ADHD and their teachers as follows.

First, teachers' attitudes toward and willingness to teach students with ADHD in their classrooms should be more positive than what was found in the results. The study suggests that work should be done to increase teachers' comprehension toward students with ADHD if the desire is to increase positive attitudes of teachers toward teaching such students. This study proposes three intervention methods that could be useful in increasing positive attitudes among teachers of ADHD: in-service preparation for ADHD, a collaborative consultation model, and simply educating the teachers about ADHD.

In-service teachers should have training about ADHD. Jones and Chronis-Tuscano (2008) observed the efficiency of concise in-service training focusing on appraisal and regimen of ADHD. Teachers from six schools near Washington, DC, were randomly selected to either immediately acquire in-service training or to be put on a waitlist for in-service training the next month. At intervention, the capacity of ADHD comprehension and the employment of attitude adaptation techniques were allotted, resulting in increased comprehension after the in-service training. Following the training, special education instructors also increased their usage of behavior modification techniques.

Recently, experimental studies have indicated the importance of providing additional training regarding the instruction of students with ADHD because such training boosted the use of effective practices. After attending an in-service program advocating their "knowledge and understanding" of ADHD, instructors' application of positive behavior management strategies and instructional support increased immensely

(Martinussen et al., 2011). These studies support the idea that teachers who received specific ADHD training understood the disorder better than those who were less educated or had less training (Kos, Richdale, & Jackson, 2004).

In an investigation evaluating the efficiency of a program containing multiple components for treating ADHD in the classroom, Miranda, Presentación, and Soriano (2002) found that the training program positively affected the teachers' comprehension of how they should respond to the emotional needs of a student with ADHD. These results also showed that teachers comprehended ADHD better if they had training about it. These relationships were consistent but not as strong as predicted because research shows that teachers specifically trained regarding ADHD knew more about the disorder than teachers who had minimal or no training whatsoever (Vereb & DiPerna, 2004). Despite the small number of studies focused on how effective comprehensive training can be for teachers, students with ADHD with teachers who have been trained have displayed a more positive outcome. Additionally, teachers who have received training found that their comprehension regarding working with students with ADHD had improved (Martinussen et al., 2006).

Collaborative consultation model. Only one published study has evaluated an intensive collaborative consultation model on a school-based level that noted an increase of comprehension after only a few days of in-service education, according to Zentall and Javorsky (2007). A similar on-site consultation model displayed teacher ratings and behavioral assessments of a student with disruptive behaviors. Despite failing in general,

the quality and effect of measurement can be related to a number of single-case designs (Zentall & Javorsky, 2007).

Educate teachers about ADHD. According to Jones and Chronis-Tuscano (2008), a single publication was released about a study that analyzed the effects of an in-service program constructed to instruct teachers about ADHD. Lasting about two and a half hours, the program, devised by the Children and Adults with Attention-Deficit Disorders (CHADD) organization, offered 44 education teachers from one school district didactic training about ADHD and discussed classroom management techniques for ADHD behaviors. At the end of the in-service program, the teachers were asked questions. The researchers measured ADHD comprehension and stress affiliated with teacher-identification of students with difficulties and found the teachers had increased their comprehension and decreased their post-intervention stress. However, there was no control group or measurement of how the teachers used behavioral strategies in the classroom. As this sample was derived from only one school district, there was a limitation to this study.

Second, the classroom environment in the schools should be improved based on appropriate classroom practices to serve students with ADHD and give them greater care and attention in their classrooms. The study suggests there should be activation of interventions for students with ADHD in their regular classrooms and alongside their peers. However, Harlacher et al. (2006) summarized a variety of interventions that teachers can use for managing ADHD symptoms of their students. These interventions are divided into behavioral and academic categories. The behavioral category includes

contingency management, self-monitoring, peer monitoring, and instructional choice. The academic category consists of classwide peer tutoring, instructional modification, and computer-assisted instruction. One of the academic interventions, Classwide Peer Tutoring (CWPT), has key features such as "Pairs students together," "Alternates tutor-learner roles," and "Provides immediate corrective feedback." The positive aspects of CWPT include "Teacher can monitor whole class," "Peer attention," "Immediate feedback," "Self-selected pace, "and "Inexpensive." The negatives include "Set-up time" and "Initial training period" (p. 6).

Third, the study suggests that classroom interventions should be activated and applied classwide rather than individually for students with ADHD. So, an alternative to individualized school-based interventions is classwide interventions—involving the entire classroom—directed at students with ADHD. The advantages of a classwide intervention are two-fold. First, it is considered more cost-effective and efficient than individualized interventions despite targeting a better classroom performance for the students. Other students in the classroom may benefit from its use to improve their performance as well. Second, whole-class intervention assures the anonymity of the individual student whose behavior causes the use of the intervention (Barkley, 2005).

ADHD classwide interventions can be categorized as either behavioral or academic. Interventions targeting the behavioral manner of the disorder, such as distractive performance and the inability to stay seated (Barkley, 2005), are regarded as behavioral. However, academic interventions often target the negative aspects of

academic performances associated with the diagnosis of ADHD, such as low performance and the inability to complete a task in a timely manner (Harlacher et al., 2006).

Fourth, the study suggests that teachers should provide positive behavior support (PBS) in the classroom in addition to the classwide interventions for students with ADHD in their classroom. Classwide interventions are more effective when grouped in a broader framework of PBS, as they use the most effective approach. This method employs three levels of support (primary, secondary, and tertiary) to assist with a student's academic and behavioral needs (Positive Behavior Interventions & Supports, n.d.). Teachers first need a solid base of primary support for students with ADHD before using second-stage classwide interventions. Directions at the primary levels of support are simpler than those used at the secondary level, such as matching assignments to the students' area of expertise while catering to their preferential seating, minimizing distractions, and focusing on their strengths (Carbone, 2001).

Fifth, the study suggests that emphasis should be on teachers to work with the individuals diagnosed with ADHD to figure out ways to achieve the goal of academic success. Both DuPaul et al. (1998), and Jitendra et al. (2008) used studies that rely on the evidence found in educational practices such as peer tutoring (with or without feedback), and monitoring progress, which led to a significant impact in reading and mathematics. Their studies indicate that primary prevention of this effort should meet the needs of most students with ADHD.

Sixth, the study suggests that there is a need to focus on practical application and usefulness, involving teachers in planning and interventions, because teachers are the

ones most likely to implement the interventions. Most academic research samples involved small-scale interventions, and used one of the intervention approaches, in which all participants were identical regardless of individual differences, assessing only the short term (for example, for several weeks or months) in the outcome of the academic intervention. Thus, there is a need to study long-term results of the evaluations in light of the chronicity of this disorder (Jitendra et al., 2008).

Finally, the study strongly suggests that the decision makers in the Ministry of Education in Riyadh City in Saudi Arabia take action on issues related to activation of educational services and intervention programs that serve students with ADHD in their schools. They should adopt early intervention programs to serve children with ADHD and they should accept all students with ADHD in regular classrooms in their district schools. Moreover, students with ADHD should be granted all the necessary facilities to ensure their success in their programs of study without any conditions or restrictions through individual educational plans.

Implications for Future Research

The following section offers suggestions that might be considered for future research based on what was found in the current study. These implications could be used with quantitative, qualitative, and mixed methods of research as follows:

1. The present study was conducted in Riyadh City of Saudi Arabia. It is recommended that studies related to teachers' attitudes toward their willingness to teach students with ADHD in their classroom be conducted in all cities of Saudi Arabia.

2. The study findings support conducting a cross-cultural study of international differences in teachers' attitudes and willingness to teach students with ADHD in their classroom between Saudi Arabia and United States or other countries.
3. It is suggested that a study related to the relationship between teachers' attitudes and their knowledge toward their willingness to teach students with ADHD in their classroom be conducted.
4. It is advised that a study explore teachers' attitudes in Saudi Arabia related to advanced levels of teaching such as middle, high school, or university toward their willingness to teach students with ADHD in their classroom.
5. It is suggested that a study explore the extent to which teachers in Saudi Arabia understand students with ADHD.
6. It is advised that a study be conducted exploring teachers' attitudes toward and willingness to improve their abilities to teach students with ADHD in their classroom in Saudi Arabia.
7. It is recommended that a study explore the affect training of in-service teachers in Saudi Arabia has on their level of receptivity to working with students with ADHD in their classrooms.
8. Conducting research to explore the attitudes of students with ADHD toward their teachers' willingness to teach them in classroom in Saudi Arabia is supported by this study.

Conclusion

The present research measured differences in elementary school teachers' attitudes toward and willingness to teach students with ADHD in their classrooms in Riyadh City in Saudi Arabia. The result found that elementary school teachers have neutral attitudes toward willingness to teach students with ADHD. Furthermore, the findings of this study highlight the importance of the relationship between teachers' willingness to teach students with ADHD in their classrooms and their level of education, grade level of teaching, class size (i.e., the number of students), previous teaching experience with any kind of disabilities, positions in schools (i.e., special or general education teachers), special education courses taken in college, and in-service training. The study found there was no relationship between years of teaching experience in the education area or gender and teachers' attitudes toward willingness to teach students with ADHD in their classrooms. In the final analysis, the study findings underline the fact that teacher attitudes should change toward the more positive. Positive teachers' willingness to teach students with ADHD assists those students in many ways. Efforts must be made to encourage teachers willing to improve their knowledge and teaching skills through providing necessary training courses about ADHD. This will help them to work with students with ADHD in their schools, accept their problems in the classroom, improve their academic achievement, collaborate with special education teachers to devise successful intervention plans for students with ADHD, and be more careful of those students' needs in the classroom.

APPENDIXES

APPENDIX A

LETTER OF CONSENT (ENGLISH VERSION)

Appendix A

Letter of Consent (English Version)

Study Title: Elementary School Teachers' Attitudes Toward Willingness to Teach Students With ADHD in Their Classrooms in Riyadh City in Saudi Arabia.

Principal Investigator: Abdulrahman Abdullah Abaoud

Dear Teacher,

You are being invited to participate in a research study. This consent form will provide you with information on the research project, what you will need to do, and the associated risks and benefits of the research. Your participation is voluntary. Please read this form carefully. It is important that you ask questions and fully understand the research in order to make an informed decision. You will receive a copy of this document to take with you.

The purpose of this study is to measure differences in teachers' attitudes toward willingness to teach students with ADHD in their classrooms by examining relationships between many variables through teachers' level of education, teaching experience in the education area, grade level of teaching, class size (i.e., the number of students), previous teaching experience with any kind of disabilities, teachers' positions in schools (i.e., special or general education teachers), special education courses taken in college, teachers' in-service training, and teachers' gender. The last variable to be examined will assess teachers' overall attitudes concerning their willingness to teach students with ADHD in their classrooms.

This study applies to all teachers in elementary school. Your participation in this questionnaire is important to me and to the success of this study. I would appreciate it if you could take the time, no more than 10 minutes, to fill out this survey about your attitude toward teaching students with ADHD. Before you fill out the questionnaire, allow me to explain what ADHD is. ADHD is defined as "a persistent pattern of inattention and/or hyperactivity-impulsivity that is more frequently displayed and more severe than is typically observed in individuals at a comparable level of development" (Rosenberg et al., 2008, p. 237).

Through this survey my research will gain information such as your level of education, teaching experience in the education area, grade level of teaching, class size (i.e., the number of students), previous teaching experience with any kind of disabilities, position in school (i.e., special or general education teacher), special education courses taken in college, in-service training, and gender. Lastly, I wish to know your overall attitudes concerning your willingness to teach students with ADHD in your classroom.

The potential benefits of participating in this study will provide researchers interested in the area of ADHD with information about the extent to which elementary school teachers are willing to teach students with ADHD in their classrooms in Riyadh

city. In addition, this research will provide suggestions to improve and develop appropriate classroom practices to serve students with ADHD and give them more care and attention in their classrooms. It will also provide suggestions about ADHD for teacher training courses, educate teachers about students with ADHD and, through the decision makers in the Ministry of Education, take action on issues related to activation of educational services and programs that serve students with ADHD in their schools.

Choosing to participate in this survey does not involve any risk to you as it is anonymous. By completing the survey you are indicating your consent to participate in this research.

Your privacy is important to me, so in order to preserve confidentiality, do not write your name anywhere on the survey. After you finish, please return the survey to a folder designated for that purpose in the principal's office in your school. Your study-related information will be kept confidential within the limits of the law. Any identifying information will be kept in a secure location and only the researcher will have access to the data. Research participants will not be identified in any publication or presentation of research results; only aggregate data will be used.

Taking part in this research study is entirely up to you. Completion of the survey is voluntary and without any compensation. You may choose not to participate or you may discontinue your participation at any time without penalty. You will be informed of any new, relevant information that may affect your willingness to continue your study participation.

In conclude, I would really like to thank you for taking the time to read this letter and to complete the survey. If you have any questions or concerns about this research, you may contact *Abdulrahman Abaoud at local phone number: 054-966-7116* or *Prof. Lyle Barton at phone number: 001-330-672-0758*. This project has been approved by the Kent State University Institutional Review Board. If you have any questions about your rights as a research participant or complaints about the research, you may call the IRB at 001-330.672.2704.

Thank you very much for your time.

Sincerely,

The researcher: Abdulrahman Abdullah Abaoud

APPENDIX B

SURVEY (ENGLISH VERSION)

Appendix B

Survey (English Version)

Note: Your participation in this survey is voluntary and anonymous (Please do not put your name on it.). Thanks.

Section One: Basic Information

(Please read each question below and circle the appropriate answer.)

1. What is your educational level?
    a. Undergraduate
    b. Master
    c. Doctoral
    d. Other……
2. How many years have you worked in the education area? (Circle only one)
    a. 5 years or less
    b. 6-10 years
    c. 11 years or more
3. At which grade level are you often teaching? (Circle only one)
    a. 1st grade
    b. 2nd grade
    c. 3rd grade
    d. 4th grade
    e. 5th grade
    f. 6th grade

g. Other……...

4. How many students are usually in your classroom?

   Approximately (……)

5. Have you ever taught any students with disabilities in your classroom?

   Yes No

6. What is your current teaching position?

   a. General Teacher

   b. Special Education Teacher

7. Have you ever taken a special education course during your study in college?

   Yes No

8. Have you ever had any in-service training courses about special education or in the ADHD area?

   Yes No

9. What is your gender?

   a. Male

   b. Female

Section Two: Teachers' overall attitudes toward willingness to teach students with ADHD in their classrooms

(Circle the most appropriate response for each item, where 1= Strongly Disagree, 2= Disagree, 3= Neutral, 4= Agree, 5= Strongly Agree).

Items	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1. Willing to teach students with ADHD because they have the right to get an education with their peers in my classroom.	1	2	3	4	5
2. Willing to teach students with ADHD because I have taught them before.	1	2	3	4	5
3. Willing to teach students with ADHD but I need help from a special education teacher.	1	2	3	4	5
4. Willing to teach students with ADHD but I need to collaborative consulate with psychological counseling specialists.	1	2	3	4	5
5. Willing to teach students with ADHD because I need training courses about ADHD.	1	2	3	4	5
6. Not willing to teach students with ADHD because I need an assistant teacher with me in my classroom.	1	2	3	4	5
7. Not willing to teach students with ADHD because I have many students in my classroom.	1	2	3	4	5
8. Not willing to teach students with ADHD because I have a lot of teaching hours in my weekly schedule.	1	2	3	4	5
9. Not willing to teach students with ADHD because they need more teaching time than their peers in my classroom.	1	2	3	4	5
10. Please circle number five and keep going.	1	2	3	4	5
11. Not willing to teach students with ADHD because I do not have assistive technology in my classroom.	1	2	3	4	5

12. Willing to teach students with ADHD because I can help them to learn more easily in my classroom.	1	2	3	4	5
13.Willing to teach students with ADHD because I can devise intervention strategies such as peer tutoring in my classroom.	1	2	3	4	5
14. Willing to teach students with ADHD because I can make accommodations in my classroom.	1	2	3	4	5
15. Willing to teach students with ADHD because I can make appropriate reinforcements for them in my classroom.	1	2	3	4	5
16. Not willing to teach students with ADHD because I will punish them in my classroom.	1	2	3	4	5
17. Not willing to teach students with ADHD because they have trouble following instructions in my classroom.	1	2	3	4	5
18. Not willing to teach students with ADHD because their peers avoid them in my classroom.	1	2	3	4	5
19. Not willing to teach students with ADHD because they make much noise in my classroom.	1	2	3	4	5
20. Not willing to teach students with ADHD because I will lose my time with them in my classroom.	1	2	3	4	5
21. Please circle number five and keep going.	1	2	3	4	5
22. Not willing to teach students with ADHD because they will fail in my classroom.	1	2	3	4	5
23. Not willing to teach students with ADHD because they have poor classroom learning skills.	1	2	3	4	5
24. Not willing to teach students with ADHD because most of them have learning disabilities.	1	2	3	4	5
25. Not willing to teach students with ADHD because they exhibit persistent patterns of disruptive behavior in my classroom.	1	2	3	4	5

26. Not willing to teach students with ADHD because they exhibit persistent patterns of off-task behavior in my classroom.	1	2	3	4	5
27. Not willing to teach students with ADHD because they exhibit persistent patterns of inattention in my classroom.	1	2	3	4	5
28. Not willing to teach students with ADHD because they exhibit persistent patterns of hyperactivity in my classroom.	1	2	3	4	5
29. Not willing to teach students with ADHD because they exhibit persistent patterns of impulsivity in my classroom.	1	2	3	4	5
30. Not willing to teach students with ADHD because I have little knowledge about them.	1	2	3	4	5
31. Not willing to teach students with ADHD because I still do not understand who these students are.	1	2	3	4	5
32. Not willing to teach students with ADHD because I do not know how I can deal with them in my classroom.	1	2	3	4	5
33. Not willing to teach students with ADHD because I believe this is not my business.	1	2	3	4	5
34. Willing to teach students with ADHD because I am a perfect teacher.	1	2	3	4	5
35. Willing overall to teach students with ADHD in my classroom.	1	2	3	4	5

APPENDIX C

LETTER OF CONSENT (ARABIC VERSION)

Appendix C

Letter of Consent (Arabic Version)

خطاب الموافقة

عنوان الدراسة: إتجاهات معلمي المرحلة الإبتدائية من إستعدادهم لتدريس الطلاب المصابين بإضطراب فرط الحركة وتشتت الإنتباه في فصولهم الدراسية في مدينة الرياض في المملكة العربية السعودية.

الباحث الرئيسي: عبدالرحمن بن عبدالله أباعود

عزيزي المعلم/ عزيزتي المعلمة،

أنت مدعو للمشاركة في دراسة بحثية. وهذا نموذج موافقة يوفر لك معلومات عن مشروع البحث، وما سوف تحتاج إلى القيام به، وفوائد الدراسة و المخاطر المرتبطة بها. مشاركتكم طوعية ويرجى قراءة هذا النموذج بعناية. كذلك سوف تعطى نسخة من هذه الوثيقة لتأخذها معك.

الغرض من هذه الدراسة هو قياس الإختلافات في توجهات المعلمين تجاه إستعدادهم لتدريس الطلاب المصابين بإضطراب فرط الحركة وتشتت الإنتباه في فصولهم الدراسية من خلال دراسة العلاقة بين العديد من المتغيرات المتعلقة بمستوى التعليم، الخبرة في مجال التعليم، مستوى الصف المناط لتدريسه، حجم الصف (أي عدد الطلاب في الصف الدراسي)، الخبرة السابقة في تدريس طلاب لديهم أي نوع من الإعاقة، وظيفة المعلم في المدرسة (أي معلم صف دراسي أو تربية خاصة)، المقررات الدراسية التي درسها المعلم خلال المرحلة الجامعية المتعلقة بموضوع التربية الخاصة، التدريب المتلقى أثناء الخدمة، وجنس المعلم. المتغيرالأخير بهذه الدراسة سيعمل على تقييم توجهات المعلمين بشكل عام من إستعدادهم لتدريس الطلاب المصابين بذلك الإضطراب في فصولهم الدراسية.

هذه الدراسة تنطبق على جميع معلمي المدارس الإبتدائية. لذامشاركتكم في هذا الإستبيان مهمة بالنسبة لي ولنجاح هذه الدراسة. سأكون ممتناً لو تفضلت بمنحي جزءاً من وقتك، لا يتعدّى 10 دقائق، لملء هذا الإستبيان حول توجهك تجاه إستعدادك لتدريس الطلاب المصابين بإضطراب فرط الحركة وتشتت الإنتباه. إسمح لي قبل ملء هذا الإستبيان أن أقدّم لك شرحاً لذلك الإضطراب. يعرف إضطراب فرط الحركة وتشتت الإنتباه علمياً بأنه "وجود نمط مستمر من عدم الإنتباه و/ أو فرط النشاط والإندفاع الذي يتكرر كثيراً في ظهوره ويلاحظ عادة أكثر حدةً مما يكون على مستوى مماثل من الأفراد العاديين خلال فترة النمو" (روزنبرج وآخرون، 2008، ص. 237).

سوف تجمّع هذه الدراسة من خلال مشاركتك معلومات تتعلّق بمستوى تعليمك، وخبرتك في مجال التدريس، ومستوى الصف الدراسي الذي تقوم بتدريسه، وحجم صفك (أي عدد طلاب)، خبرتك السابقة لتدريسك طلاب لديهم أي نوع من الإعاقة، وظيفتك في المدرسة (أي معلم صف دراسي أو تربية خاصة)، المقررات الدراسية التي أخذت

خلال دراستك الجامعية والمتعلقة بالتربية الخاصة، والتدريب الذي تلقيته أثناء الخدمة، و جنسك. وأخيراً، أود أن أعرف توجهك بشكل عام من إستعدادك لتعليم هؤلاء الطلاب في صفك الدراسي.

الفوائد المحتملة من مشاركتك في هذه الدراسة تتجلى في تزويد الباحثين المهتمين بمجال إضطراب فرط الحركة وتشتت الإنتباه بمعلومات ونتائج عن مدى إستعداد معلمي المدارس الإبتدائية لتدريس الطلاب المصابين بهذا النوع من الإضطراب في فصولهم الدراسية. بالإضافة إلى ذلك، الدراسة سوف تعمل على تقديم إقتراحات لتحسين وتطوير الممارسات الصفية المناسبة التي ستخدم الطلاب المصابين بإضطراب فرط الحركة وتشتت الإنتباه مما يساعد على منحهم المزيد من الرعاية والإهتمام في فصولهم الدراسية. كما سيتم تقديم إقتراحات لمنح المعلمين دورات تدريبية حول هذا الإضطراب وتثقيفهم أيضاً عن هؤلاء الطلاب. كذلك ستقترح هذه الدراسة لصناع القرار في وزارة التربية والتعليم للبت في القضايا المتعلقة بتفعيل الخدمات والبرامج التربوية التي تخدم الطلاب المصابين بإضطراب فرط الحركة وتشتت الإنتباه في مدارسهم.

إختيارك للمشاركة في هذه الدراسة لا ينطوي عليه أي خطر. من خلال إستكمالك الإستبيان أنت تشير إلى موافقتك على المشاركة في هذه الدراسة. وخصوصيتك هو أمر مهم بالنسبة لي، لذلك حفاظاً على السرية، لا تكتب أسمك في أي مكان على الإستبيان. بعد الإنتهاء من تعبئته، أرجو إرجاعه إلى الملف الذي صمم لهذا الغرض في مكتب مدير المدرسة. كل المعلومات المرتبطة بك ستحاط بكامل السريّة في حدود النظام. كما سيتم الإحتفاظ بأي معلومات تعريفية في مكان آمن حيث لا يمكن لأحد غيرالباحث الوصول إليها. كذلك لن يتمّ ذكر المشاركين في أي منشورعلمي أو من خلال عرض لنتائج هذه الدراسة، وسيتم إستخدام البيانات المُجمعه فقط. المشاركة في هذا الإستبيان طوعي و بدون تعويض. ويمكنك عدم المشاركة أو التوقف عن المشاركة في أي وقت دون عقوبة. وسيتم إعلامك بأي معلومات جديدة مرتبطة بالدراسة و التي قد تؤثرعلى إستعدادك لمواصلة المشاركة في هذا الإستبيان.

في الختام، أود حقاً أن أشكرك جزيل الشكر لقراءة هذه الرسالة وإكمال هذا الإستبيان. إذا كان لديك أي أسئلة أو إستفسارات حول هذه الدراسة، يمكنك التواصل مع الباحث: عبدالرحمن أباعود على جوال رقم: 0549667116 أو البرفيسور: لايل بارتون على هاتف رقم: 0013306720758. كذلك إذا كان لديك أي أسئلة عن حقوقك كمشارك في هذه الدراسة أو شكوى، يمكنك الإتصال على جوال رقم: 0549667116.

وتفضلوا بقبول تحياتي وتقديري،

الباحث: عبد الرحمن بن عبدالله أباعود

APPENDIX D

SURVEY (ARABIC VERSION)

Appendix D

Survey (Arabic Version)

ملاحظة: مشاركتك في هذا الإستبيان طوعية وهويتك مجهولة (من فضلك لا تضع إسمك على الإستبيان). شكراً

القسم الأول: المعلومات الأساسية

(الرجاء قراءة كل سؤال أدناه ووضع دائرة على الإجابة المناسبة.)

1. ما هو مستواك التعليمي؟

أ. جامعي

ب. ماجستير

ج. دكتوراه

د. أخرى .....

2. منذ كم سنة وأنت تعمل في مجال التعليم؟ (خيار واحد فقط)

أ. 5 سنوات أو أقل

ب. 6-10 سنوات

ج. 11 عاما أو أكثر

3. ما هو الصف الدراسي الذي تقوم بتدريسه معظم الوقت؟ (خيار واحد فقط)

أ. الصف الأول

ب. الصف الثاني

ج. الصف الثالث

د. الصف الرابع

هـ. الصف الخامس

و. الصف السادس

ز. أخرى .....

4. كم عدد الطلاب عادة في صفك؟

ما يقرب من (.....)

5. هل قمت بتدريس طلاب ذوي إعاقات في صفك الدراسي في الماضي؟

نعم - لا

6. ما هي وظيفتك الحالية في التدريس؟

أ. معلم صف دراسي

ب. معلم تربية خاصة

7. هل درست أي مقرر دراسي عن التربية الخاصة خلال دراستك الجامعية؟

نعم - لا

8. هل حصلت على دورات تدريبية في مجال التربية الخاصة أو في مجال إضطراب فرط الحركة وتشتت الإنتباه أثناء خدمتك بالتعليم ؟

نعم - لا

9. ما هو جنسك؟

أ. ذكر

ب. أنثى

القسم الثاني: توجهات المعلمين عموماً من إستعدادهم لتعليم الطلاب المصابين بإضطراب فرط الحركة وتشتت الإنتباه في فصولهم الدراسية.

(ضع دائرة حول أنسب إجابة لكل عنصر، حيث 1= لا أوافق بشدة، 2= لا أوافق، 3= محايد، 4= أوافق، 5= أوافق بشدة).

النقاط	أوافق بشدة	أوافق	محايد	لا أوافق	لا أوافق بشدة
1. مستعد لتدريس الطلاب المصابين بإضطراب فرط الحركة وتشتت الإنتباه لإنهم يملكون الحق في الحصول على التعليم مع أقرانهم في الفصول الدراسية.	5	4	3	2	1
2. مستعد لتدريس الطلاب المصابين بإضطراب فرط الحركة وتشتت الإنتباه لأني درّستهم من قبل.	5	4	3	2	1
3. مستعد لتدريس الطلاب المصابين بإضطراب فرط الحركة وتشتت الإنتباه لكن أحتاج مساعدة من معلم التربية الخاصة.	5	4	3	2	1
4. مستعد لتدريس الطلاب المصابين بإضطراب فرط الحركة وتشتت الإنتباه لكن أحتاج إلى التشاور والتعاون مع أخصائي الإرشاد النفسي.	5	4	3	2	1
5. لست مستعد لتدريس الطلاب المصابين بإضطراب فرط الحركة وتشتت الإنتباه لأني أحتاج دورات تدريبة حول إضطراب فرط الحركة وتشتت الإنتباه.	5	4	3	2	1
6. لست مستعد لتدريس الطلاب المصابين بإضطراب فرط الحركة وتشتت الإنتباه لأني أحتاج مدرس مساعد في فصلي الدراسي.	5	4	3	2	1
7. لست مستعد لتدريس الطلاب المصابين بإضطراب فرط الحركة وتشتت الإنتباه لأن لدي الكثير من الطلاب في فصلي الدراسي.	5	4	3	2	1
8. لست مستعد لتدريس الطلاب المصابين بإضطراب فرط الحركة وتشتت الإنتباه لأن لدي الكثير من ساعات التدريس في جدولي الأسبوعي.	5	4	3	2	1
9. لست مستعد لتدريس الطلاب المصابين بإضطراب فرط الحركة وتشتت الإنتباه لأنهم يحتاجون إلى وقت تدريس أكثر من أقرانهم في فصلي الدراسي.	5	4	3	2	1

10. فضلاً ضع دائرة على رقم خمسة وإستمر.	5	4	3	2	1
11. لست مستعد لتدريس الطلاب المصابين بإضطراب فرط الحركة وتشتت الإنتباه لأني لا أملك التكنولوجيا المساعدة في فصلي الدراسي.	5	4	3	2	1
12. مستعد لتدريس الطلاب المصابين بإضطراب فرط الحركة وتشتت الإنتباه لأني أستطيع مساعدتهم ليتعلموا بسهولة أكثر في فصلي الدراسي.	5	4	3	2	1
13. مستعد لتدريس الطلاب المصابين بإضطراب فرط الحركة وتشتت الإنتباه لأني أستطيع وضع إستراتيجيات التدخل على سبيل المثال التعلّم بين الاقران في فصلي الدراسي.	5	4	3	2	1
14. مستعد لتدريس الطلاب المصابين بإضطراب فرط الحركة وتشتت الإنتباه لأني أستطيع القيام بتعديلات في فصلي الدراسي.	5	4	3	2	1
15. مستعد لتدريس الطلاب المصابين بإضطراب فرط الحركة وتشتت الإنتباه لأني أستطيع توفير التعزيزات المناسبة لهم في فصلي الدراسي.	5	4	3	2	1
16. لست مستعد لتدريس الطلاب المصابين بإضطراب فرط الحركة وتشتت الإنتباه لأني سأعاملهم بسوء في فصلي الدراسي.	5	4	3	2	1
17. لست مستعد لتدريس الطلاب المصابين بإضطراب فرط الحركة وتشتت الإنتباه لأن لديهم صعوبة في إتباع التعليمات في فصلي الدراسي.	5	4	3	2	1
18. لست مستعد لتدريس الطلاب المصابين بإضطراب فرط الحركة وتشتت الإنتباه لأن أقرانهم يتجنبونهم في فصلي الدراسي.	5	4	3	2	1
19. لست مستعد لتدريس الطلاب المصابين بإضطراب فرط الحركة وتشتت الإنتباه لأنهم سيحدثون الكثير من الإزعاج في فصلي الدراسي.	5	4	3	2	1
20. لست مستعد لتدريس الطلاب المصابين بإضطراب فرط الحركة وتشتت الإنتباه لأني سأهدر وقتي معهم.	5	4	3	2	1
21. فضلاً ضع دائرة على رقم خمسة وإستمر.	5	4	3	2	1
22. لست مستعد لتدريس الطلاب المصابين بإضطراب فرط الحركة وتشتت الإنتباه لأنهم سيفشلون في فصلي الدراسي.	5	4	3	2	1
23. لست مستعد لتدريس الطلاب المصابين بإضطراب فرط الحركة وتشتت الإنتباه لأنهم يفتقرون للمهارات التعلمية.	5	4	3	2	1
24. لست مستعد لتدريس الطلاب المصابين بإضطراب فرط الحركة وتشتت الإنتباه لأن معظمهم لديهم صعوبات تعلم.	5	4	3	2	1

25. لست مستعد لتدريس الطلاب المصابين بإضطراب فرط الحركة وتشتت الإنتباه لأنهم يعرضون بإستمرار أنماط سلوك مضطرب في فصلي الدراسي.	5	4	3	2	1
26. لست مستعد لتدريس الطلاب المصابين بإضطراب فرط الحركة وتشتت الإنتباه لأنهم يعرضون بإستمرار أنماط سلوك غيرموافق للأنشطة المطلوبة في فصلي الدراسي.	5	4	3	2	1
27. لست مستعد لتدريس الطلاب المصابين بإضطراب فرط الحركة وتشتت الإنتباه لأنهم يعرضون بإستمرار أنماط عدم الانتباه في فصلي الدراسي.	5	4	3	2	1
28. لست مستعد لتدريس الطلاب المصابين بإضطراب فرط الحركة وتشتت الإنتباه لأنهم يعرضون بإستمرار أنماط النشاط الزائد في فصلي الدراسي.	5	4	3	2	1
29. لست مستعد لتدريس الطلاب المصابين بإضطراب فرط الحركة وتشتت الإنتباه لأنهم يعرضون بإستمرار أنماط الإندفاع في فصلي الدراسي.	5	4	3	2	1
30. لست مستعد لتدريس الطلاب المصابين بإضطراب فرط الحركة وتشتت الإنتباه لأني أملك القليل من المعرفة عن حالتهم.	5	4	3	2	1
31. لست مستعد لتدريس الطلاب المصابين بإضطراب فرط الحركة وتشتت الإنتباه لأني لا أفهم من هم هؤلاء الطلاب.	5	4	3	2	1
32. لست مستعد لتدريس الطلاب المصابين بإضطراب فرط الحركة وتشتت الإنتباه لأني أجهل كيفية التعامل معهم في فصلي الدارسي.	5	4	3	2	1
33. لست مستعد لتدريس الطلاب المصابين بإضطراب فرط الحركة وتشتت الإنتباه لأني أؤمن أن هذا ليس عملي.	5	4	3	2	1
34. مستعد لتدريس الطلاب المصابين بإضطراب فرط الحركة وتشتت الإنتباه لأني معلم جيد.	5	4	3	2	1
35. مستعد عموماً لتدريس الطلاب المصابين بإضطراب فرط الحركة وتشتت الإنتباه في فصلي الدراسي.	5	4	3	2	1

APPENDIX E

SURVEY TRANSLATION CERTIFICATES OF

BILINGUAL PROFESSIONAL TRANSLATORS

Appendix E

Survey Translation Certificates of Bilingual Professional Translators

KENT STATE
UNIVERSITY

Loubna Bilali
PhD Candidate in Translation Studies, KSU

109 Satterfield Hall
Kent State University

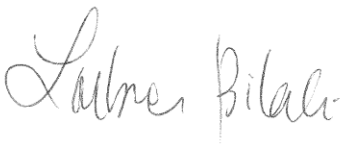
2/12/2013

Translation Certification

I, the undersigned translator, do hereby certify that the attached document, Research Study entitled "Elementary School Teachers' Attitudes toward Willingness to Teach Students with ADHD in Their Classrooms in Riyadh City in Saudi Arabia", is a complete and accurate translation from the original English into Arabic. I am competent to translate between these two languages.

I certify that this translation is true and complete, to the best of my knowledge and belief.

Loubna Bilali



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KENT STATE
UNIVERSITY

Malahat Malahafji
Arabic Instructor, KSU

109 Satterfield Hall
Kent State University

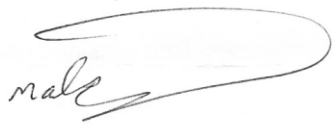
2/13/2013

Statement

To whom it may concern,

I reviewed the Arabic translation of the survey presented by Abdulrahman Abaoud, entitled "Elementary School Teachers' Attitudes toward Willingness to Teach Students with ADHD in Their Classrooms in Riyadh City in Saudi Arabia". I attest that the Arabic version is conform to the original English text.

Malahat Malahafji



Modern and Classical Language Studies
P.O. Box 5190 • Kent, Ohio 44242-0001

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2/18/2013

To whom it may concern,

I certify that the Survey Translation of Research Study title (Elementary School Teachers' Attitudes toward Willingness to Teach Students with ADHD in Their Classrooms in Riyadh City in Saudi Arabia), is true, clear and complete from the original English into Arabic. I wrote this certificate to the researcher: Abdulrahman Abaoud to submission to whom it may concern.

If you have any further queries, please do not hesitate to contact me on phone: 330-672-1798, or email: fmikati@kent.edu.

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Fetna Mikati

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APPENDIX F

A REQUEST LETTER TO THE GENERAL MANAGER OF EDUCATION ADMINISTRATION IN RIYADH, THE MINISTRY OF EDUCATION

Appendix F

A Request Letter to the General Manager of Education Administration in Riyadh, the Ministry of Education

بسم الله الرحمن الرحيم

سعادة مدير عام التربية والتعليم بمنطقة الرياض سلمه الله

السلام عليكم ورحمة الله وبركاته وبعد،،،

أفيدكم بأني طالب الدراسات العُليا لمرحلة الدكتوراه بجامعة كينت الحكومية بولاية أوهايو الأمريكية، مبتعثاً من قبل جامعة الملك سعود. وأعمل حالياً على أطروحة الدكتواره تحت عنوان: إتجاهات معلمي المرحلة الإبتدائية من إستعدادهم لتدريس الطلاب المصابين بإضطراب فرط الحركة وتشتت الإنتباه في فصولهم الدراسية في مدينة الرياض. ويهدف هذا البحث إلى قياس إختلافات توجهات المعلمين نحو إستعدادهم لتدريس هؤلاء الطلاب، وقد طورت إستبيان لأجل ذلك (أنظر المرفق). ستكون مشاركة المعلمين في هذا البحث طوعية، والبيانات سرية دون تدوين أسمائهم، وسوف تستخدم لأغراض البحث فقط. كذلك سيقدم هذا البحث بإذن الله من خلال نتائجه مقترحات مبنية على الأدلة البحثية التي سوف تخدم البيئة التربوية في المملكة، وخاصة الطلاب المصابين بهذا الإضطراب. لذا أود الحصول على موافقتكم لتوزيع إستبيان دراستي في المدارس الإبتدائية للبنين والبنات بمدينة الرياض لهذا الفصل الدراسي.

برفقه تجدون إفادة مساعد الملحق الثقافي السعودي بأمريكا

حفظكم الله وبارك فيكم،،،

مقدمه
الباحث: عبدالرحمن بن عبدالله أباعود
معيد بقسم التربية الخاصة/ جامعة الملك سعود
ج/ 0549667116

٤/٤/١٤٣٤هـ

APPENDIX G

PERMISSION OF THE GENERAL MANAGER OF EDUCATION ADMINISTRATION IN RIYADH, THE MINISTRY OF EDUCATION

Appendix G

Permission of the General Manager of Education Administration

in Riyadh, the Ministry of Education

المملكة العربية السعودية
وزارة التربية والتعليم
٢٨٠
الإدارة العامة للتربية والتعليم بمنطقة الرياض
إدارة التخطيط والتطوير

بسم الله الرحمن الرحيم

وزارة التربية والتعليم
MINISTRY OF EDUCATION

الرقم : ٢٤١٠٠٨٧
التاريخ : ١٤٣٤/٤/٨ هـ
المشفوعات :

تسهيل مهمة باحث

الاسم		بطاقة السجل المدني
عبدالرحمن عبدالله عبدالعزيز اباعود		١٠٣٣٤٠٩٣٥٨
العام الدراسي	الدرجة العلمية	الجامعة
١٤٣٣/١٤٣٤ هـ	دكتوراه	جامعة كينت
عنوان الدراسة : مواقف معلمي المرحلة الابتدائية من إستعدادهم لتدريس الطلاب المصابين بإضطراب فرط الحركة وتشتت الانتباه في فصولهم الدراسية في مدينة الرياض.		
عينة الدراسة : معلم / معلمة.		

المكرم مدير/ة مدرسة ..... وفقه الله

السلام عليكم ورحمة الله وبركاته ، وبعد :

بناء على تعميم معالي الوزير رقم ٥٥/٦١٠ وتاريخ ١٤١٦/٩/١٧هـ بشأن تفويض الإدارات العامة للتربية والتعليم بإصدار خطابات السماح للباحثين بإجراء البحوث والدراسات ، وحيث تقدم إلينا الباحث (الموضحة بياناته أعلاه) بطلب إجراء دراسته، ونظراً لاكتمال الأوراق المطلوبة نأمل تسهيل مهمته.

مع ملاحظة أن الباحث يتحمل كامل المسؤولية المتعلقة بمختلف جوانب البحث ، ولا يعني سماح الإدارة العامة للتربية والتعليم موافقتها بالضرورة على مشكلة البحث أو على الطرق والأساليب المستخدمة في دراستها ومعالجتها.

شاكرين لكم وتقبلوا تحياتي...

مدير إدارة التخطيط والتطوير

إدارة التخطيط والتطوير

/عبدالله السمحان

APPENDIX H

APPROVAL OF THE KENT STATE UNIVERSITY

INSTITUTIONAL REVIEW BOARD

Appendix H

Approval of the Kent State University Institutional Review Board

KENT STATE UNIVERSITY

Abdulrahman Abaoud <aabaoud@kent.edu>

IRB Level I, category 2 approval for Protocol application #13-149 - please retain this email for your records

KIEHL, LAURIE <lkiehl@kent.edu> Thu, Mar 14, 2013 at 9:54 AM
To: "aabaoud@kent.edu" <aabaoud@kent.edu>
Cc: "BARTON, LYLE" <lbarton@kent.edu>

RE: Protocol #13-149 - entitled "Elementary School Teachers' Attitudes toward Willingness to Teach Students with ADHD in Their Classrooms in Riyadh City in Saudi Arabia"

I am pleased to inform you that the Kent State University Institutional Review Board has reviewed and approved your Application for Approval to Use Human Research Participants as Level I/Exempt research. This application was approved on **March 12, 2013**. Your research project involves minimal risk to human subjects and meets the criteria for the following category of exemption under federal regulations:

- Exemption 2: Research involving the use of educational tests, surveys, interviews, or observation of public behavior.

*** *Submission of annual review reports is not required for Level 1/Exempt projects.*

If any modifications are made in research design, methodology, or procedures that increase the risks to subjects or includes activities that do not fall within the approved exemption category, those modifications must be submitted to and approved by the IRB before implementation. Please contact the IRB administrator to discuss the changes and whether a new application must be submitted. *It is important for you to also keep an unstamped text copy (i.e., Microsoft Word version) of your consent form for subsequent submissions.*

Kent State University has a Federal Wide Assurance on file with the Office for Human Research Protections (OHRP); FWA Number 00001853.

If you have any questions or concerns, please contact me by phone at 330-672-2704 or by email at Pwashko@kent.edu.

APPENDIX I

RELIABILITY STATISTICS

Appendix I

Reliability Statistics

Reliability Statistics	
Cronbach's Alpha	N of Items
.962	33

Item Statistics			
	Mean	Std. Deviation	N
Willing to teach students with ADHD because they have the right to get an education with their peers in my classroom.	2.9091	1.31073	286
Willing to teach students with ADHD because I have taught them before.	2.5070	1.22186	286
Willing to teach students with ADHD but I need help from a special education teacher.	3.0594	1.37648	286
Willing to teach students with ADHD but I need to collaborative consulate with psychological counseling specialists.	3.1923	1.43933	286
Not willing to teach students with ADHD because I need training courses about ADHD.	2.6538	1.32020	286
Not willing to teach students with ADHD because I need an assistant teacher with me in my classroom.	2.6189	1.34485	286
Not willing to teach students with ADHD because I have many students in my classroom.	2.5490	1.33878	286
Not willing to teach students with ADHD because I have a lot of teaching hours in my weekly schedule.	2.2413	1.18522	286
Not willing to teach students with ADHD because they need more teaching time than their peers in my classroom.	2.2203	1.23562	286
Not willing to teach students with ADHD because I do not have assistive technology in my classroom.	2.3322	1.26136	286
Willing to teach students with ADHD because I can help them to learn more easily in my classroom.	2.7657	1.23587	286

Willing to teach students with ADHD because I can devise intervention strategies such as peer tutoring in my classroom.	2.6958	1.18845	286
Willing to teach students with ADHD because I can make accommodations in my classroom.	2.6713	1.23275	286
Willing to teach students with ADHD because I can make appropriate reinforcements for them in my classroom.	2.7937	1.23520	286
Not willing to teach students with ADHD because I will punish them in my classroom.	3.3846	1.43110	286
Not willing to teach students with ADHD because they have trouble following instructions in my classroom.	2.6294	1.24070	286
Not willing to teach students with ADHD because their peers avoid them in my classroom.	2.7832	1.21187	286
Not willing to teach students with ADHD because they make much noise in my classroom.	2.5105	1.25302	286
Not willing to teach students with ADHD because I will lose my time with them in my classroom.	2.7587	1.32500	286
Not willing to teach students with ADHD because they will fail in my classroom.	3.0350	1.27823	286
Not willing to teach students with ADHD because they have poor classroom learning skills.	2.9056	1.21461	286
Not willing to teach students with ADHD because most of them have learning disabilities.	2.8811	1.23680	286
Not willing to teach students with ADHD because they exhibit persistent patterns of disruptive behavior in my classroom.	2.6119	1.19343	286
Not willing to teach students with ADHD because they exhibit persistent patterns of off-task behavior in my classroom.	2.6049	1.18226	286
Not willing to teach students with ADHD because they exhibit persistent patterns of inattention in my classroom.	2.5105	1.23326	286
Not willing to teach students with ADHD because they exhibit persistent patterns of hyperactivity in my classroom.	2.4371	1.18524	286

Not willing to teach students with ADHD because they exhibit persistent patterns of impulsivity in my classroom.	2.5594	1.17352	286
Not willing to teach students with ADHD because I have little knowledge about them.	2.9161	1.30315	286
Not willing to teach students with ADHD because I still do not understand who these students are.	2.9021	1.30486	286
Not willing to teach students with ADHD because I do not know how I can deal with them in my classroom.	2.6294	1.29874	286
Not willing to teach students with ADHD because I believe this is not my business.	2.6888	1.35246	286
Willing to teach students with ADHD because I am a perfect teacher.	3.0070	1.13011	286
Willing overall to teach students with ADHD in my classroom.	2.9021	1.37044	286

APPENDIX J

ITEM-TOTAL STATISTICS

Appendix J

Item-Total Statistics

Item-Total Statistics				
	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Willing to teach students with ADHD because they have the right to get an education with their peers in my classroom.	86.9580	739.605	.659	.960
Willing to teach students with ADHD because I have taught them before.	87.3601	745.347	.621	.961
Willing to teach students with ADHD but I need help from a special education teacher.	86.8077	748.296	.506	.961
Willing to teach students with ADHD but I need to collaborative consulate with psychological counseling specialists.	86.6748	736.031	.642	.960
Not willing to teach students with ADHD because I need training courses about ADHD.	87.2133	768.140	.251	.963
Not willing to teach students with ADHD because I need an assistant teacher with me in my classroom.	87.2483	749.415	.503	.961
Not willing to teach students with ADHD because I have many students in my classroom.	87.3182	743.860	.584	.961
Not willing to teach students with ADHD because I have a lot of teaching hours in my weekly schedule.	87.6259	746.586	.622	.961
Not willing to teach students with ADHD because they need more teaching time than their peers in my classroom.	87.6469	743.570	.641	.960
Not willing to teach students with ADHD because I do not have assistive technology in my classroom.	87.5350	744.790	.608	.961
Willing to teach students with ADHD because I can help them to learn more easily in my classroom.	87.1014	749.530	.550	.961

Willing to teach students with ADHD because I can devise intervention strategies such as peer tutoring in my classroom.	87.1713	749.567	.573	.961
Willing to teach students with ADHD because I can make accommodations in my classroom.	87.1958	744.846	.623	.961
Willing to teach students with ADHD because I can make appropriate reinforcements for them in my classroom.	87.0734	741.493	.673	.960
Not willing to teach students with ADHD because I will punish them in my classroom.	86.4825	740.566	.586	.961
Not willing to teach students with ADHD because they have trouble following instructions in my classroom.	87.2378	737.663	.728	.960
Not willing to teach students with ADHD because their peers avoid them in my classroom.	87.0839	738.000	.741	.960
Not willing to teach students with ADHD because they make much noise in my classroom.	87.3566	738.427	.709	.960
Not willing to teach students with ADHD because I will lose my time with them in my classroom.	87.1084	730.981	.775	.960
Not willing to teach students with ADHD because they will fail in my classroom.	86.8322	739.116	.684	.960
Not willing to teach students with ADHD because they have poor classroom learning skills.	86.9615	740.697	.697	.960
Not willing to teach students with ADHD because most of them have learning disabilities.	86.9860	742.323	.659	.960
Not willing to teach students with ADHD because they exhibit persistent patterns of disruptive behavior in my classroom.	87.2552	736.507	.777	.960
Not willing to teach students with ADHD because they exhibit persistent patterns of off-task behavior in my classroom.	87.2622	735.513	.801	.959
Not willing to teach students with ADHD because they exhibit persistent patterns of inattention in my classroom.	87.3566	732.216	.817	.959

Not willing to teach students with ADHD because they exhibit persistent patterns of hyperactivity in my classroom.	87.4301	734.267	.819	.959
Not willing to teach students with ADHD because they exhibit persistent patterns of impulsivity in my classroom.	87.3077	738.151	.764	.960
Not willing to teach students with ADHD because I have little knowledge about them.	86.9510	747.605	.547	.961
Not willing to teach students with ADHD because I still do not understand who these students are.	86.9650	739.290	.666	.960
Not willing to teach students with ADHD because I do not know how I can deal with them in my classroom.	87.2378	737.333	.698	.960
Not willing to teach students with ADHD because I believe this is not my business.	87.1783	732.126	.742	.960
Willing to teach students with ADHD because I am a perfect teacher.	86.8601	757.959	.467	.961
Willing overall to teach students with ADHD in my classroom.	86.9650	739.802	.625	.961

Scale Statistics			
Mean	Variance	Std. Deviation	N of Items
89.8671	788.270	28.07615	33

APPENDIX K

THE RESULTS OF FREQUENCY AND PERCENTAGE DISTRIBUTIONS FOR THE SECOND QUESTION

Appendix K

The Results of Frequency and Percentage Distributions for the Second Question

Items	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
	Frequency (%)	Frequency (%)	Frequency (%)	Frequency (%)	Frequency (%)
1	53 (17.7)	69 (23.0)	71 (23.7)	63 (21.0)	44 (14.7)
2	70 (23.3)	98 (32.7)	64 (21.3)	43 (14.3)	25 (8.3)
3	54 (18.0)	57 (19.0)	50 (16.7)	85 (28.3)	52 (17.3)
4	52 (17.3)	57 (19.0)	38 (12.7)	84 (28.0)	69 (23.0)
5	38 (12.7)	51 (17.0)	43 (14.3)	106 (35.3)	62 (20.7)
6	38 (12.7)	46 (15.3)	58 (19.3)	85 (28.3)	73 (24.3)
7	33 (11.0)	50 (16.7)	48 (16.0)	84 (28.0)	83 (27.7)
8	14 (4.7)	44 (14.7)	34 (11.3)	112 (37.3)	95 (31.7)
9	18 (6.0)	39 (13.0)	36 (12.0)	100 (33.3)	106 (35.3)
11	24 (8.0)	35 (11.7)	54 (18.0)	88 (29.3)	96 (32.0)
12	54 (18.0)	80 (26.7)	66 (22.0)	74 (24.7)	76 (8.7)
13	53 (17.7)	89 (29.7)	73 (24.3)	63 (21.0)	22 (7.3)
14	59 (19.7)	88 (29.3)	61 (20.3)	68 (22.7)	23 (7.7)
15	51 (17.0)	84 (28.0)	65 (21.7)	74 (24.7)	26 (8.7)
16	92 (30.7)	69 (23.0)	52 (17.3)	43 (14.3)	44 (14.7)
17	26 (8.7)	53 (17.7)	69 (23.0)	69 (29.7)	63 (21.0)
18	24 (8.0)	74 (24.7)	64 (21.3)	89 (29.7)	48 (16.0)
19	23 (7.7)	51 (17.0)	57 (19.0)	91 (30.3)	77 (25.7)
20	31 (10.3)	76 (25.3)	52 (17.3)	73 (24.3)	68 (22.7)
22	40 (13.3)	80 (26.7)	75 (25.0)	60 (20.0)	45 (15.0)
23	29 (9.7)	75 (25.0)	80 (26.7)	67 (22.3)	98 (16.0)

24	27	81	73	70	48
	(9.0)	(27.0)	(24.3)	(23.3)	(16.0)
25	23	49	73	99	56
	(7.7)	(16.3)	(24.3)	(33.0)	(18.7)
26	21	54	68	102	55
	(7.0)	(18.0)	(22.7)	(34.0)	(18.3)
27	18	57	58	93	74
	(6.0)	(19.0)	(19.3)	(31.0)	(24.7)
28	15	48	63	97	76
	(5.0)	(16.0)	(21.0)	(32.3)	(25.3)
29	17	55	71	96	60
	(5.7)	(18.3)	(23.7)	(32.0)	(20.0)
30	40	65	81	59	55
	(13.3)	(21.7)	(27.0)	(19.7)	(18.3)
31	41	70	68	70	51
	(13.7)	(23.3)	(22.7)	(23.3)	(17.0)
32	30	55	56	89	70
	(10.0)	(18.3)	(18.7)	(29.7)	(23.3)
33	33	57	74	55	81
	(11.0)	(19.0)	(24.7)	(18.3)	(27.0)
34	34	63	100	75	27
	(11.3)	(21.0)	(33.3)	(25.0)	(9.0)
35	66	53	67	70	43
	(22.0)	(17.7)	(22.3)	(23.3)	(14.3)

APPENDIX L

POST-HOC ANALYSIS FOR RESEARCH QUESTION 1.1

Appendix L

Post-hoc Analysis for Research Question 1.1

Multiple Comparisons

Total Attitudes (Sum of all 33 items)
Tukey HSD

(I) What is your education level?	(J) What is your education level?	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
Undergraduate	Master	-12.1809	6.53805	.246	-29.0735	4.7116
	Doctoral	-34.9880	15.95501	.128	-76.2115	6.2356
	Other	5.0240	5.47543	.796	-9.1231	19.1710
Master	Undergraduate	12.1809	6.53805	.246	-4.7116	29.0735
	Doctoral	-22.8070	17.06598	.540	-66.9010	21.2869
	Other	17.2049	8.16489	.153	-3.8910	38.3008
Doctoral	Undergraduate	34.9880	15.95501	.128	-6.2356	76.2115
	Master	22.8070	17.06598	.540	-21.2869	66.9010
	Other	40.0119	16.68778	.080	-3.1049	83.1287
Other	Undergraduate	-5.0240	5.47543	.796	-19.1710	9.1231
	Master	-17.2049	8.16489	.153	-38.3008	3.8910
	Doctoral	-40.0119	16.68778	.080	-83.1287	3.1049

Based on observed means.
The error term is Mean Square(Error) = 754.596.

APPENDIX M

POST-HOC ANALYSIS FOR RESEARCH QUESTION 1.3

Appendix M

Post-hoc Analysis for Research Question 1.3

Multiple Comparisons

Total Attitudes (Sum of all 33 items)
Tukey HSD

(I) At which grade level are you often teaching?	(J) At which grade level are you often teaching?	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
1st grade	2nd grade	2.4255	5.72974	1.000	-14.5866	19.4377
	3rd grade	2.0827	5.90596	1.000	-15.4527	19.6180
	4th grade	2.9787	5.45674	.998	-13.2228	19.1803
	5th grade	2.2255	5.69046	1.000	-14.6700	19.1210
	6th grade	-1.0745	5.69046	1.000	-17.9700	15.8210
	Other	-22.9345*	5.37426	.001	-38.8911	-6.9778
2nd grade	1st grade	-2.4255	5.72974	1.000	-19.4377	14.5866
	3rd grade	-.3429	6.15909	1.000	-18.6298	17.9440
	4th grade	.5532	5.72974	1.000	-16.4589	17.5653
	5th grade	-.2000	5.95276	1.000	-17.8743	17.4743
	6th grade	-3.5000	5.95276	.997	-21.1743	14.1743
	Other	-25.3600*	5.65125	.000	-42.1391	-8.5809
3rd grade	1st grade	-2.0827	5.90596	1.000	-19.6180	15.4527
	2nd grade	.3429	6.15909	1.000	-17.9440	18.6298
	4th grade	.8960	5.90596	1.000	-16.6393	18.4314
	5th grade	.1429	6.12257	1.000	-18.0356	18.3213
	6th grade	-3.1571	6.12257	.999	-21.3356	15.0213
	Other	-25.0171*	5.82985	.000	-42.3265	-7.7078
4th grade	1st grade	-2.9787	5.45674	.998	-19.1803	13.2228
	2nd grade	-.5532	5.72974	1.000	-17.5653	16.4589
	3rd grade	-.8960	5.90596	1.000	-18.4314	16.6393
	5th grade	-.7532	5.69046	1.000	-17.6487	16.1423
	6th grade	-4.0532	5.69046	.992	-20.9487	12.8423
	Other	-25.9132*	5.37426	.000	-41.8699	-9.9565
5th grade	1st grade	-2.2255	5.69046	1.000	-19.1210	14.6700
	2nd grade	.2000	5.95276	1.000	-17.4743	17.8743
	3rd grade	-.1429	6.12257	1.000	-18.3213	18.0356
	4th grade	.7532	5.69046	1.000	-16.1423	17.6487
	6th grade	-3.3000	5.91496	.998	-20.8621	14.2621
	Other	-25.1600*	5.61142	.000	-41.8208	-8.4992
6th grade	1st grade	1.0745	5.69046	1.000	-15.8210	17.9700
	2nd grade	3.5000	5.95276	.997	-14.1743	21.1743
	3rd grade	3.1571	6.12257	.999	-15.0213	21.3356
	4th grade	4.0532	5.69046	.992	-12.8423	20.9487
	5th grade	3.3000	5.91496	.998	-14.2621	20.8621
	Other	-21.8600*	5.61142	.002	-38.5208	-5.1992
Other	1st grade	22.9345*	5.37426	.001	6.9778	38.8911
	2nd grade	25.3600*	5.65125	.000	8.5809	42.1391
	3rd grade	25.0171*	5.82985	.000	7.7078	42.3265
	4th grade	25.9132*	5.37426	.000	9.9565	41.8699
	5th grade	25.1600*	5.61142	.000	8.4992	41.8208
	6th grade	21.8600*	5.61142	.002	5.1992	38.5208

Based on observed means.
The error term is Mean Square(Error) = 699.735.

*. The mean difference is significant at the .05 level.

APPENDIX N

POST-HOC ANALYSIS FOR RESEARCH QUESTION 1.4

Appendix N

Post-hoc Analysis for Research Question 1.4

Multiple Comparisons

Total Attitudes (Sum of all 33 items)
Tukey HSD

(I) How many students are usually in your classroom (group)?	(J) How many students are usually in your classroom (group)?	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
0-15	16-25	26.3503*	4.62181	.000	14.4083	38.2923
	26-35	31.4439*	4.76627	.000	19.1287	43.7591
	36+	16.4439	12.33900	.543	-15.4380	48.3258
16-25	0-15	-26.3503*	4.62181	.000	-38.2923	-14.4083
	26-35	5.0936	3.31367	.417	-3.4684	13.6556
	36+	-9.9064	11.85386	.837	-40.5348	20.7220
26-35	0-15	-31.4439*	4.76627	.000	-43.7591	-19.1287
	16-25	-5.0936	3.31367	.417	-13.6556	3.4684
	36+	-15.0000	11.91093	.590	-45.7759	15.7759
36+	0-15	-16.4439	12.33900	.543	-48.3258	15.4380
	16-25	9.9064	11.85386	.837	-20.7220	40.5348
	26-35	15.0000	11.91093	.590	-15.7759	45.7759

Based on observed means.
The error term is Mean Square(Error) = 678.510.

*. The mean difference is significant at the .05 level.

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