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A Statewide Survey Linking Assessment to Interventions: Assessing Teacher Awareness and Training Needs Related to Students with Attention-Deficit Hyperactivity Disorder

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Western Kentucky University

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A STATEWIDE SURVEY
LINKING ASSESSMENT TO INTERVENTIONS:
ASSESSING TEACHER AWARENESS AND
TRAINING NEEDS RELATED TO STUDENTS WITH
ATTENTION-DEFICIT HYPERACTIVITY DISORDER

A Specialist Project
Presented to
the Faculty of the Department of Psychology
Western Kentucky University
Bowling Green, Kentucky

In Partial Fulfillment
of the Requirements for the Degree
Specialist in Education

by
LeAnn Pearson

December
1997
A STATEWIDE SURVEY
LINKING ASSESSMENT TO INTERVENTIONS:
ASSESSING TEACHER AWARENESS AND TRAINING NEEDS RELATED TO STUDENTS WITH ATTENTION-DEFICIT HYPERACTIVITY DISORDER

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A STATEWIDE SURVEY
LINKING ASSESSMENT TO INTERVENTIONS:
ASSESSING TEACHER AWARENESS AND TRAINING NEEDS RELATED TO STUDENTS WITH
ATTENTION-DEFICIT HYPERACTIVITY DISORDER

LeAnn Pearson  December 1997  Pages 103

Committee Members:  William Pfohl, Chairperson, Carl Myers and Sam McFarland

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Abstract

The present study, using a survey questionnaire developed by Luckett (1996), was completed by 211 kindergarten through sixth grade teachers in 33 school districts across Kentucky. The sample consisted of regular education, special education, and Title One teachers with one to thirty-one years of experience. Educational backgrounds of the predominantly female sample ranged from bachelor's to doctoral degrees. The survey included four distinct sections. Participants were questioned about (a) knowledge level with respect to the diagnostic criteria and diagnostic labels for Attention-Deficit Hyperactivity Disorder, (b) intervention preferences for addressing ADHD student’s behaviors in the classroom, (c) interventions which they would use for ADHD student’s behaviors under ideal classroom circumstances, and (d) opinions concerning the
importance of a number of issues related to ADHD and the classroom teacher. Data analysis consisted of frequency and percentage distributions, chi-square tests, and measures of central tendency. The collected data were also compared to data gathered by a previous study of teachers in 16 central-western Kentucky school systems (Luckett, 1996).

As in Luckett’s (1996) study, respondents indicated limited knowledge of the specific diagnostic criteria and classification for ADHD. Commonly used interventions for nine of the ADHD characteristics included positive reinforcement and punishment, while commonly chosen interventions for an ideal setting included self-management. Teachers across job positions indicated that more training in assessment and intervention for ADHD students was important. The majority of the teachers responded that they had instructed an ADHD student in the past two years, and for the most part, typical resources for training included inservice training within the district and self-study using books and manuals. The majority of the respondents indicated that having a selection of interventions available was the most important.

However, as indicated from the survey data, teachers are not making the connection between the diagnostic criteria and appropriate interventions for those criteria. Instead, teachers are identifying inappropriate interventions which the research literature does not support. For example, overwhelmingly, teachers would choose to use the intervention of self-management in an ideal educational setting.
If educators can make the appropriate, research-based connection from the DSM-IV diagnostic criteria to proven classroom interventions, the ADHD child will be better served in the educational setting. Improved teacher training in undergraduate coursework in the area of understanding and teaching the ADHD student may help make the connection between assessment and intervention.
Introduction

Although a large body of research supports the use of a multimodal approach to the treatment of Attention-Deficit Hyperactivity Disorder (ADHD) students, does a multimodal approach take place in the regular classroom? Classroom interventions are often not carried out, either because the teacher does not have the knowledge or skill to implement the recommendations or because the recommendations are not realistic in terms of the classroom structure or curriculum (Johnston, 1990). If inappropriate classroom interventions are implemented or if nothing is done with regard to behavioral management, a student's education, both socially and academically, may be adversely impacted. This negative impact could have been possibly prevented in the early stages, immediately after diagnosis, if teachers were aware of the diagnostic criteria and potential classroom interventions (Johnston, 1990).

Students with ADHD could be eligible for specialized services through the Individuals with Disabilities Education Act (IDEA) under the classification of “Other Health Impaired.” Even if a child is not eligible through IDEA, preventive intervention and other support services may be necessary for all children with ADHD and are provided under provisions established in Section 504 (Teeter, 1991). The literature shows that children with ADHD are at risk for developing serious and long term adjustment problems such as emotional, behavioral, and academic (Barkley, 1990). If this is the case and school functioning is being
significantly impaired, schools do have an obligation to serve students with ADHD in the least restrictive environment.

Therefore, knowledge of *Diagnostic and Statistical Manual, 4th Edition* (American Psychiatric Association, 1994 [DSM-IV]) criteria for ADHD should help teachers correctly identify students who may have this condition. The diagnosis of ADHD requires excessive hyperactivity, impulsivity, or inattention be evident before the child is 7 years of age and that the significant impairment be present in at least two settings for at least six months (APA, 1994). ADHD is characterized by inattention, distractibility, lack of impulse control, low frustration tolerance, and high levels of activity (APA, 1994). In addition, the DSM-IV breaks the ADHD diagnosis into three subtypes: predominantly inattentive, predominantly hyperactive-impulsive, and combined type. The teacher should play an important role in the identification, assessment, referral, and treatment of those students with ADHD. Unfortunately, many teachers may be ill-equipped to deal with ADHD students (Luckett, 1996). They may not know what ADHD means or how to identify the condition. This researcher will attempt to collect information on just that - teacher’s knowledge of ADHD in the areas of diagnosis and classroom intervention.

Prior to initial diagnosis, many parents and teachers believe that if ADHD is diagnosed medication will solve the problem (Sabatino & Vance, 1994). Often times, the use of stimulant medication is the only intervention that is being applied in the classroom. Research has consistently shown that the combination of behavior modification and medication is better than either intervention alone (DuPaul & Stoner, 1994). Therefore, it is important for a multidisciplinary team,
including the school psychologist, to follow a child once he/she has been diagnosed with ADHD. This team can help monitor medication, if prescribed, and help develop and evaluate classroom interventions before further problems occur.

Fiore, Becker and Nero (1993) summarized the research of nonpharmacological interventions for students with ADHD. These interventions included behavior management (e.g., positive reinforcement, punishment, response cost), academic instruction, home-school collaboration, and comprehensive programming.

There has been minimal research done regarding the application of assessment information in the development of an intervention plan for students with ADHD. For the most part, the research has treated them as separate entities, either as assessment procedures or intervention strategies. The purpose of Luckett’s (1996) project was to assess the two phases. He uncovered the need for additional teacher knowledge of ADHD diagnostic and assessment criteria and the need for further teacher training related to assessment and interventions of ADHD. His project explored significant differences between regular education, special education, and Title One teacher responses.

Luckett (1996) found that teachers’ knowledge of ADHD classifications and diagnostic criteria was limited. This research author expects to find similar results with regard to teacher knowledge of ADHD diagnostic criteria and appropriate classifications for ADHD statewide. He (Luckett, 1996) also found that interventions teachers currently use and those that they would ideally use varied across the diagnostic criteria for ADHD. Further findings indicated that teacher interventions currently used and ideally used varied depending upon the
type of behaviors presented. They frequently selected positive reinforcement, punishment, and response cost interventions for most of the diagnostic criteria for ADHD. For the ideal classroom setting, self-management interventions were chosen significantly more often. Again, this research author predicts that similar findings will be found with teachers across Kentucky. Further, teacher differences based on job setting in regard to typical and ideal interventions will be surveyed. This research author hopes to find that across the state of Kentucky there is a need for broader training in the areas of assessment and intervention for ADHD students, regardless of teacher job position.

Finally, this researcher hopes to provide a clearer picture about a number of important issues related to the diagnosis of and interventions for ADHD students. Overall, the purpose of this current research project is to validate Luckett’s (1996) findings that teachers lack knowledge to successfully make the connection from diagnosis criteria to data-based interventions for students with ADHD.

The overall objective of this research project is to expand and supplement Luckett’s (1996) database using his same questionnaire. His data included only 16 central and western Kentucky school districts. The current study will look at a representative sample of the remaining 146 school districts in Kentucky. This project will allow for investigating the reliability and validity of the findings by (a) investigating regular, special education, and Title One teachers’ knowledge level with respect to diagnostic criteria and labels for ADHD, (b) assessing interventions which they have used for ADHD students, (c) determining what interventions they would use in an ideal educational setting, and (d) asking their judgments of importance for a number of issues related to diagnosis and
interventions for ADHD students. It will be also be necessary to compare the compiled results to see if there are differences in the knowledge and view of teachers across Kentucky with regard to ADHD.

Based upon Luckett’s (1996) findings, this research author’s hypotheses are as follows:

1. Teacher knowledge of ADHD diagnostic criteria and classifications will be limited.
2. In real classroom situations, teachers’ selection of interventions should vary across the nine behaviors, but will not be appropriate and research based.
3. In “ideal” classroom situations, teachers’ selection of interventions will also vary across the nine behaviors, but will not be appropriate and research based.
4. Teachers will rate as their most important ADHD issue “having a selection of the appropriate intervention techniques available in the classroom”.
5. Across Kentucky, teachers will indicate the necessity for a broad range of training in both ADHD assessment and intervention areas.
Background and History of ADHD

Attention Deficit Hyperactivity Disorder (ADHD) affects 3-5% of school-aged children in the United States (Barkley, 1990). This percentage would allow the average classroom to have approximately 1 to 2 students with ADHD; one need not wonder that it has become the disorder of the 1990's.

During the period of 1900 to 1960, ADHD was believed to be the result of brain damage. In the 1960's this theory was questioned and investigated. As a result, the disorder was labeled as a mild brain dysfunction. The period of the 1970's established a greater knowledge in the area. The 1980's brought the refining of the diagnostic criteria for ADHD as it changed the label from Attention Deficit Disorder (ADD) to Attention Deficit Hyperactivity Disorder (ADHD). Today, research continues in order to better understand this disorder.

Throughout the years, the definition and diagnostic criteria used to classify this disorder has frequently changed. There has been controversy as to whether or not attention deficit disorder should be conceptualized as multidimensional, as in DSM-III (APA, 1980), or as unidimensional, as in the DSM-III-R (APA, 1987). Research by Morgan, Hynd, Riccio, and Hall (1996) supports a multidimensional
conceptualization. The fourth edition of the DSM-IV (APA, 1994) evolved into a bidimensional system, clustering hyperactivity and impulsivity symptoms into one dimension and inattention into the second dimension (Gaub & Carlson, 1997). The DSM-IV diagnosis of ADHD included the following: (a) a distinction between ADHD with and without the hyperactive-impulsive dimension functioning, (b) the presence of ADHD, Predominantly Hyperactive-Impulsive subtype and ADHD, Predominantly Inattentive subtype, (c) that symptoms exist in at least two settings, and (d) the exclusion of pervasive developmental disorder, mental retardation, and other DSM-IV disorders (Power & DuPaul, 1996).

According to the DSM-IV (APA, 1994), the primary characteristics of ADHD are inattentiveness, hyperactivity, and impulsiveness; and it proposes three subtypes. To receive the diagnosis of Attention-Deficit Hyperactivity Disorder, Predominantly Hyperactive-Impulsive Type, a child must have four of six hyperactivity-impulsivity symptoms. To receive the diagnosis of Attention-Deficit Hyperactivity Disorder, Predominantly Inattentive Type, a child must exhibit six of the nine inattention symptoms. Finally a child who meets the criteria for both inattention and hyperactivity-impulsivity will receive the diagnosis of Attention Deficit Hyperactivity Disorder, Combined Type (Table 1). Other related behaviors may include out of seat behavior, fidgeting, talking out of turn, making unusual noises, and an inconsistency in quality of work. Any one of these classroom behaviors can have a negative effect on learning and also attitudes of peers and teachers toward a child with ADHD. In addition to the primary symptoms, children with ADHD tend to be at risk for several other problems in adjustment such as school learning problems, poor peer relationships, low self-
Table 1

DSM-IV Diagnostic Criteria for Attention-Deficit Hyperactivity Disorder

ATTENTION
Six or more of the following for at least six months to severe degree:

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 tasks and 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 and activities (toys, school assignments,
   pencils, books, tools)
h) is often easily distracted by extraneous stimuli
i) is often forgetful in daily activities

HYPERACTIVITY/IMPULSIVITY
Six or more of the following for at least six months to severe degree:

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 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 (butts into conversations or games)

*Some symptoms which caused impairment present before age seven
*Some impairment from symptoms present in two or more settings
*Clear evidence of significant impairment in social, academic, or occupational
functioning

**Symptoms are not a function of a pervasive developmental disorder, schizophrenia, or
other psychotic disorder and are not better accounted for by mood disorder, anxiety
disorder, or a personality disorder (APA, 1994).
esteem, and antisocial behavior/aggression (Frick & Lahey, 1991; Geroski, Rodgers, & Breen, 1997).

School personnel can provide a wealth of information on the symptoms and characteristics of children with ADHD. Although symptoms of ADHD are commonly observed prior to the age of 7, it is not until going to school that the seriousness can be noted by a teacher or peers (Atkins & Pelham, 1991). There could be several reasons for not being identified until school age including the objectivity of the teacher, ability to compare to same age peers, and the frequent contact across many settings. Since children are in school a majority of the daytime, inappropriate classroom behavior and management of the inappropriate behavior becomes a very important issue. Children with ADHD have a variety of social and academic needs that with teacher accommodations can be met in the regular classroom. Treatment for ADHD should be tailored to the needs of the individual student (Barkley, 1996).

Children with ADHD are frequently reported to be academic underachievers (Barkley, 1990). Within the classroom, these children often exhibit significantly lower rates of on task behavior during instruction and independent work periods than their classmates. Students with learning disabilities are at least seven times more likely to have ADHD (Barkley, 1990). Academic skill deficits are not directly enhanced with pharmacotherapy and are usually treated with other instructional interventions (DuPaul & Stoner, 1994).

Knowledge of DSM-IV criteria helps teachers initially identify students who have significant attention problems and need to be referred to other professionals for a formal diagnosis (Geroski, Rodgers, & Breen, 1997). Teachers play a key
role in identifying potential ADHD students, and without knowledge of the
diagnostic symptoms of ADHD teachers cannot initiate an appropriate
instructional program that meets the needs of the ADHD student (McFarland,
Lolstad, & Briggs, 1995). This knowledge in ADHD diagnostic criteria could help
bridge the gap between assessment and intervention.

Interventions for ADHD Students

There are currently three broad types of interventions for ADHD students: (a)medication, (b) behavior therapy, or (c) a combination of the two. Typically,
school personnel must select interventions based on their “best guess” as to what
will work for a particular child and then use trial and error to test (DuPaul &
Eckert, 1997). ADHD is a significant diagnosis that may require additional long
term treatment with counseling, behavior management and medication

Pharmacological treatment. Psychostimulant medication is the most common
medication (primarily Ritalin or its generic form methylphenidate) to manage
ADHD than any other childhood disorder (Barkley, 1990). Medications have been
shown to have positive effects on increasing attention and decreasing motor
activity. They also significantly improve social interaction between children with
ADHD and their parents, teachers, and peers (Barkley, 1990). Medication cannot
increase the number of appropriate interactions, but can decrease the number of
aggressive behaviors. Between 70 and 80 percent of children with ADHD
respond positively to stimulant medication (Barkley, 1990). However, there can
be both short-term and long-term side effects, such as insomnia and appetite
reduction. Medications are not a cure all, and less medication may even be possible with the use of other non-pharmacological strategies. Unfortunately, when people see immediate improvement, they often think medication is all that is needed. These medications do not cure the disorder, they only temporarily control the symptoms. Although the medications help students pay better attention and complete their work, students cannot increase knowledge or improve academic skills without a variety of additional interventions and support.

Non-pharmacological treatment. The two most researched, non-pharmacological treatments for managing ADHD are behavioral and cognitive-behavioral strategies (Fiore et al., 1993). Three common behavioral interventions include positive reinforcement, punishment, and response cost. Behavioral interventions all refer to strategies that use reinforcement and punishment to establish or reduce target behaviors (Fiore et al., 1993). Cognitive-behavioral therapy combines behavioral techniques and cognitive strategies. Cognitive-behavioral interventions are designed to address core problems of impulse control, higher order problem solving, and self-regulation. Examples of cognitive-behavioral interventions include teaching the ADHD child to use self-verbalizations and self-reinforcement to improve behavior. There have been inconsistent findings regarding the effectiveness of cognitive-behavioral interventions throughout the literature (Fiore et al., 1993).

Much less work has focused on specific instruction and learning strategies for ADHD children. Also, the use of home and school collaboration to improve outcomes for children with ADHD have not been directly addressed (Fiore et al., 1993). Home and school collaboration include parents providing rewards for
positive behavior at school and attending parent training programs.

Along with these direct services, there are also indirect services that can be offered for students with ADHD. Indirect services include training staff, developing systems for better classroom management, and promoting offers for parent training and counseling (Johnston, 1990). Contingent teacher attention is the most universally employed classroom management technique (Abramowitz & O'Leary, 1991). Classroom token economies, home-school contingencies, group contingencies and other peer mediated interventions, time out from positive reinforcement, and reductive procedures based on reinforcement are also commonly used behavioral interventions.

Parent mediated approaches to behavior management, typically referred to as “parent training,” have grown in popularity in the past several years (Newby, Fischer, & Roman, 1991). It would appear that school psychologists would sometimes be in a position to offer parent training to families of ADHD students and to teachers so they can make informed referrals to appropriate professional resources outside the school.

**Combination of treatments.** Other studies have documented positive effects of combined behavioral management strategies with stimulant medication. Pelham (1989) discovered that when pharmacological and non-pharmacological therapies were combined, 80 percent of children with hyperactivity exclusively showed significant decreases in negative peer nominations. According to Barkley (1990), the optimal form of treating ADHD children includes the combination of behavior modification and stimulant medication.

Sheridan, Dee, Morgan, McCormick, and Walker (1996) implemented a social
skills intervention program for 5 boys with ADHD and their parents. They were investigating the efficacy of a combined medication/social skills training program. After 10 weekly sessions focusing on target skills in the areas of social entry, maintaining interactions, and problem solving all subjects demonstrated mean increases in each target behavior with the onset of treatment. Treatment gains were most stable for social entry behaviors, and appeared to maintain over time for most subjects (Sheridan et al., 1996).

Multimodal treatment includes a combination of classroom modification and interventions; parent education and training; stimulant medication; and other therapies such as social skill, anger control, or problem solving, family therapy and individual therapy (Abramowitz & O'Leary, 1991).

A study by Burcham, Carlson, and Milich (1993) found schools that implemented successful programs to address needs of students with ADHD consistently exhibited the following characteristics:

1. A systematic and comprehensive training program specific to ADHD was initiated district wide.

2. Full support and understanding of the district’s administration was necessary for the development and implementation of practices for students with ADHD.

3. Effective school practice resulted from the use of teams in all aspects of decision making.

4. Districts used an array of classroom interventions in the regular classroom before initiating formal assessment procedures.
5. Schools doing promising work with these students recognized that
ADHD is a discerning disorder.

Along with stimulant medication, interventions based on the behavioral
principles of reinforcement and punishment are among the most effective
procedures for reducing symptoms of ADHD as well as enhancing compliance
and academic performance (Barkley, 1990; DuPaul & Eckert, 1997). Currently,
most research agrees that the combination of behavior modification and stimulant
medication is the best treatment for ADHD (Barkley, 1990).

Teachers’ Perceptions/Knowledge

There are a number of factors that affect how successful a student with ADHD
will function and perform in the classroom. One of the most important factors in
determining how successful a child at the elementary level is the knowledge and
understanding that the teacher has about ADHD (Starr, 1995).

A study by Hawkins, Martin, Blanchard, and Brady (1991) investigated teacher
perceptions, beliefs, and interventions regarding children with attention deficit
disorder. From this study, 79% of the teachers surveyed believed that medication
was not sufficient to remediate the problems encountered by these children.
Classroom interventions fell into the two major categories of adapting instruction
and changing the student’s behavior. Additional interventions included changing
the environment, restricting diet and combination of activities. (Hawkins et al.,
1991)

Luckett (1996) investigated teacher’s knowledge of assessment criteria and
the need for teacher training in areas related to the assessment and interventions
for ADHD students. He also investigated the differences existing between regular
education, special education, and Title One teachers' choices of interventions, including those that teachers currently use or have used in the past and interventions that teachers would use given an ideal setting. His findings were as follows:

1. The majority of respondents were able to identify the 14 true ADHD criteria; however, they were unable to correctly identify any of the three current diagnostic classifications of ADHD (Predominantly Inattentive Type, Predominantly Hyperactive-Impulsive Type, and Combined Type).

2. Positive reinforcement/token reinforcement, punishment, and response cost interventions were commonly chosen interventions for most of the diagnostic criteria. However, the teachers indicated that these would vary depending upon the type of behavior presented.

3. For all seven diagnostic and intervention ADHD issues, teachers indicated consistently high importance ratings. These seven issues included the following:

   (as a teacher)

   A. knowing the diagnostic criteria for ADHD

   B. being aware of specific diagnostic criteria met by an ADHD student in assessment

   C. having a selection of intervention techniques available for use in the classroom

   D. having the services of other professions available

   E. receiving more training in ADHD assessment practices

   F. receiving more training in developing and implementing interventions

   G. receiving more training in using the data collected in the assessment
process to develop intervention strategies for ADHD students

4. The majority of respondents indicated that knowledge of the characteristics met by an ADHD student was important to them in planning interventions.

5. The majority of the respondents indicated that over the course of a two year period, a teacher is likely to instruct a student with ADHD.

6. Participants responded that self-study using books and manuals, self-study using journals and newspapers, and in-service training within the district were the most common avenues of training in this area. Special education teachers also indicated that conference or workshop training was a common source of training, along with undergraduate and graduate coursework curriculums. A higher percentage of special education teachers indicated that they had received more training in these areas than did regular education teachers and Title One teachers.

Summary

Although the DSM classification system has improved through several revisions, it still has limited use in regard to selecting interventions (Power & DuPaul, 1996). Since the classroom teacher plays a key role in the identification, referral, and comprehensive programming, the data from this statewide survey may eventually help connect these two phases of diagnosis and intervention. It is the educator’s responsibility to be able to identify students at risk for ADHD. In order for that identification to occur, they must have some knowledge of the diagnostic criteria to make an informed referral. Then proper assessment by others is needed so that the child can be correctly diagnosed. After a diagnosis has been made, a selection of appropriate research based interventions is
necessary in order to appropriately educate the ADHD student in the classroom.

Interventions based on the behavioral principles of reinforcement and punishment in combination with medication have been proven the most effective for reducing ADHD symptoms and increase learning.
Method

Participants

Eight educational regions in Kentucky are determined by the Kentucky Department of Education. The previous study (Luckett, 1996) sampled most of Region 2 and some additional counties for a sample total of 16 districts. This research project sampled the remaining seven regions, which included 146 school districts. From each region, the sample attempted to include 50 percent of the school districts. However, only 33 (22.6%) of the school districts participated (See Figure 1). A sample of 211 teachers (126 regular education, 62 special education, and 21 Title One) volunteered to participate in the research study. The sample was decidedly female (90% female, 4.7% male, 5.3% missing responses) and included kindergarten through sixth grade teachers. The treatment of all participants conformed to the "Ethical Principles of Psychologists and Code of Conduct" (American Psychological Association, 1992).

Instrument - Survey Questionnaire

The mailed questionnaire survey used as the research tool for this study is included in Appendix A. The questionnaire survey developed by Luckett (1996) was revised slightly as recommended by the original author to address its earlier limitations. Those limitations included the following:
1. The possibility of a response set pattern in determining the respondent’s
Figure 1

Participating Kentucky County School Systems

Note. Participating counties include Anchorage Independent (Jefferson County), Bourbon County, Bracken County, Breathitt County, Campbell County, Carroll County, Christian County, Elizabethtown Independent (Hardin County), Fulton County, Grant County, Graves County, Greenup County, Henry County, Hickman County, Hopkins County, Jefferson County, Laurel County, Lawrence County, Lincoln County, Livingston County, Menifee County, Nelson County, Oldham County, Owsley County, Pendleton County, Pike County, Powell County, Shelby County, Spencer County, Trimble County, Union County, Webster County, and Whitley County.

Note. Vertical stripped counties participated in this study and horizontal stripped counties participated in the previous study (Luckett, 1996).
knowledge of ADHD criteria. There were 14 true ADHD criteria and 6 false ADHD criteria.

2. The possibility of a response set pattern in the importance ratings.

3. The term “ideal” may have been interpreted differently by the respondents.

The current survey design was the same with the exception of the following changes:

1. Eight false ADHD diagnostic criteria were added to equalize the number of false ADHD criteria and true ADHD criteria. These eight false criteria were obtained from the DSM-IV diagnoses for Depression, Conduct Disorder, Oppositional Defiant Disorder, and Generalized Anxiety Disorder.

2. The respondents were instructed to rank order the seven diagnostic and intervention issues according to its importance to him/her.

3. Further clarification was given for the term “ideal” in the survey text. It was explicitly defined as a classroom where there were no limits on the teacher’s time, unlimited financial resources, and the availability of any needed school personnel.

In addition to a cover letter, the survey included four distinct survey sections and a list of interventions for the respondents to use when completing the third section. The first section addressed demographic information about the respondent - including teaching position, grade taught, years of experience, educational level, gender, training related to the assessment of ADHD, and training related to interventions for ADHD students. The second section tested teacher knowledge in regard to the Diagnostic and Statistical Manual of Mental Disorders, 4th edition (1994) diagnostic criteria for ADHD. The third section
allowed the respondent to indicate intervention practices with respect to behaviors used in the diagnosis of ADHD. The respondents were asked to identify ADHD intervention practices which they currently use or have used, as well as intervention practices which would be used given an “ideal” working environment. A list of 14 common interventions practices was available to the respondent in the completion of this selection. The fourth and final section of the survey pertained to teachers’ ratings of the importance of knowledge of ADHD criteria, the importance of having a variety of interventions available to use with ADHD students, and the importance of further training in providing services to ADHD students. Respondents were instructed to rank order the seven issues according to its importance to him/her. In order to make comparisons to Luckett’s (1996) findings, they were also asked to rate this section on importance using a five point Likert scale from “Not Important” to “Very Important.”

Procedure

Approximately 10 surveys were mailed to those identified school districts. When half of the school districts were not obtained from each region, more surveys were sent to those participating. The author of this research project contacted 93 of the remaining 146 school systems not sampled in the original study. From those contacts, it was determined that 33 school districts across Kentucky would participate in this study. The reasons school systems did not participate were either (a) the school system was ending their calendar year, (b) the teachers would not be available to complete the survey, or (c) the Director of Special Education denied the request to conduct research. The contact person, either a school psychologist or Director of Special Education, gave a rough
estimate of the number of surveys needed and was notified that additional copies could be made of the survey, if necessary. They were instructed to distribute a survey questionnaire to all teachers within one or two elementary schools in the district. All regular education teachers, special education teachers, and Title One teachers within the school(s) were given the opportunity to complete the survey. The surveys were mailed in Priority Mail envelopes to each of the participating school systems, along with a postage paid Priority Mail return envelope. Upon completion of the survey, the participating teachers were instructed to return the survey to the school contact person. The contact person was instructed to return the completed surveys by early June 1997 in the postage paid return envelope. As surveys were received by the research study author, individual surveys were sight-edited and numbered for data entry and analysis.
Results

Of 725 survey questionnaires initially delivered to the 33 contact persons, a total of 211 survey questionnaires were returned. The final sample indicated a return rate of 29%. Table 2 presents the demographic characteristics of the sample. Respondents were across the following teacher positions: regular education teachers (59.7%), special education teachers (29.4%), and Title One teachers (10%). The majority of the respondents were female (90%), and had a Master’s Degree or Rank II Certification (46.9%). There was an even distribution among grades taught (kindergarten through sixth, including special education of all grades). Years of teaching experience varied from one year to thirty years experience. Only 3.3% of the respondents had 31 plus years of experience. Based on the data in Table 2, the modal response for a survey participant was a female kindergarten to sixth grade regular education teacher with a Master’s Degree and one to thirty years of teaching experience. Luckett’s (1996) study included 250 surveys with a return rate of 39.5%. His modal response for a survey participant was a female fourth to sixth grade regular education teacher with a Master’s Degree and one to five years of teaching experience.

Knowledge Level Concerning Diagnostic Criteria and Labels for ADHD

The first research question in the study concerns the investigation of teachers’
Table 2
Demographic Characteristics of Survey Participants

<table>
<thead>
<tr>
<th>Category</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Position</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Regular Education Teacher</td>
<td>126</td>
<td>59.7</td>
</tr>
<tr>
<td>Special Education Teacher</td>
<td>62</td>
<td>29.4</td>
</tr>
<tr>
<td>Title One Teacher</td>
<td>21</td>
<td>10.0</td>
</tr>
<tr>
<td>Missing Responses</td>
<td>2</td>
<td>0.9</td>
</tr>
<tr>
<td><strong>Grade Taught</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Kindergarten and Grade One</td>
<td>39</td>
<td>18.5</td>
</tr>
<tr>
<td>Grade Two and Grade Three</td>
<td>58</td>
<td>27.5</td>
</tr>
<tr>
<td>Grade Four to Grade Six</td>
<td>53</td>
<td>25.1</td>
</tr>
<tr>
<td>Special Education (All Grades)</td>
<td>45</td>
<td>21.3</td>
</tr>
<tr>
<td>Missing Responses</td>
<td>16</td>
<td>7.6</td>
</tr>
<tr>
<td><strong>Number of Years Teaching Experience</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>One to Five Years</td>
<td>42</td>
<td>19.9</td>
</tr>
<tr>
<td>Six to Ten Years</td>
<td>41</td>
<td>19.4</td>
</tr>
<tr>
<td>Eleven to Fifteen Years</td>
<td>39</td>
<td>18.5</td>
</tr>
<tr>
<td>Sixteen to Twenty Years</td>
<td>33</td>
<td>15.6</td>
</tr>
<tr>
<td>Twenty-One to Thirty Years</td>
<td>45</td>
<td>21.3</td>
</tr>
<tr>
<td>Thirty-One Plus Years</td>
<td>7</td>
<td>3.3</td>
</tr>
<tr>
<td>Missing Responses</td>
<td>4</td>
<td>2.0</td>
</tr>
<tr>
<td><strong>Present Degree Level</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bachelor’s Degree or Rank II Certification</td>
<td>43</td>
<td>20.4</td>
</tr>
<tr>
<td>Master’s Degree or Rank II Certification</td>
<td>99</td>
<td>46.9</td>
</tr>
<tr>
<td>Master’s Degree Plus or Rank I Certification</td>
<td>63</td>
<td>29.8</td>
</tr>
<tr>
<td>Doctoral Degree</td>
<td>1</td>
<td>0.5</td>
</tr>
<tr>
<td>Missing Responses</td>
<td>5</td>
<td>2.4</td>
</tr>
<tr>
<td><strong>Gender</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>190</td>
<td>90.1</td>
</tr>
<tr>
<td>Male</td>
<td>10</td>
<td>4.7</td>
</tr>
<tr>
<td>Missing Responses</td>
<td>11</td>
<td>5.2</td>
</tr>
</tbody>
</table>
knowledge with respect to the DSM-IV diagnostic criteria and three subtypes of ADHD. Respondents were asked to indicate from a list of 28 DSM-IV criteria those which are currently utilized in the diagnosis of ADHD. Of the 28 criteria, 14 were true ADHD criteria while the remaining 14 criteria are used in the diagnosis of Depression, Conduct Disorder, Oppositional Defiant Disorder, and Generalized Anxiety Disorder. Table 3 presents the respondents’ response patterns for all 28 criteria. Fifty of the respondents (23.9%) were able to correctly identify all 14 true ADHD criteria. None of the respondents were able to correctly identify all 14 false ADHD criteria. Across teaching positions, 27 (21.4%) of the regular education teachers were able to correctly identify all 14 true ADHD criteria. Of the special education teachers, 16 (25.8%) accurately identified all of the true criteria correctly. Of the Title One teachers, 7 (33.3%) identified all of the true criteria correctly.

Using 85% or above as the minimum identification rate for a single true criterion, respondents consistently identified accurately most of the 14 true ADHD criteria. Table 3 indicates the true criteria which were not consistently identified included “Often has difficulty playing or engaging in leisure activities quietly” (69.6% correct); “Some hyperactive or inattentive symptoms that caused impairment were present before age seven” (69.6% correct); “Some impairment from the symptoms is present in two or more settings (e.g., at school [or work] and at home)” (75.6% correct); and “There is clear evidence of clinically significant impairment in social, academic, or occupational functioning” (68.8% correct). Three of the four items were consistent with findings from
Table 3

Participant Responses to 28 DSM-IV Criteria

<table>
<thead>
<tr>
<th>True ADHD Criteria</th>
<th>Yes</th>
<th>No</th>
<th>Do Not Know</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n (%)</td>
<td>n (%)</td>
<td>n (%)</td>
</tr>
<tr>
<td>I. Often fails to give close attention to details or makes careless mistakes in</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>schoolwork, job, or other activities</td>
<td>182</td>
<td>16</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>(90.1)</td>
<td>(7.9)</td>
<td>(2.0)</td>
</tr>
<tr>
<td>4. Often does not follow through on instructions and fails to finish schoolwork</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>or chores (not due to oppositional behavior or failure to understand instructions)</td>
<td>186</td>
<td>14</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>(91.2)</td>
<td>(6.9)</td>
<td>(2.0)</td>
</tr>
<tr>
<td>7. Often has difficulty organizing tasks and activities</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>197</td>
<td>7</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>(96.1)</td>
<td>(3.4)</td>
<td>(0.5)</td>
</tr>
<tr>
<td>8. Often avoids, dislikes, or is reluctant to engage in tasks that require</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>sustained mental effort (such as schoolwork or homework)</td>
<td>185</td>
<td>14</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>(90.7)</td>
<td>(6.9)</td>
<td>(2.5)</td>
</tr>
<tr>
<td>11. Often loses things necessary for tasks or activities (e.g., toys, school</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>assignments, pencils, books, or tools)</td>
<td>172</td>
<td>23</td>
<td>10</td>
</tr>
<tr>
<td></td>
<td>(83.9)</td>
<td>(11.2)</td>
<td>(4.9)</td>
</tr>
</tbody>
</table>
Table 3 (Continued)

**Participant Responses to 28 DSM-IV Criteria**

<table>
<thead>
<tr>
<th></th>
<th>Yes n (%)</th>
<th>No n (%)</th>
<th>Do Not Know n (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>13. Is often easily distracted by extraneous (i.e., irrelevant) stimuli (e.g., air conditioner, hall noise, activity outside windows)</td>
<td>194 (91.2)</td>
<td>5 (2.5)</td>
<td>4 (2.0)</td>
</tr>
<tr>
<td>15. Often leaves seat in classroom or in other situations in which remaining seated is expected</td>
<td>186 (91.2)</td>
<td>13 (6.4)</td>
<td>5 (2.5)</td>
</tr>
<tr>
<td>18. Often has difficulty playing or engaging in leisure activities quietly</td>
<td>142 (69.6)</td>
<td>28 (13.7)</td>
<td>34 (16.7)</td>
</tr>
<tr>
<td>20. Is often “on the go” or acts as if “driven by a motor”</td>
<td>189 (92.2)</td>
<td>11 (5.4)</td>
<td>5 (2.4)</td>
</tr>
<tr>
<td>21. Often has difficulty awaiting turn</td>
<td>184 (90.2)</td>
<td>16 (7.8)</td>
<td>4 (2.0)</td>
</tr>
<tr>
<td>24. Often blurts out answers before questions have been completed</td>
<td>189 (92.2)</td>
<td>8 (3.9)</td>
<td>8 (3.9)</td>
</tr>
<tr>
<td>26. Some hyperactive or inattentive symptoms that caused impairment were present before age seven</td>
<td>142 (69.6)</td>
<td>9 (4.4)</td>
<td>53 (26.0)</td>
</tr>
<tr>
<td>27. Some impairment from the symptoms is present in two or more settings (e.g., school [or work] and at home)</td>
<td>155 (75.6)</td>
<td>8 (3.9)</td>
<td>41 (20.0)</td>
</tr>
</tbody>
</table>
### Table 3 (Continued)

#### Participant Responses to 28 DSM-IV Criteria

<table>
<thead>
<tr>
<th>Item Number</th>
<th>Yes (n, %)</th>
<th>No (n, %)</th>
<th>Do Not Know (n, %)</th>
</tr>
</thead>
<tbody>
<tr>
<td>28. There is clear evidence of clinically significant impairment in social, academic, or occupational functioning</td>
<td>141 (68.8)</td>
<td>21 (10.2)</td>
<td>43 (21.0)</td>
</tr>
</tbody>
</table>

#### False ADHD Criteria

**Item Number**

<table>
<thead>
<tr>
<th>Item Number</th>
<th>Yes (n, %)</th>
<th>No (n, %)</th>
<th>Do Not Know (n, %)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2. Often seems lazy or unwilling to complete daily activities</td>
<td>128 (63.4)</td>
<td>61 (30.2)</td>
<td>13 (6.4)</td>
</tr>
<tr>
<td>3. Often argues with adults</td>
<td>92 (45.5)</td>
<td>81 (40.1)</td>
<td>29 (14.4)</td>
</tr>
<tr>
<td>5. Often experiences fatigue or loss of energy</td>
<td>47 (23.2)</td>
<td>107 (52.7)</td>
<td>49 (24.1)</td>
</tr>
<tr>
<td>6. Often bullies, threatens, or intimidates others</td>
<td>87 (42.9)</td>
<td>86 (42.4)</td>
<td>30 (14.8)</td>
</tr>
<tr>
<td>9. More talkative than usual or pressure to keep talking</td>
<td>20 (59.1)</td>
<td>47 (23.2)</td>
<td>36 (17.7)</td>
</tr>
<tr>
<td>10. Often experiences failure in school</td>
<td>163 (80.7)</td>
<td>29 (14.4)</td>
<td>10 (5.0)</td>
</tr>
<tr>
<td>12. Often angry or resentful</td>
<td>91 (45.0)</td>
<td>84 (41.6)</td>
<td>27 (13.4)</td>
</tr>
</tbody>
</table>
Table 3 (Continued)

Participant Responses to 28 DSM-IV Criteria

<table>
<thead>
<tr>
<th>Response Description</th>
<th>Yes</th>
<th>No</th>
<th>Do Not Know</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n (%)</td>
<td>n (%)</td>
<td>n (%)</td>
</tr>
<tr>
<td>14. Often irritable</td>
<td>106 (52.5)</td>
<td>67 (33.2)</td>
<td>29 (14.4)</td>
</tr>
<tr>
<td>16. Often initiates physical fights</td>
<td>57 (28.4)</td>
<td>107 (53.2)</td>
<td>37 (18.4)</td>
</tr>
<tr>
<td>17. Often deliberately annoys people</td>
<td>74 (36.6)</td>
<td>94 (46.5)</td>
<td>34 (16.8)</td>
</tr>
<tr>
<td>19. Often experiences sleep disturbances (difficulty falling or staying asleep or restless, unsatisfying sleep)</td>
<td>118 (57.8)</td>
<td>20 (9.8)</td>
<td>66 (32.4)</td>
</tr>
<tr>
<td>22. Often spiteful or vindictive</td>
<td>56 (27.9)</td>
<td>112 (55.7)</td>
<td>33 (16.4)</td>
</tr>
<tr>
<td>23. Often loses temper</td>
<td>98 (48.3)</td>
<td>76 (37.4)</td>
<td>29 (14.3)</td>
</tr>
<tr>
<td>25. Has poorer concentration than usual or difficulty making decisions</td>
<td>187 (91.2)</td>
<td>7 (3.4)</td>
<td>11 (5.4)</td>
</tr>
</tbody>
</table>
Luckett (1996). Those were “Often has difficulty playing or engaging in leisure activities quietly” (80.4% correct in Luckett’s 1996 study); “There is clear evidence of clinically significant impairment in social, academic, or occupational functioning” (72.0% correct in Luckett’s 1996 study); and “Some hyperactive or inattentive symptoms that caused impairment were present before age seven” (63.2% correct in Luckett’s 1996 sample).

The 14 false criteria were not consistently identified as correct by the respondents, as 55.7% was the highest identification rate for a single false criterion as false. Only 3.4% of the respondents correctly identified “Has poorer concentration than usual or difficulty making decisions” as a false criterion, while only 9.8% of the respondents correctly identified “Often experiences sleep disturbances (difficulty falling or staying asleep or restless unsatisfying sleep)” as a false criterion. As evident through the responses, teachers were more able to select the true ADHD criteria than recognize the false ADHD criteria.

Respondents were also asked to identify the three current diagnostic classifications for ADHD from a list that included three former DSM classifications for the disorder as well as the three current subtypes from DSM-IV (see Table 4). Forty-four participants (21%) correctly identified the three current classifications, and 69 participants (33%) were unable to correctly identify one current classification. Of the 44 respondents who correctly identified all three current classifications, 22 (50%) were regular education teachers, 19 (43.1%) were special education teachers, and 3 (6.8%)
Table 4

Responses of Subjects to Three DSM-IV Classifications (n=195)

<table>
<thead>
<tr>
<th>Disorder Type</th>
<th>Correct</th>
<th>Incorrect</th>
</tr>
</thead>
<tbody>
<tr>
<td>Attention-Deficit Hyperactivity Disorder,</td>
<td>81 (41.5)</td>
<td>114 (58.5)</td>
</tr>
<tr>
<td>Predominantly Inattentive Type</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Attention-Deficit Hyperactivity Disorder,</td>
<td>83 (42.6)</td>
<td>112 (57.4)</td>
</tr>
<tr>
<td>Predominantly Hyperactive-Impulsive Type</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Attention-Deficit Hyperactivity Disorder,</td>
<td>94 (48.2)</td>
<td>101 (51.8)</td>
</tr>
<tr>
<td>Combined Type</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note. There were sixteen missing responses. Choices included the three current DSM-IV (APA, 1994) diagnostic subtypes plus Attention-Deficit Hyperactivity Disorder (APA, 1987), Attention-Deficit Disorder With Hyperactivity (APA, 1980), and Attention-Deficit Disorder Without Hyperactivity (APA, 1980).

were Title One teachers. Respondents were more likely to identify ADHD, Combined Type (48.2%) than either subtype of ADHD, Predominantly Inattentive Type (41.5%) or ADHD, Predominantly Hyperactive-Impulsive Type (42.6%), currently used in the DSM-IV. In this area, results from Luckett's (1996) study were similar.
For each of the three current subtypes taken individually, little variation in percentage of correct responses was found between regular education, special education, and Title One teachers. Chi-square tests of independence were not statistically significant for the relationship between teachers’ position and the frequency of correct responses for ADHD, Predominantly Inattentive Type \( \chi^2(2, N=195) = 4.28, p>.05 \), ADHD, Predominantly Hyperactive-Impulsive Type \( \chi^2(2, N=195) = 4.87, p>.05 \), or ADHD, Combined Type \( \chi^2(2, N=195) = 1.50, p>.05 \).

**Interventions: Teachers Identify Currently Used or Those Used under “Ideal Circumstances”**

The second and third research questions in the study concerned which interventions are currently utilized or have been utilized in the past for ADHD students, as well as the interventions they would use for ADHD students given unlimited resources, called “ideal” situation. Teachers who had not worked with an ADHD student were asked to relate their responses to interventions for students with disruptive behavior problems or students having difficulty paying attention in the classroom. An “Interventions Sheet” attached to the survey questionnaire was available for the respondents to use (see Appendix A). The sheet contained 14 numbered interventions, each with a short description, and instructions for completing this portion of the survey. The respondents were instructed to place a check mark next to the number he/she would “ideally” use for each of the nine ADHD diagnostic characteristics. For respondents who chose “Other” as an intervention and listed those interventions on the survey questionnaire, the findings are in Appendix B.
Figures 2, 3, and 4 present the results of “Do Use or Have Used” and “Would Ideally Use” interventions chosen for the first (#1) criterion from the DSM-IV, “A student who often fails to give close attention to details or makes careless mistakes in schoolwork”. A sample size of 209 subjects (99% of the total sample) responded to the “Do Use or Have Used” and “Would Ideally Use” intervention sections. Figure 2 provides percentage distributions for both intervention categories across the total sample, while Figures 3 and 4 provide percentage summaries for both intervention categories across regular education, special education, and Title One teachers for this criterion. For criteria (#1) “A student who often fails to give close attention to details or make careless mistakes in schoolwork,” teachers frequently utilized the interventions of proximity and peer involvement. In an ideal setting, self-management and positive reinforcement or token reinforcement would be more frequently used.

A chi-square test of independence was applied to the relationship between teachers’ position and both currently used/used in the past interventions and interventions they would use in an ideal setting across the 9 outlined interventions. The relationship between position and the behavior contract intervention (currently used/used in the past) was statistically significant, $\chi^2 (2, N=209) = 8.60, p<.05$. This association suggests that Title One teachers use behavior contracts less often than regular education or special education teachers. The relationship between position and the conference intervention (used in an ideal setting) was also statistically significant, $\chi^2 (2, N=209) = 8.69, p<.05$. This association suggests that regular education teachers would ideally use a conference more often than special education or Title One teachers.
Figure 2
Percentage of Current/Ideal Interventions for Total Sample, Criterion #1: A Student who Often Fails to Give Close Attention to Details or Makes Careless Mistakes in Schoolwork
Figure 3
Percentage of Current Interventions by Position, Criterion #1: A Student who Often Fails to Give Close Attention to Details or Makes Careless Mistakes in Schoolwork
Figure 4
Percentage of Ideal Interventions by Position, Criterion #1: A Student who Often Fails to Give Close Attention to Details or Makes Careless Mistakes in Schoolwork
Luckett's (1996) study demonstrated that special education teachers use teacher/student cues more often than regular education and Title One teachers.

Figures 5, 6, and 7 present the results of "Do Use or Have Used" and "Would Ideally Use" interventions chosen for the DSM-IV criterion (#2) "A student who often does not follow through on instructions and fails to finish schoolwork." A sample size of 209 subjects (99% of the total sample) responded to the "Do Use or Have Used" interventions, while 209 subjects (99% of the total sample) responded to the "Would Ideally use" interventions. Figure 5 provides percentage distributions for both intervention categories across the total sample, while Figures 6 and 7 provide percentage summaries for both intervention categories across regular education, special education, and Title One teachers.

For criterion #2: "A student who often does not follow through on instructions and fails to finish schoolwork," teachers indicated they frequently utilized interventions of positive reinforcement and conferences. In an ideal setting, they choose positive reinforcement and self-management more frequently. A chi-square test of independence indicated no statistically significant relationships between teacher position and individual interventions for this criterion. Luckett's (1996) study found several significant differences between teacher position and individual interventions for this criterion. He found that special education teachers use response cost interventions more often than regular education and Title One teachers; regular education teachers use peer involvement more often than special education and Title One teachers; and that special education teachers would use positive/token reinforcement interventions in an ideal setting more often than regular education or Title One teachers.
Figure 10
Percentage of Current/Ideal Interventions for Total Sample, Criterion #2: A Student who Often Does Not Follow Through on Instructions and Fails to Finish Schoolwork (not due to oppositional behavior or failure to understand instructions)
Figure 6
Percentage of Current Interventions by Position, Criterion #2: A Student who Often Does Not Follow Through on Instructions and Fails to Finish Schoolwork (not due to oppositional behavior or failure to understand instructions)
Figure 10
Percentage of Ideal Interventions by Position, Criterion #2: A Student who Often Does Not Follow Through on Instructions and Fails to Finish Schoolwork (not due to oppositional behavior or failure to understand instructions)
Figures 8, 9, and 10 present the results of “Do Use or Have Used” and “Would Ideally Use” interventions chosen for the DSM-IV criterion (#3) “A student who often avoids, dislikes, or is reluctant to engage in tasks that require sustained mental effort.” A sample size of 209 subjects (99% of the total sample) responded to the “Do Use or Have Used” interventions, while 209 subjects (99% of the total sample) responded to the “Would Ideally use” interventions. Figure 8 provides percentage distributions for both intervention categories across the total sample, while Figures 9 and 10 provide percentage summaries for both intervention categories across regular education, special education and Title One teachers.

For criterion #3: “A student who often avoids, dislikes, or is reluctant to engage in tasks that require sustained mental effort,” teachers frequently chose the interventions of positive reinforcement and punishment. In an ideal setting, they would use self-management, positive reinforcement, and school personnel. A chi-square test of independence was applied to the relationship between teachers’ position and both currently used/used in the past interventions and ideal setting interventions. The relationship between position and teacher/student cues (currently used/used in the past) was statistically significant; $\chi^2 (2, N=209) = 8.57$, $p<.05$. This association suggests that Title One teachers use teacher/student cues less often than regular and special education teachers. Luckett (1996) also found a significant difference in position and the intervention of teacher/student cues. His finding was quite different in that regular education teachers used teacher/student cues less often than special education and Title One teachers.
Figure 10
Percentage of Current/Ideal Interventions for Total Sample, Criterion #3: A Student who Often Avoids, Dislikes or is Reluctant to Engage in Tasks that Require Sustained Mental Effort (such as challenging schoolwork or homework)
Figure 10
Percentage of Current Interventions by Position, Criterion #3: A Student who Often Avoids, Dislikes or is Reluctant to Engage in Tasks that Require Sustained Mental Effort (such as challenging schoolwork or homework)

- No Intervention
- Positive/Token Reinforcement
- Punishment
- Response Cost
- Behavior Contract
- Proximity
- Peer Involvement
- Self Management
- Conference
- Environmental
- Teacher/Student Cues
- School Personnel
- Academic
- Other

Regular (n=126) | Special (n=62) | Title 1 (n=21)
Figure 10
Percentage of Ideal Interventions by Position, Criterion #3: A Student who Often Avoids, Dislikes or is Reluctant to Engage in Tasks that Require Sustained Mental Effort (such as challenging schoolwork or homework)
Figures 11, 12, and 13 present the results of “Do Use or Have Used” and “Would Ideally Use” interventions chosen for the DSM-IV criterion (#4) “A student who is often easily distracted by extraneous stimuli, such as the air conditioner, hall noise, or activity outside the classroom window.” A sample size of 209 subjects (99% of the total sample) responded to the “Do Use or Have Used” interventions while 209 subjects (99% of the total sample) responded to the “Would Ideally use” interventions. Figure 11 provides percentage distributions for both intervention categories across the total sample, while Figures 12 and 13 provide percentage summaries for both intervention categories across regular education, special education, and Title One teachers.

For criterion #4: “A student who is often easily distracted by extraneous stimuli, teachers frequently utilized the interventions of proximity and environmental changes.” In an ideal setting, they selected self-management and environmental changes as interventions. A chi-square test of independence indicated no statistically significant relationships between teacher position and individual interventions for this criterion. Luckett (1996) found similar results.

Figures 14, 15, and 16 present the results of “Do Use or Have Used” and “Would Ideally Use” interventions chosen for the DSM-IV criterion (#5) “A student who often leaves seat in classroom or in other situations in which remaining seated is expected.” A sample size of 209 subjects (99% of the total sample) responded to the “Do Use or Have Used” interventions, while 209 subjects (99% of the total sample) responded to the “Would Ideally use” interventions. Figure 14 provides percentage distributions for both intervention categories across the total
Figure 10
Percentage of Current/Ideal Interventions for Total Sample, Criterion #4: A Student Who is Often Easily Distracted by Extraneous (i.e., irrelevant) Stimuli, Such as the Air Conditioner, Hall Noise, or Activity Outside the Classroom Windows

- No Intervention
- Positive/Token Reinforcement
- Punishment
- Response Cost
- Behavior Contract
- Proximity
- Peer Involvement
- Self Management
- Conference
- Environmental
- Teacher/Student Cues
- School Personnel
- Academic
- Other

Current (n=209) vs. Ideal (n=209)
Figure 10
Percentage of Current Interventions by Position, Criterion #4: A Student who is Often Easily Distracted by Extraneous (i.e. irrelevant) Stimuli, Such as the Air Conditioner, Hall Noise or Activity Outside the Classroom Windows

<table>
<thead>
<tr>
<th>Interventions</th>
<th>Regular (n=126)</th>
<th>Special (n=62)</th>
<th>Title 1 (n=21)</th>
</tr>
</thead>
<tbody>
<tr>
<td>No Intervention</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Positive/Token Reinforcement</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Punishment</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Response Cost</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Behavior Contract</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Proximity</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Peer Involvement</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Self Management</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Conference</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Environmental</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Teacher/Student Cues</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>School Personnel</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Academic</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Figure 10
Percentage of Ideal Interventions by Position, Criterion #4: A Student who is Often Easily Distracted by Extraneous (ie. irrelevant) Stimuli, such as the Air Conditioner, Hall Noise, or Activity Outside the Classroom Windows
Figure 10
Percentage of Current/Ideal Interventions for Total Sample, Criterion #5: A Student who Often Leaves Seat in Classroom or in Other Situations in Which Remaining Seated is Expected
Figure 15
Percentage of Current Interventions by Position, Criterion #5: A Student who Often Leaves Seat in classroom or in Other Situations in which Remaining Seated is Expected

<table>
<thead>
<tr>
<th>Intervention</th>
<th>Regular (n=126)</th>
<th>Special (n=62)</th>
<th>Title 1 (n=21)</th>
</tr>
</thead>
<tbody>
<tr>
<td>No Intervention</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Positive/Token Reinforcement</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Punishment</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Response Cost</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Behavior Contract</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Proximity</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Peer Involvement</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Self Management</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Conference</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Environmental</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Teacher/Student Cues</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>School Personnel</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Academic</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Figure 10
Percentage of Ideal Interventions by Position, Criterion #5: A Student who Often Leaves Seat in Classroom or in Other Situations in Which Remaining Seated is Expected

- No Intervention
- Positive/Token Reinforcement
- Punishment
- Response Cost
- Behavior Contract
- Proximity
- Peer Involvement
- Self Management
- Conference
- Environmental
- Teacher/Student Cues
- School Personnel
- Academic
- Other
sample, while Figures 15 and 16 provide percentage summaries for both intervention categories across regular education, special education, and Title One teachers. Luckett (1996) had similar findings.

For criteria #5: "A student who often leaves seat in the classroom or in other situations in which remaining seated is expected," teachers frequently utilized interventions of positive reinforcement and punishment. In an ideal setting, response cost and self-management would be selected more frequently. A chi-square test of independence was applied to the relationship between teachers’ position and both currently used/used in the past interventions and ideal setting interventions. The relationship between position and positive reinforcement (currently used/used in the past) was statistically significant, $\chi^2 (2, N=209) = 8.61, p<.05$. This association suggests that regular education teachers use positive/token reinforcement more often than special education teachers or Title One teacher. Luckett found that regular education teachers use response cost interventions less than special education and Title One teachers; special education teachers use teacher/student cues more often than regular education and Title One teachers; regular education teachers would use positive/token reinforcement interventions in an ideal setting less often than special education and Title One teachers; and finally, that special education teachers would use punishment in an ideal setting more often than regular and Title One teachers.
Figures 17, 18, and 19 present the results of “Do Use or Have Used” and “Would Ideally Use” interventions chosen for the DSM-IV criterion (#6) “A student who often has difficulty playing or engaging in leisure activities quietly.” A sample size of 209 subjects (99% of the total sample) responded to the “Do Use or Have Used” interventions while 209 subjects (99% of the total sample) responded to the “Would Ideally use” interventions. Figure 17 provides percentage distributions for both intervention categories across the total sample, while Figures 18 and 19 provide percentage summaries for both intervention categories across regular education, special education, and Title One teachers.

For criterion #6, “A student who has difficulty playing or engaging in leisure activities quietly,” teachers frequently selected interventions of positive reinforcement and punishment. In an ideal setting, they indicated self-management as the intervention of choice. A chi-square test of independence indicated no statistically significant relationships between teacher position and individual interventions for this criterion. Luckett’s (1996) findings suggested that special education teachers would use academic interventions in an ideal setting more often than regular education and Title One teachers.

Figures 20, 21, and 22 present the results of “Do Use or Have Used” and “Would Ideally Use” interventions chosen for the DSM-IV criterion (#7) “A student who is often ‘on the go’ or acts as if ‘driven by a motor’.” A sample size of 209 subjects (99% of the total sample) responded to the “Do Use or Have Used” interventions, while 209 subjects (99% of the total sample) responded to the “Would Ideally use” interventions. Figure 20 provides percentage distributions for both intervention categories across the total sample, while Figures 21 and 22
Figure 17
Percentage of Current/Ideal for Total Sample, Criterion #6: A Student Who Often has Difficulty Playing or Engaging in Leisure Activities Quietly

No Intervention
Positive/Token Reinforcement
Punishment
Response Cost
Behavior Contract
Proximity
Peer Involvement
Self Management
Conference
Environmental
Teacher/Student Cues
School Personnel
Academic
Other

0.00% 10.00% 20.00% 30.00% 40.00% 50.00% 60.00% 70.00% 80.00% 90.00% 100.00%

Current (n=209)  Ideal (n=209)
Figure 10
Percentage of Current Interventions by Position, Criterion #6: A Student who Often has Difficulty Playing or Engaging in Leisure Activities Quietly

No Intervention
Positive/Token Reinforcement
Punishment
Response Cost
Behavior Contract
Proximity
Peer Involvement
Self Management
Conference
Environmental
Teacher/Student Cues
School Personnel
Academic
Other

Regular (n=126) Special (n=62) Title 1 (n=21)
Figure 19
Percentage of Ideal Interventions by Position, Criterion #6: A Student who Often has Difficulty Playing or Engaging in Leisure Activities Quietly

- No Intervention
- Positive/Token Reinforcement
- Punishment
- Response Cost
- Behavior Contract
- Proximity
- Peer Involvement
- Self Management
- Conference
- Environmental
- Teacher/Student Cues
- School Personnel
- Academic
- Other

Regular (n=126)  Special (n=62)  Title 1 (n=21)
Figure 20
Percentage of Current/Ideal Interventions for Total Sample, Criterion #7: A Student Who is Often "On the Go" or Acts as if "Driven by a Motor"
Figure 21
Percentage of Current Interventions by Position, Criterion #7: A Student who is Often “On the Go” or Acts as if “Driven by a Motor”
Figure 22
Percentage of Ideal Interventions by Position, Criterion #7: A Student who is Often "On the Go" or Acts as if "Driven by a Motor"
provide percentage summaries for both intervention categories across regular education, special education, and Title One teachers.

For criterion #7: “A student who often is “on the go” or act as if “driven by a motor,” teachers currently utilize interventions of positive reinforcement and punishment. In an ideal setting, they would use self-management and school personnel involvement. A chi-square test of independence was applied to the relationship between teachers' position and both currently used/used in the past interventions and ideal setting interventions. The relationship between position and punishment (currently used/used in the past) was statistically significant, \( \chi^2(2, N=209) = 9.03, p<.05 \). This association suggests that regular education teachers use punishment more often than special education or Title One teachers. The relationship between position and the response cost intervention (currently used/used in the past) was statistically significant, \( \chi^2(2, N=209) = 8.53, p<.05 \). This association suggests that regular education teachers use response cost interventions more often than special education or Title One teachers. Luckett found that the relationship between position and the response cost intervention (currently used/used in the past) was also statistically significant. However, he found that regular education teachers use response cost less often than special education or Title One teachers. Finally, the relationship between position and the intervention of conferences (currently used/used in the past) was statistically significant, \( \chi^2(2, N=209) = 9.16, p<.05 \). This association suggests that regular education teachers use conferences more often than special education teachers and Title One teachers.
Figures 23, 24, and 25 present the results of “Do Use or Have Used” and “Would Ideally Use” interventions chosen for the DSM-IV criterion (#8) “A student who often blurts out answers before questions have been completed.” A sample size of 209 subjects (99% of the total sample) responded to the "Do Use or Have Used" interventions, while 209 subjects (99% of the total sample) responded to the “Would Ideally use” interventions. Figure 23 provides percentage distributions for both intervention categories across the total sample, while Figures 24 and 25 provide percentage summaries for both intervention categories across regular education, special education, and Title One teachers.

For criterion #8: “A student who often blurts out answers before questions have been completed,” teachers currently utilize Interventions of positive reinforcement and punishment. In an ideal setting, they would use self-management. A chi-square test of independence indicated no statistically significant relationships between teacher position and individual interventions for this criterion. Luckett found for interventions currently used or used in the past that special education teachers use response cost interventions more often than regular education and Title One teachers, and regular education teachers use positive/token reinforcement less often than special education and Title One teachers. For interventions which would be used in an ideal setting, Luckett (1996) found that special education teachers would use positive/token reinforcement and academic interventions more often than regular education and Title One teachers; regular education teachers would use response cost less often than special education and Title One teachers.
Figure 23
Percentage of Current/Ideal Interventions for Total Sample, Criterion #8: A Student Who Often Blurs Out Answers Before Questions have been Completed
Figure 21
Percentage of Current Interventions by Position, Criterion #8: A Student who Often Blurts out Answers before Questions have been Completed
Figure 25
Percentage of Ideal Interventions by Position, Criterion #8: A Student who Often Blurs out Answers before Questions have been Completed

- No Intervention
- Positive/Token Reinforcement
- Punishment
- Response Cost
- Behavior Contract
- Proximity
- Peer Involvement
- Self Management
- Conference
- Environmental
- Teacher/Student Cues
- School Personnel
- Academic
- Other

Bars for Regular (n=126), Special (n=62), and Title 1 (n=21) categories.
Figures 26, 27, and 28 present the results of “Do Use or Have Used” and “Would Ideally Use” interventions chosen for the DSM-IV criterion (#9) “A student who often has difficulty awaiting his/her turn.” A sample size of 209 subjects (99% of the total sample) responded to the “Do Use or Have Used” interventions, while 209 subjects (209% of the total sample) responded to the “Would Ideally use” interventions. Figure 26 provides percentage distributions for both intervention categories across the total sample, while Figures 27 and 28 provide percentage summaries for both intervention categories across regular education, special education, and Title One teachers.

For criterion #9, “A student who often has difficulty awaiting his/her turn”, teachers frequently selected interventions that included positive reinforcement and punishment. In an ideal setting, they chose self-management. A chi-square test of independence indicated no statistically significant relationships between teacher position and individual interventions for this criterion. Luckett (1996) found that special education teachers would use positive/token reinforcement, proximity, and academic interventions in an ideal setting more often than regular education and Title One teachers.

Overall, teachers chose a variety of interventions for each of the 9 DSM-IV criteria. However, a majority of the time in the “ideal” settings, teachers did not choose the appropriate research based interventions that have been proven to work for each of the particular criteria.
Figure 26
Percentage of Current/Ideal Interventions for Total Sample, Criterion #9: A Student who Often has Difficulty Awaiting his/her Turn

- No Intervention
- Positive/Token Reinforcement
- Punishment
- Response Cost
- Behavior Contract
- Proximity
- Peer Involvement
- Self Management
- Conference
- Environmental
- Teacher/Student Cues
- School Personnel
- Academic
- Other

Current (n=209) vs Ideal (n=209)
Figure 27
Percentage of Current Interventions by Position, Criterion #9: A Student who Often has Difficulty Awaiting his/her Turn
Figure 10
Percentage of Ideal Interventions by Position, Criterion #9: A Student who Often has Difficulty Awaiting his/her Turn

- No Intervention
- Positive/Token Reinforcement
- Punishment
- Response Cost
- Behavior Contract
- Proximity
- Peer Involvement
- Self Management
- Conference
- Environmental
- Teacher/Student Cues
- School Personnel
- Academic
- Other

Regular (n=126)  Special (n=62)  Title 1 (n=21)
Teacher Ratings of Importance on Issues Related to ADHD Students

The fourth research question in the study involved ratings of importance on a five-point Likert scale to seven issues related to the teacher’s role with respect to ADHD students. Table 5 presents the results of data analysis on the seven ADHD issues. Overall, the survey participants indicated that “selection of the appropriate intervention techniques available for use” was important. “Having the services of other professionals available to help or consult on ADHD students” was also viewed as important. Across regular education, special education, and Title One teachers, little variation was noticed within overall ratings. Having a selection of intervention techniques available to use in the classroom was rated highest in importance ($M=4.40$, $SD = 1.25$), while knowing the diagnostic criteria for ADHD was rated lowest in importance ($M=3.50$, $SD = 1.27$).

Additionally, respondents were instructed to rate the seven ADHD issues from one to seven, with one being the most important and seven being the least important. This type of rating helps to clarify what diagnostic / intervention issue is most important to the respondents. As presented in Table 6, having a selection of intervention techniques available was rated as the most important ($M=2.01$), while being aware of specific diagnostic criteria was least important ($M=5.00$).

Other Issues Addressed in the Survey Questionnaire

Included in the survey questionnaire were several items that did not directly address the four main research questions. The items were designed to provide additional information about teacher involvement with ADHD students and training relevant to the assessment of ADHD and interventions for ADHD students. Although the additional items were not directly related to the four main research
Table 5

Teacher Ratings of Importance on Issues Related to ADHD Students (n=195)

<table>
<thead>
<tr>
<th></th>
<th>M (SD)</th>
<th>Mdn</th>
<th>Mode</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. As a teacher, how important is it for you to know the diagnostic criteria for ADHD?</td>
<td>3.50 (1.27)</td>
<td>4.00</td>
<td>3.00</td>
</tr>
<tr>
<td>2. As a teacher, how important is it for you to be aware of the specific diagnostic criteria met by an ADHD student in his/her assessment?</td>
<td>3.54 (1.21)</td>
<td>4.00</td>
<td>4.00</td>
</tr>
<tr>
<td>3. As a teacher how important is it for you to have a selection of intervention techniques available for you to use in the classroom?</td>
<td>4.42 (1.25)</td>
<td>5.00</td>
<td>5.00</td>
</tr>
<tr>
<td>4. As a teacher, how important is it for you to have the services of other professionals (e.g., school counselor, school psychologist) available to help or consult with you on ADHD students?</td>
<td>4.33 (1.16)</td>
<td>5.00</td>
<td>5.00</td>
</tr>
<tr>
<td>5. As a teacher, how important is it for you to receive more training in ADHD assessment practices?</td>
<td>3.79 (3.75)</td>
<td>4.00</td>
<td>5.00</td>
</tr>
<tr>
<td>6. As a teacher, how important is it for you to receive more training in developing and implementing Interventions which can be used with ADHD students?</td>
<td>4.11 (1.11)</td>
<td>4.00</td>
<td>5.00</td>
</tr>
<tr>
<td>7. As a teacher, how important is it for you to receive more training in using the data which is collected In the assessment process to develop interventions strategies for ADHD students?</td>
<td>3.69 (1.17)</td>
<td>4.00</td>
<td>4.00</td>
</tr>
</tbody>
</table>

Note. A 5-point Likert Scale was used where 1 = lowest rating and 5 = highest rating.
Table 6

**Rank Order Ratings on Importance of Issues Related to ADHD Students** (n=122)

<table>
<thead>
<tr>
<th></th>
<th>M</th>
<th>Mdn</th>
<th>Mode</th>
</tr>
</thead>
<tbody>
<tr>
<td>As a teacher how important is it for you to have a selection of intervention techniques available for you to use in the classroom?</td>
<td>2.01</td>
<td>1.00</td>
<td>1.00</td>
</tr>
<tr>
<td>As a teacher, how important is it for you to have the services of other professionals (e.g., school counselor, school psychologist) available to help or consult with you on ADHD students?</td>
<td>2.90</td>
<td>2.00</td>
<td>2.00</td>
</tr>
<tr>
<td>As a teacher, how important is it for you to receive more training in developing and implementing Interventions which can be used with ADHD students?</td>
<td>3.27</td>
<td>300</td>
<td>3.00</td>
</tr>
<tr>
<td>As a teacher, how important is it for you to know the diagnostic criteria for ADHD?</td>
<td>4.86</td>
<td>3.00</td>
<td>6.00</td>
</tr>
<tr>
<td>As a teacher, how important is it for you to receive more training in using the data which is collected In the assessment process to develop interventions strategies for ADHD students?</td>
<td>4.94</td>
<td>5.00</td>
<td>7.00</td>
</tr>
<tr>
<td>As a teacher, how important is it for you to receive more training in ADHD assessment practices?</td>
<td>4.99</td>
<td>5.00</td>
<td>5.00</td>
</tr>
<tr>
<td>As a teacher, how important is it for you to be aware of the specific diagnostic criteria met by an ADHD student in his/her assessment?</td>
<td>5.00</td>
<td>5.00</td>
<td>6.00</td>
</tr>
</tbody>
</table>

**Note.** Means are based on rank order ratings where 1 = most important and 7 = least important.
questions, the subsequent findings from the items were applicable to the purposes of the research study.

After investigating teachers’ knowledge of ADHD criteria and diagnostic labels, the participants were asked which was more important to him/her in planning classroom interventions: knowing the name of the diagnosis indicated for a student or knowing which characteristics were indicated for a student. For 75.4% of the respondents (n=159), knowledge of the characteristics for a student was rated as more important than knowing the diagnostic label. Across positions, little variation was noted between regular education (79.3%), special education (91.2%), and Title One teachers (66.7%). All agreed that knowing which characteristics were indicated by an ADHD student were more important than knowing the student’s diagnostic classification. A chi-square test of independence applied to the relationship between teachers’ position and responses to this item was not significant. When comparing teachers’ position and responses to this item, Luckett’s (1996) results were similar.

Another supplementary item in the survey questionnaire investigated the number of teachers in the sample who instructed ADHD students in their classroom. Participants were asked to indicate if, in the past two years, he/she had worked with or had in class a student diagnosed with ADHD. Nearly 74% of the participants (n=156 ) responded affirmatively, and results were roughly equivalent across regular education (78.6 %), special education (86.2%) and Title One (66.7%) teachers. A chi-square test of independence applied to the relationship between teachers’ position and responses to this item was not
significant. Luckett’s comparisons of teachers’ position and responses to this item were also not significant.

After the survey questionnaire items requesting demographic information about the respondents, the participants were questioned about the types of training they had received relative to the assessment of ADHD and interventions for ADHD students. The resulting data show that in-service training within the district and self study using books and manuals were the most frequent sources of training for both the assessment of ADHD and interventions for students with ADHD across the sample population. Table 7 represents the frequency and percentage distributions for assessment training across the sample population, while Table 8 presents the frequency and percentage distributions for intervention training across the sample population. Both tables also present the frequency and percentage distributions for training across regular education, special education, and Title One teachers. Appendix B provides verbatim teacher responses to “Other Training” related to the assessment of ADHD and “Other Training” related to interventions for ADHD students.

Utilizing Table 7, comparisons by position indicate that a higher percentage of special education teachers have received assessment training through conferences or workshops, self study (books and manuals and computer on-line access), and in undergraduate and graduate training than have regular education teachers and Title One teachers. Within Table 8, the percentage of special education teachers who have received training in interventions was also higher for all areas (excluding “In-service Training within the district” and “Other”) than the regular education and Title One teachers. A smaller percentage of special
Table 7
Participant Responses to Assessment Training

<table>
<thead>
<tr>
<th>Training Type</th>
<th>Total n=209</th>
<th>Regular Education n=126</th>
<th>Special Education n=62</th>
<th>Title One n=21</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n(%)</td>
<td>n(%)</td>
<td>n(%)</td>
<td>n(%)</td>
</tr>
<tr>
<td>- No training</td>
<td>35 (16.7)</td>
<td>26 (20.6)</td>
<td>7 (11.3)</td>
<td>2 (9.5)</td>
</tr>
<tr>
<td>- In-service Training Within the District</td>
<td>90 (43.1)</td>
<td>59 (46.8)</td>
<td>26 (41.9)</td>
<td>5 (23.8)</td>
</tr>
<tr>
<td>- Conference or Workshop Training</td>
<td>71 (34.0)</td>
<td>41 (32.5)</td>
<td>27 (43.5)</td>
<td>3 (14.3)</td>
</tr>
<tr>
<td>- Self-Study (Books and Manuals)</td>
<td>94 (45.0)</td>
<td>50 (39.7)</td>
<td>33 (53.3)</td>
<td>11 (52.4)</td>
</tr>
<tr>
<td>- Self-Study (Journals and Newspapers)</td>
<td>50 (23.9)</td>
<td>30 (23.8)</td>
<td>12 (19.4)</td>
<td>8 (38.1)</td>
</tr>
<tr>
<td>- Self-Study (Computer On-Line Access)</td>
<td>9 (4.3)</td>
<td>2 (1.6)</td>
<td>6 (9.7)</td>
<td>1 (4.8)</td>
</tr>
<tr>
<td>- As Part of Undergraduate Coursework</td>
<td>33 (15.8)</td>
<td>20 (15.9)</td>
<td>12 (19.4)</td>
<td>1 (4.8)</td>
</tr>
<tr>
<td>- As Part of Graduate Coursework</td>
<td>44 (21.1)</td>
<td>25 (19.8)</td>
<td>17 (27.4)</td>
<td>2 (9.5)</td>
</tr>
<tr>
<td>- Other Training</td>
<td>4 (1.9)</td>
<td>3 (2.4)</td>
<td>1 (1.6)</td>
<td>0 (0.0)</td>
</tr>
</tbody>
</table>
Table 8

Participant Responses to Intervention Training

<table>
<thead>
<tr>
<th>Training Type</th>
<th>Total n=209</th>
<th>Regular Education n=126</th>
<th>Special Education n=62</th>
<th>Title One n=21</th>
</tr>
</thead>
<tbody>
<tr>
<td>- No training</td>
<td>32 (15.3)</td>
<td>22 (17.5)</td>
<td>5 (8.1)</td>
<td>5 (23.8)</td>
</tr>
<tr>
<td>- In-service Training Within the District</td>
<td>83 (39.7)</td>
<td>57 (45.2)</td>
<td>22 (35.5)</td>
<td>4 (19.0)</td>
</tr>
<tr>
<td>- Conference or Workshop Training</td>
<td>65 (31.1)</td>
<td>36 (28.6)</td>
<td>26 (41.9)</td>
<td>3 (14.3)</td>
</tr>
<tr>
<td>- Self-Study (Books and Manuals)</td>
<td>96 (45.9)</td>
<td>52 (41.3)</td>
<td>33 (53.2)</td>
<td>11 (52.4)</td>
</tr>
<tr>
<td>- Self-Study (Journals and Newspapers)</td>
<td>63 (30.1)</td>
<td>34 (27.0)</td>
<td>18 (29.0)</td>
<td>11 (52.4)</td>
</tr>
<tr>
<td>- Self-Study (Computer On-Line Access)</td>
<td>9 (4.3)</td>
<td>3 (2.4)</td>
<td>6 (9.7)</td>
<td>0 (0.0)</td>
</tr>
<tr>
<td>- As Part of Undergraduate Coursework</td>
<td>33 (15.8)</td>
<td>21 (16.7)</td>
<td>11 (17.7)</td>
<td>1 (4.8)</td>
</tr>
<tr>
<td>- As Part of Graduate Coursework</td>
<td>48 (23.0)</td>
<td>27 (21.4)</td>
<td>19 (30.6)</td>
<td>2 (9.5)</td>
</tr>
<tr>
<td>- Other Training</td>
<td>7 (3.3)</td>
<td>6 (4.8)</td>
<td>1 (1.6)</td>
<td>0 (0.0)</td>
</tr>
</tbody>
</table>
education teachers (8.1%), as compared to regular education (17.5%) and Title One (23.8%) teachers, indicated "No Training" for intervention training (see Table 8), but a smaller percentage of Title One teachers (9.5%) indicated "No Training" for assessment training, as compared to regular education (20.6%) and special education (11.3%) teachers (see Table 7).

A final source of teacher data involved additional information provided by the participants in writing on the survey questionnaire. Six respondents added general comments to the pages of the survey questionnaire. The comments ranged from comments about ADHD and the need for intervention resources to a call for training programs for parents of ADHD students. A verbatim listing of the general comments is included in Appendix B.
Discussion

Discussion of Results

A sample of 211 participants from 33 school districts across Kentucky responded to the survey questionnaires. The sample consisted primarily of regular education teachers but also included special education teachers and Title One teachers. The majority of the respondents were females and were teachers from kindergarten through sixth grade.

The first research question investigated teacher knowledge of ADHD criteria and diagnostic labels. Overall, most teachers were able to identify the 14 true ADHD criteria, and few were able to identify the 14 false ADHD criteria. Luckett (1996) also found this result to be true, which means that teachers across Kentucky have a similar knowledge base with regard to ADHD diagnostic criteria. In regard to the DSM-IV diagnostic labels for ADHD, the majority of the respondents were unable to correctly identify any of the three current diagnostic classifications of ADHD. However, similar to Luckett’s findings, a slightly higher percentage of teachers correctly identified ADHD, Combined Type as a current diagnostic label than either ADHD, Predominantly Inattentive Type or ADHD, Predominantly Hyperactive-Impulsive Type. Across teaching positions, recognition of diagnostic criteria and diagnostic classifications was consistent. This finding is similar to that of Luckett’s. There was not a significant difference in teacher position and ability to accurately identify criteria and diagnostic labels.
This information confirms this research author's hypothesis that the results of the current study would coincide with Luckett's previous research. Teacher knowledge of ADHD diagnostic criteria and labels is limited.

The second and third research question asked the respondent to indicate interventions which they currently use or have used in the past and interventions which they would use in an ideal setting for nine DSM-IV diagnostic ADHD behaviors. Although the types of interventions all teachers chose varied depending upon the type of behavior presented, positive reinforcement and punishment were commonly chosen interventions for most of the nine diagnostic criteria. Luckett (1996) found three interventions commonly chosen across all teachers: positive reinforcement, punishment, and response cost. In this study, there was one notable variation included in DSM-IV criterion number one (A student who often fails to give close attention to details or makes careless mistakes in schoolwork), where proximity and peer involvement were the most common interventions, and DSM-IV criterion number four (A student who is often distracted by extraneous stimuli, such as the air conditioner, hall noise, or activity outside the classroom windows), where proximity and environmental changes, along with positive reinforcement, were the most common interventions. Research suggests that positive/token reinforcement is most effective in reducing activity level, increasing time on task, and improving academic performance of ADHD students (Fiore et al., 1993). Fiore et al. also suggests that punishment may reduce off task behavior and even increase academic productivity and that response cost was more effective than positive reinforcement in improving on task behavior and completion of academic assignments.
Across the interventions which would be used in an ideal setting for ADHD behaviors, teachers’ responses varied depending upon the type of behavior. Self-management was chosen a majority of the time across the nine DSM-IV diagnostic behaviors. These results were similar to Luckett’s findings. Self-management has grown in popularity; however, this intervention has not proven successful with ADHD students (DuPaul & Stoner, 1994). Even in an ideal setting, teachers may not make appropriate intervention choices.

These results confirm previous and current investigators’ hypotheses that there is a need for extensive teacher training in areas related to the assessment and interventions used with ADHD students. Statewide, teachers still lack the knowledge to successfully make the connection from the diagnostic criteria to research based interventions.

The fourth research question asked the respondents to provide importance ratings of seven issues related to teachers and the ADHD student on a five point Likert scale and then rank order them. All seven issues had means, medians, and modes which indicated consistently high importance ratings. When comparing overall rank orders, teachers indicated having a selection of intervention techniques available was the most important issue, while having an awareness of the diagnostic criteria was rated as the lowest issue. Similar to the results in Luckett’s (1996) study, teachers are not making the connection between diagnostic criteria and treatment.

There were also some supplemental questions asked of the respondents. Respondents were asked to indicate whether knowledge of the diagnostic label for a student or knowledge of specific characteristics was more important in
planning classroom interventions. Like Luckett’s (1996) findings, the overwhelming majority of respondents indicated that knowledge of the specific characteristics met by an ADHD student was more important to them in planning interventions. Little variation across regular education, special education, and Title One teachers was found. Teachers are recognizing the importance of knowing the characteristics of ADHD; however, this knowledge is not carrying over into the development of appropriate intervention plans. From the data regarding teacher training in ADHD assessment and intervention gathered by this research author, the problem likely begins early in the training of an educator. Teachers must first be taught the appropriate research based interventions before they should be expected to know what to do with an ADHD student.

This information from this research is very relevant because a majority of the participants also indicated that they have worked with or had in their class a student diagnosed with ADHD in the past two years. Finally, respondents were asked to indicate the types of training they had received concerning assessment and intervention practices for ADHD students. Typical resources for both assessment and intervention practices for ADHD students included in-service training within the district and self-study using books and manuals. A much lower percentage of respondents reported graduate coursework as a resource for assessment and intervention practices, while they reported undergraduate coursework as a resource for both. DuPaul and Stoner (1994) suggest that instruction is needed on how to meet educational and behavioral needs of ADHD students prior to receiving teacher certification. As seen from this study, most educators are not adequately prepared to work with an ADHD student.
The purpose of the survey questionnaire research was to supplement and expand the database of a previous survey by Luckett (1996) and to encompass a greater geographical area in order to generalize the research findings. The survey questionnaire collected information from regular education, special education, and Title One teachers. This information included their (a) knowledge level with respect to DSM-IV diagnostic criteria and labels for ADHD, (b) intervention preferences for addressing ADHD student behaviors in the classroom, (c) interventions they would use for ADHD students under “ideal” classroom conditions, and (d) opinions concerning the importance of a number of ADHD issues as noted by classroom teachers. As an additional goal, this statewide survey was to compare the two studies conducted by this researcher and Luckett. Although the DSM-IV classification system has improved through several revisions, it still has limited use in regards to selecting interventions (Power & DuPaul, 1996). Since the classroom teacher plays a key role in the identification, referral, and comprehensive programming of ADHD students, the data from this statewide survey was intended to make the connection between the two phases of diagnosis and intervention.

All school personnel working with ADHD students have a responsibility for strengthening their skills. School districts must make sure that all personnel are aware of the symptoms of ADHD and the available interventions. Effective academic and behavior interventions make the long term process of teaching these students with ADHD easier (McFarland et al., 1995). Colleges, if they have not already, should add ADHD diagnostic criteria and intervention techniques as part of the teachers’ education in undergraduate and graduate coursework.
These children are challenging; without the proper awareness and tools to assist teachers, ADHD students will not make gains in the educational setting.

Classroom teachers must be aware of the diagnostic symptoms of ADHD in order to meet that student’s needs and also improve communication with mental health professionals. Teachers will be able to utilize this information in order to implement appropriate, research based interventions. As evidenced in the research data, teachers see the need for future training in assessment and intervention with ADHD students. After the classroom teacher recognizes the ADHD symptoms and makes a referral to professionals for diagnosis, he/she must be willing and able to take the necessary steps to help the students improve their behaviors and academics.

Strengths and Limitations

Although this study included a sample size smaller than that of Luckett’s study (1996), the sample included 33 school districts across Kentucky. This greater geographical area helps to generalize the findings. Luckett indicated the small geographical area as a limitation of his study, which sampled only 16 central and western Kentucky school districts.

Limitations of the original survey design were addressed. The addition of 8 additional false ADHD criteria was an attempt to correct for a response set pattern for answering these items. None of the respondents were able to correctly identify all 14 false ADHD criteria. For some of false ADHD criteria, respondents were more likely to respond “Do Not Know.” Using a rank order scale along with the Likert scale rating for the assessment and intervention issues did help to clarify which issue teachers rate the most important. The issue most important as
indicated on both sections was having a variety of intervention techniques available. However, the layout of this section was confusing for some respondents; while 195 respondents completed the Likert scale rating, only 122 respondents completed the rank order part. Finally, the term "ideal" was further clarified, which did seem to help most respondents.

Another limitation of this research was the response rate and school district participation. Although the response rate was 29% from 33 school districts, it could have been improved. The survey was not mailed to contact persons until most schools were already in the last weeks of school. Many school districts declined to participate for that reason. However, the use of a contact person proved beneficial and made the survey distribution and collection easier for the research author.

Implications and Future Directions for Research

The results from this survey supplements prior research to encompass a statewide response to teachers' knowledge concerning ADHD. To further improve the generalizability of these research findings, a better sample from the remaining school districts in Kentucky -- those did not participate in this study nor in Luckett's (1996) original study -- would need to be obtained. In order that a statewide sample of Kentucky teachers be obtained, the survey would need to be mailed much earlier in the school year to allow teachers more time to complete it and also to allow for more follow-up with the contact persons. Additionally, teachers could be surveyed about overall interventions for ADHD students, issues about parent involvement in interventions and medication issues.

This information could be useful for district in-services or helpful in developing
appropriate interventions after diagnosis. It appears that the primary role for most school psychologists is that of gatekeeper for categorical special education programs. Fuchs and Fuchs (1986) indicated that school psychologists spend as much as 70% of their time in traditional test related activities. The school psychologist's knowledge and training should be an asset in developing interventions after the diagnosis of ADHD, moving beyond the traditional testing role. Dawson (1995) advocates that the school psychologist should work with the school to develop multimodal treatment plans for children diagnosed with ADHD. This practice not only accommodates the needs of those children but also expands the school psychologist's traditional roles. According to Teeter (1991), the three major functions of school psychologists when working with children with ADHD are (a) as a case manager for the children; (b) as a consultant for the system, for the classroom teacher, and for the parent; and (c) as a therapist to provide direct services to the children.

Until teachers receive the training to make the connection between diagnostic criteria and interventions, the use of inappropriate interventions for the ADHD characteristics will continue to be practiced in the educational setting. This training needs to begin in undergraduate coursework. As demonstrated, most teachers do not receive any type of training until graduate coursework, and by then they have more than likely encountered an ADHD student. All educators need to be aware of the diagnostic criteria in order to successfully identify and teach ADHD students. School psychologists can play an important role in providing this training for teachers who have not received this type of training. As soon as the teachers become educated on the appropriate interventions proven to
work for specific ADHD characteristics, the teacher's task of educating an ADHD student will become easier and the school psychologist's role as a consultant may become easier and more streamlined. As demonstrated through this survey, which investigates a wide range of ADHD topics, teachers seem to recognize the importance in knowing the diagnostic criteria of an ADHD student but still do not make the connection between diagnosis and intervention. From the findings, teachers seem to apply inappropriate interventions in the classroom in both real and "ideal" environments. An ADHD student can be very challenging for educators, even more so if the appropriate intervention is not applied in the classroom. In summary, the use of assessment data is essential in the development of appropriate interventions for ADHD students.
References


Appendix A

Survey Questionnaire
Dear Teacher:

You are asked to take part in a research project conducted by LeAnn Pearson, a graduate student at Western Kentucky University and a school psychologist intern at the Daviess County, Kentucky schools. The purpose of the study is to investigate regular and special education teachers' knowledge and intervention practices for students diagnosed with Attention Deficit Hyperactivity Disorder (ADHD). Your participation will last approximately 15 minutes.

The ADHD diagnosis is usually made by psychologists, pediatricians, and other physicians on the basis of a number of characteristics which describe the disorder. Several hundred teachers across Kentucky are involved in this research project. We hope to use the information from this study to increase teacher's knowledge about interventions for ADHD students. Results of the findings will be provided for each participating school.

Please be assured that your response will be strictly confidential and will remain completely anonymous, even to the research project author. The responses you return will be grouped with other participants and will not be interpreted individually.

Thank you in advance for your time and effort. Your participation is sincerely appreciated. For more information concerning the research as well as the results of the survey, you may contact the researcher, LeAnn Pearson, at (502)685-3161.

LeAnn Pearson, B.A.
Research Project Author

PLEASE RETURN THE COMPLETED SURVEY TO YOUR SCHOOL CONTACT PERSON BY MAY 30, 1996. THE CONTACT PERSON WITHIN YOUR SCHOOL IS ____________________________.
Questions A through G will be used in providing descriptive information about those who participate in the survey. The answers you provide will be added to those from other respondents and will be presented as overall group characteristics. Simply check one most appropriate box.

A. Position Held:
   ____ Regular Education Teacher
   ____ Special Education Teacher
   ____ Title One Teacher

B. Primary Grades Taught:
   ____ Kindergarten - Grade One
   ____ Grade Two - Grade Three
   ____ Grade Four - Grade Six
   ____ Special Education Resource Teacher (students from all grades)

C. Number of Years Teaching Experience:
   ____ One to Five Years
   ____ Six to Ten Years
   ____ Eleven to Fifteen Years
   ____ Sixteen to Twenty Years
   ____ Twenty-One to Thirty Years
   ____ Thirty-One Plus Years

D. Degree Level Held at the Present Time:
   ____ Bachelor's Degree or Rank II Certification
   ____ Master's Degree or Rank II Certification
   ____ Master's Degree + hours needed for Rank I
   ____ Doctoral Degree

E. Gender:
   ____ Female
   ____ Male

F. What type of training have you received pertaining to the assessment of ADHD? (Mark all that apply)
   ____ No training
   ____ In-service training within the district
   ____ Conference or workshop training
   ____ Self-Study (books and manuals)
   ____ Self-Study (journals and newspapers)
   ____ Self-Study (computer on-line access)
   ____ As part of undergraduate coursework
   ____ As part of graduate coursework
   ____ Other (list in space to your right)

G. What type of training have you received pertaining to interventions for ADHD students? (Mark all that apply)
   ____ No training
   ____ In-service training within the district
   ____ Conference or workshop training
   ____ Self-Study (books and manuals)
   ____ Self-Study (journals and newspapers)
   ____ Self-Study (computer on-line access)
   ____ As part of undergraduate coursework
   ____ As part of graduate coursework
   ____ Other (list in space to your right)
A. Please mark those characteristics which you believe are currently used in the diagnosis of Attention-Deficit Hyperactivity Disorder (ADHD) in students:

<table>
<thead>
<tr>
<th></th>
<th>YES</th>
<th>NO</th>
<th>DO NOT KNOW</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Often fails to give close attention to details or makes careless mistakes in schoolwork, job or other activities.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td>Often seems lazy or unwilling to complete daily activities.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3.</td>
<td>Often argues with adults</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4.</td>
<td>Often does not follow through on instructions and fails to finish schoolwork or chores (not due to oppositional behavior or failure to understand instructions).</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5.</td>
<td>Often experiences fatigue or loss of energy.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6.</td>
<td>Often bullies, threatens or intimidates others</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7.</td>
<td>Often had difficulty organizing tasks and activities.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8.</td>
<td>Often avoids, dislikes, or is reluctant to engage in tasks that require sustained mental effort (such as schoolwork or homework).</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9.</td>
<td>More talkative than usual or pressure to keep talking</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10.</td>
<td>Often experiences failure in school.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>11.</td>
<td>Often loses things necessary for tasks or activities (e.g. toys, school assignments, pencils, books or tools).</td>
<td></td>
<td></td>
</tr>
<tr>
<td>12.</td>
<td>Often angry or resentful</td>
<td></td>
<td></td>
</tr>
<tr>
<td>13.</td>
<td>Is often easily distracted by extraneous (i.e. irrelevant) stimuli (e.g. air conditioner, hall noise, activity outside room windows)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>14.</td>
<td>Often irritable</td>
<td></td>
<td></td>
</tr>
<tr>
<td>15.</td>
<td>Often leaves seat in classroom or in other situations in which remaining seated is expected</td>
<td></td>
<td></td>
</tr>
<tr>
<td>16.</td>
<td>Often initiates physical fights</td>
<td></td>
<td></td>
</tr>
<tr>
<td>17.</td>
<td>Often deliberately annoys people</td>
<td></td>
<td></td>
</tr>
<tr>
<td>18.</td>
<td>Often has difficulty playing or engaging in leisure activities quietly</td>
<td></td>
<td></td>
</tr>
<tr>
<td>19.</td>
<td>Often experiences sleep disturbances (difficulty falling or staying asleep or restless unsatisfying sleep)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>20.</td>
<td>Is often “on the go” or acts as if “driven by a motor”</td>
<td></td>
<td></td>
</tr>
<tr>
<td>21.</td>
<td>Often has difficulty waiting turn</td>
<td></td>
<td></td>
</tr>
<tr>
<td>22.</td>
<td>Often spiteful or vindictive</td>
<td></td>
<td></td>
</tr>
<tr>
<td>23.</td>
<td>Often loses temper</td>
<td></td>
<td></td>
</tr>
<tr>
<td>24.</td>
<td>Often blurts out answers before questions have been completed</td>
<td></td>
<td></td>
</tr>
<tr>
<td>25.</td>
<td>Has poor concentration than usual or difficulty making decisions</td>
<td></td>
<td></td>
</tr>
<tr>
<td>26.</td>
<td>Some hyperactive or inattentive symptoms that caused impairment were present before age seven.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>27.</td>
<td>Some impairment from the symptoms is present in two or more settings (e.g. at school or work and at home).</td>
<td></td>
<td></td>
</tr>
<tr>
<td>28.</td>
<td>There is clear evidence of clinically significant impairment in social, academic or occupational functioning</td>
<td></td>
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</tbody>
</table>
B. There are currently three names which can be used to describe ADHD students. Mark three choices which you believe are the labels used in the diagnosis of ADHD.

- Attention-Deficit Hyperactivity Disorder, Predominantly Inattentive Type
- Attention-Deficit Disorder with Hyperactivity
- Attention-Deficit Hyperactivity Disorder
- Attention-Deficit Hyperactivity Disorder, Predominantly Hyperactive-Impulsive Type
- Attention-Deficit Disorder Without Hyperactivity
- Attention-Deficit Hyperactivity Disorder, Combined Type

Which would be more important to you in planning classroom interventions for an ADHD student?
(Please choose one answer)

- Knowing the diagnosis
- Knowing the characteristics

In the past two years, have you worked with/had in your class a student diagnosed with ADHD?
- Yes
- No

For the remaining questions:
A. Please rank order the following statements from the most important to the least important to show how important each of these statements is to you concerning ADHD

MOST IMPORTANT (1) — LEAST IMPORTANT (7)

B. Please pick a number from the scale to show how important each of these statements is to you concerning ADHD

NOT IMPORTANT 1 2 3 4 5 VERY IMPORTANT

A

- As a teacher, how important is it to you to know the diagnostic criteria for ADHD? 1 2 3 4 5
- As a teacher, how important is it for you to be aware of the specific diagnostic criteria met by an ADHD student in his/her assessment? 1 2 3 4 5
- As a teacher, how important is it for you to have a selection of intervention techniques available for you to use in the classroom? 1 2 3 4 5
- As a teacher, how important is it for you to have the services of other professionals (e.g. school counselor, school psychologist) available to help or consult with you on ADHD students? 1 2 3 4 5
- As a teacher, how important is it for you to receive more training in ADHD assessment practices? 1 2 3 4 5
- As a teacher, how important is it for you to receive more training in developing and implementing interventions which can be used with ADHD students? 1 2 3 4 5
- As a teacher, how important is it for you to receive more training in using the data which is collected in the assessment process to develop intervention strategies for ADHD students? 1 2 3 4 5
The following items are characteristics used to diagnose students with ADHD. You will be asked to indicate the interventions which you do use or have used with ADHD students. You will also be asked to indicate the interventions you would IDEALLY use for ADHD students if you had unlimited resources. If you have not worked with an ADHD student, then relate your response to interventions for students with disruptive behavior problems or those having difficulty paying attention in the classroom.

**DIRECTIONS:** Detach the Interventions Sheet stapled at the end of the survey. Using the intervention choices numbered 1-14, place a check mark next to the number of the intervention(s) you “do use or have used” in the classroom with ADHD students or students with similar behavioral patterns. Often, an intervention is chosen because of limitations on your time, financial resources, the availability of additional school personnel to assist you, etc. Given the ideal environment which can be defined as “a classroom where there is a small student to teacher ratio, zero time constraints, unlimited financing, adequate training and availability of any school personnel and other resources”, place a check mark next to the number of the intervention(s) you “would ideally use” for ADHD students or students with similar behavioral patterns. For both groups of numbers, mark as many boxes as apply to you.

<table>
<thead>
<tr>
<th>A student who often fails to give close attention to details or makes careless mistakes in schoolwork.</th>
<th><strong>DO USE OR HAVE USED</strong></th>
<th><strong>WOULD IDEALLY USE</strong></th>
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<tr>
<td>1</td>
<td>6</td>
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<td>14</td>
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<td>5</td>
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<tr>
<th>A student who often does not follow through on instructions and fails to finish schoolwork (not due to oppositional behavior or failure to understand instructions).</th>
<th><strong>DO USE OR HAVE USED</strong></th>
<th><strong>WOULD IDEALLY USE</strong></th>
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<th>A student who often avoids, dislikes or is reluctant to engage in tasks that require sustained mental effort (such as challenging schoolwork or homework).</th>
<th><strong>DO USE OR HAVE USED</strong></th>
<th><strong>WOULD IDEALLY USE</strong></th>
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<tr>
<th>A student who is often easily distracted by extraneous (i.e. irrelevant) stimuli, such as the air conditioner, hall noise, or activity outside the classroom windows.</th>
<th><strong>DO USE OR HAVE USED</strong></th>
<th><strong>WOULD IDEALLY USE</strong></th>
</tr>
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<td>1</td>
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<tr>
<th>A student who often leaves seat in classroom or in other situations in which remaining seated is expected.</th>
<th><strong>DO USE OR HAVE USED</strong></th>
<th><strong>WOULD IDEALLY USE</strong></th>
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</tbody>
</table>
A student who often has difficulty playing or engaging in leisure activities quietly.

DO USE OR HAVE USED  WOULD IDEALLY USE
____ 1  ____ 6  ____ 11
____ 2  ____ 7  ____ 12
____ 3  ____ 8  ____ 13
____ 4  ____ 9  ____ 14
____ 5  ____ 10

A student who is often “on the go” or acts as if “driven by a motor”

DO USE OR HAVE USED  WOULD IDEALLY USE
____ 1  ____ 6  ____ 11
____ 2  ____ 7  ____ 12
____ 3  ____ 8  ____ 13
____ 4  ____ 9  ____ 14
____ 5  ____ 10

A student who often blurts out answers before questions have been completed

DO USE OR HAVE USED  WOULD IDEALLY USE
____ 1  ____ 6  ____ 11
____ 2  ____ 7  ____ 12
____ 3  ____ 8  ____ 13
____ 4  ____ 9  ____ 14
____ 5  ____ 10

A student who often has difficulty awaiting his/her turn.

DO USE OR HAVE USED  WOULD IDEALLY USE
____ 1  ____ 6  ____ 11
____ 2  ____ 7  ____ 12
____ 3  ____ 8  ____ 13
____ 4  ____ 9  ____ 14
____ 5  ____ 10

THANK YOU FOR YOUR PARTICIPATION. YOUR TIME AND EFFORT IN CONTRIBUTING TO THIS PROJECT. IT IS GREATLY APPRECIATED.
Interventions Sheet

Your choices for interventions include the following: (If an intervention you use is not listed below or is not similar to one of the interventions listed below, please mark “Other” and describe it on the back of this sheet). It might be helpful to briefly skim over the list before continuing with the survey items. Use of medication by students, although often occurring in school, does not constitute a ‘teacher involved’ intervention.

1. No intervention implemented for this item.

2. Positive reinforcement or token reinforcement - verbal rewards (praise), material rewards (food or object), activity rewards (games, computer time), token economy, etc.

3. Punishment - verbal reprimands, use of time-out, loss of privileges, movement within the classroom, removal from classroom, detention, etc.

4. Response Cost - combines positive reinforcement and punishment. Points, stars, tokens, etc. can be accumulated (in order to gain rewards) or lost (as punishments).

5. Behavior Contract - document signed by teacher(s) and student and stating objective(s), rewards the student can earn, schedule rewarding will be based on, etc.

6. Proximity - moving the student’s desk closer to yours, teaching while standing in the student’s vicinity, placing hand on his/her shoulder to redirect, etc.

7. Peer Involvement - using other students in the class for peer tutoring, monitoring, establishment of classroom rules, etc.

8. Self-Management - student is trained and then uses self-monitoring of behavior, self-reinforcement of positive behavior, maintains a homework notebook, etc.

9. Conference - teacher meets with or makes phone calls with parents, teacher meets with student alone, teacher consults other school personnel concerning behavior of student, etc.

10. Environmental - (whole class) changes in presentation of academic material, soft music during work periods, color printouts rather than black and white, small groups, reduction/removal of items/objects/things/etc. which distract students from the teacher, posting classroom rules and daily schedule, etc.

11. Teacher/Student Cues - signals established by the teacher and the student which the teacher used to redirect him/her without disrupting activity in the classroom by speaking

12. School Personnel - teacher involves school psychologist, school counselor, etc. for consultation, social skills training, counseling, study/organizational skills training, etc.

13. Academic - addressing academic issues in the area of reading, math, language arts, spelling, writing, etc. which result from inattention and/or behavior problems

14. Other
Appendix B

Verbatim Written Teacher Comments

on “Other” Statements or as General Comments
Other Training Pertaining to the Assessment of ADHD

- “Experience with children in classroom having ADD and ADHD”
- “Personal observation”
- “Inservice training, other districts”

Other Training Pertaining to Interventions for ADHD

- “Trial and error”
- “TAT instructions”
- “Information from counselor”
- “Inservice training, other districts”

Other Interventions Currently Used or Used in the Past
   (includes criteria numbered #1 through #9)

- “I use Lee Canter’s assertive discipline and turn a card over for first time offense as a warning; second warning means 5 minutes loss of recess and the third warning is a 10 minutes loss. Every 14 days a student with less than ten warnings receives an award (These are 6 and 7 year old students.)”
- “Behavior notice/contract with parent to reward or punish child based on behavior”
- “Homework and assignment sheets”
- “Break assignments in manageable parts rather than as one big part”
- “Set short goals rather than one large and reward for steps and as whole”
- “Allow students to move or stand at desk- allow certain times or situations in which student can move”
- “Have student redo work”

#1- “More training needed by the teacher”
#3- “Find interest”
#4- “Enclosed classroom; not open classroom”

#4- “Use of study carrels to minimize distractions”

#4- “Remove noise or student away from the noise as much as possible”

#5- “Class helper/messenger- rechannel the energy”

#5, #6, #7- “Permission for limited scheduled mobility or medical assessment”

#7- “Rechannel energy”

#7- “Using faster paced activities”

#7- “Use of manipulatives”

#7- “Have a student rock in a rocking chair to calm him/her down”

#8- “Ignore, call on another student and praise them for waiting and using classroom manners”

#8- “Think time alerts”

#9- “Individual, small group or whole class problem solving”

#9- “Have students practice taking turns. Tell the student they will have a turn, make sure they get it”

#9- “Parent conference”

#12- “Social skills training and study skills”

#14- “Use of a timer”

Other Interventions Used in Ideal Setting
(included criteria numbered #1 through #9)

- “Where is this place?” (This comment made in reference to the “ideal” educational setting)

- “Would use more if money was available”
- "Would use # 8 intervention, but not sure about training student"

#2- “Counselor if available”

#4- “Enclosed classroom”

#6, # 7, # 8, #9- “Full time instructional assistant”

#9- “Peer mediation’

General Comments

- “The information you are trying to glean could be gathered with a different design of your instrument. It was difficult to understand and follow.”

- “Sorry, didn’t have much time to complete due to other time restraints at closing of school.”

- “It is not my job as a regular education teacher to diagnose a student. That’s the responsibility of the special education teacher. I adapt my assessment/curriculum to meet the needs of my students.”

- “We already have rules, etc. posted. I used a behavior contract several years ago, but not recently.”

- “I am in a small school setting and able to use a larger variety of interventions with ADHD students.”

- “Need medication more than anything”