School Psychologists' Assessment Practices of Attention-Deficit Hyperactivity Disorder

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SCHOOL PSYCHOLOGISTS' ASSESSMENT PRACTICES
OF ATTENTION-DEFICIT HYPERACTIVITY DISORDER

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Presented to
the Faculty of the Department of Psychology
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Specialist in Education

by
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SCHOOL PSYCHOLOGISTS' ASSESSMENT PRACTICES
OF ATTENTION-DEFICIT HYPERACTIVITY DISORDER

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Two million school-age children are believed to manifest symptoms of Attention-Deficit Hyperactivity Disorder (ADHD). In recent years, educators have increasingly been called upon to provide services to children with ADHD either through special education or through Section 504. Much has been written describing “best practices” for the assessment of children with ADHD. Little is known, however, about what roles school psychology practitioners are taking with regard to ADHD. The purpose of this research was to determine common ADHD assessment practices of school psychologists and how they relate to practices recommended in the literature. A survey was developed and sent to a randomly selected national sample of 400 school psychology practitioners. The results of the research indicate that, in general, school psychologists are using a multimethod approach that includes appropriate assessment techniques. Based on the results of the survey, it is concluded that an increased emphasis, however, is needed on assessment methods such as interviews, rating scales, and systematic observations. The results also
indicate that school psychologists should rely less on methods such as behavior during standardized testing, projectives, and pattern analysis. With regard to interventions, more monitoring of the behavioral effects of medication needs to be done and more systematic interventions should be implemented.
Introduction

Attention deficit hyperactivity disorder (ADHD) is a disorder that primarily consists of impulsive, inattentive, and hyperactive behaviors. Concerns about ADHD are prevalent in school systems because such behaviors can interfere with a student’s learning and be disruptive to the class as a whole. Evaluating the child’s behavior in the school setting is important to the assessment process (Atkins & Pelham, 1991). Assessments, conducted by school psychologists, play an integral part in determining whether or not a child has ADHD and what intervention services may be required. It is unclear, however, as to school psychologists’ actual practices in their assessment of ADHD.

In order to assess ADHD, the school psychologist must be able to identify and understand the associated features of the disorder. The assessment of ADHD is complex because ADHD is a behavioral disorder. Many children will display impulsive, inattentive, and hyperactive behaviors. School psychologists must determine whether the behaviors characteristic of ADHD are being displayed at a developmentally inappropriate level or to a problematic degree (Schaughency & Rothlind, 1991). In order to determine if ADHD is the primary concern, school psychologists must also be acquainted with the other problems commonly associated with ADHD, including conduct disorders, academic difficulties, disturbed peer relationships, and internalizing disorders such as low self-esteem, anxiety, and depression (Burcham & DeMers, 1995). Therefore, the assessment challenge involves determining these several components: the extent to which ADHD characteristics are pronounced enough to diagnose or recommend a diagnosis, the
characteristics that can be accounted for by other factors, and the extent to which these features affect the life functioning of the child (Burcham & DeMers, 1995). By evaluating these components, the probability of overclassification or underclassification of ADHD should decrease. Also, specific assessment procedures could assist in the development and implementation of interventions for ADHD. Specifically, interventions that are currently used are medication and cognitive-behavioral therapy. School psychologists are trained in both of these areas of intervention (DuPaul & Stoner, 1994).

The question of how ADHD should specifically be assessed is not resolved. Single sources of assessment information have been used to identify children as having ADHD and in need of intervention (August, Ostrander, & Bloomquist, 1992). However, reliance on a single source of information for ADHD assessment has been shown to be problematic due to the low correlations reported among similar instruments across informants and settings (Achenbach, McConaughy, & Howell, 1987). Much of the literature supports the need for a multimethod approach to assessing ADHD. Multimethod approaches for assessing ADHD might include some combination of rating scales, interview procedures, direct observations, and computer-driven laboratory tests. While the general consensus is that a multimethod approach is best, it remains unclear as to which combination of methods might constitute "best practice." The literature was initially surveyed to determine what practices or methods are used in the assessment of ADHD.

Bansilal and Chissom (1996) engaged in similar research, but on a much smaller scale (n=43). Conclusions were limited because of their sample size and the authors noted that further research with a larger, more diverse sample was recommended in order to obtain data representative of national assessment practices. To determine current ADHD
assessment practices, a survey was distributed nationally to a randomly chosen sample of school psychologists. The results of the surveys were compared with the information that was derived from the literature regarding ADHD assessment. Therefore, this present research will increase the current understanding of ADHD practices by gathering and reporting additional data on how school psychologists throughout the nation report their current practices regarding ADHD and how those practices relate to the recommended practices found in the literature.
Literature Review

This literature review was specifically focused on ADHD assessment and intervention issues related to school psychologists. A brief history of the classification of hyperactive behaviors is discussed. Assessment methods for ADHD are reviewed and critiqued. In addition to assessment, school psychologists can also play an important role with regard to interventions for ADHD. A brief description of intervention roles is also presented.

Classification History of ADHD

ADHD has a history of various names and diagnostic criteria. In the 1930's and 1940's the terms "brain damaged" or "brain injured" were used to describe children with hyperactive behaviors. In the 1950's and early 1960's attention was drawn to the fact that some of the "brain damaged" patients had no history of brain trauma; thus the terms "minimal brain damage" and "minimal cerebral dysfunction" were used. During the 1960's and 1970's "hyperactivity" became the common term educators used to describe such children (Reeve, 1990). Officially, the Diagnostic and Statistical Manual of Mental Disorders - Second Edition (DSM-II) used the term "hyperkinesis" (American Psychiatric Association [APA], 1968). In 1980 the DSM-III (APA) was published and the disorder was called "attention-deficit disorder." Two subtypes were defined: attention deficit disorder with hyperactivity and attention deficit disorder without hyperactivity. A few years later, the DSM-III-R (APA, 1987) excluded the two subtypes, resulting in the global term "attention deficit hyperactivity disorder." However, when the DSM-IV (APA,
1994) was published, the disorder was divided into subtypes again. This time the disorder has three different subtypes: 1) Attention-Deficit/Hyperactivity Disorder-predominantly inattentive type, 2) Attention-Deficit/Hyperactivity Disorder-predominantly hyperactive-impulsive type, 3) Attention-Deficit/Hyperactivity Disorder-combined type.

These changes in terminology are a result of varying views of the disorder, a better understanding of the characteristics, and extensive research. Unfortunately, the many changes have also resulted in confusion for professionals. Atkins and Pelham (1991) suggest many professionals use their own state or district educational guidelines instead of the DSM-IV criteria. They support the use of such educational diagnostic guidelines by pointing out that a clinical diagnosis does not always lead to special education placement. Further, special education personnel do not use the DSM-IV.

Assessment of ADHD

There are various methods of assessing ADHD, each having their advantages and disadvantages. A review of the literature revealed seven methods used to assess ADHD. The revealed seven assessment practices are (a) behavior rating scales, (b) pattern analysis from standardized tests, (c) projective tests, (d) interviews, (e) observations of behavior, (f) computer continuous performance tests, and (g) neuropsychological tests. Each of these measures will be reviewed so that the literature findings can be compared to the reported assessment practices from the survey respondents.

Behavior rating scales. Behavior rating scales are a popular tool for assessing ADHD. Dykman, Ackerman, and Raney (1993) identified 42 behavior rating scales used to identify children with ADHD. Many ADHD scales assess the primary symptoms associated with ADHD, but some also look at associated conditions and family issues
(Burcham & DeMers, 1995). Thus, school psychologists have a vast array of tools from which to choose when deciding what behavior rating scale to administer. Obviously, the scale’s technical adequacy and purpose of assessment will influence the choice of instrument. The psychometric properties of the rating scale should be considered to make sure it is age appropriate and properly normed, and the purpose of the scale should match the referral questions that need to be addressed (Burcham & DeMers, 1995).

Assuming adequate psychometric properties are met, behavior rating scales are believed to be appropriate for the assessment of ADHD and offer numerous advantages. They allow the assessor to learn to what extent the child, according to whomever completes it, exhibits certain characteristics in relation to peers of the same age and gender (Barkley, 1990). Rating scales are also cost-effective because they can ask questions that extend over a wide variety of situations and settings and large samples of children can be assessed (Reid & Maag, 1994). Furthermore, they can even identify low frequency behaviors because they are not based on a specific time in the day as direct observations may be (Barkley, 1990). Rating scales also allow information to be easily collected from multiple settings. Teachers and parents can provide valuable information regarding the characteristics and degree of the problem behavior. Teacher ratings are the most easily obtained rating of what occurs in the school setting (Atkins & Pelham, 1991). Parent rating scales allow the school psychologist to evaluate whether the behaviors are occurring at home and at what severity and frequency.

Behavior rating scales also have some distinct disadvantages. They are perceptions of others and thus may be influenced by intellectual, social, emotional or educational characteristics of the rater. The rater may have problems with memory, may be motivated to be inaccurate, or misunderstand items on the scale. Finally, behavior rating scales do
not allow the assessor to see the specificity of a child because the characteristics to be assessed are implicit in the scale. Psychologists are encouraged to look at both the advantages and disadvantages of behavior rating scales before choosing the ones they will use in their practice (Burcham & DeMers, 1995).

**Pattern analysis from standardized tests.** Another method of assessment is the use of standardized intelligence tests. School psychologists are often required to give standardized intelligence tests for special education eligibility purposes (Reid & Maag, 1994). One of the intelligence tests that is commonly used for school age children is the Wechsler Intelligence Scale for Children-Third Edition (Wechsler, 1991 [WISC-III]). On the previous version of the Wechsler scale, the WISC-R, psychologists used the Freedom from Distractibility factor, consisting of the sum of the Arithmetic, Digit Span, and Coding subtest scores, to determine the possibility that a child may have ADHD (Wechsler, 1974 [WISC-R]). On the WISC-III, the Freedom from Distractibility factor consists of the sum of the Arithmetic and Digit Span subtest scores; the Coding subtest falls into a different factor category (Wechsler, 1991).

A disadvantage of using the Freedom from Distractibility factor is that it does not consistently discriminate between children with and without ADHD (Shelton & Barkley, 1994). Further, using the Freedom from Distractibility factor alone to assess the presence of ADHD is not a recommended assessment practice (Shelton & Barkley, 1994). Further research is needed to establish the usefulness of the Freedom from Distractibility factor on the WISC-III in determining the presence of ADHD.

**Projective tests.** Projective tests have also been used in the assessment of ADHD. Projective techniques such as the Thematic Apperception Test and the Rorschach Inkblot
Test are based on theoretical assumptions that problem behaviors are caused by emotional difficulties within the child (DuPaul & Stoner, 1994).

A disadvantage of using projective techniques is that the central assumption that problem behaviors are caused by emotional difficulties has not been empirically demonstrated for behaviors of ADHD children (DuPaul & Stoner, 1994). Moreover, projective techniques have also been criticized for their lack of adequate psychometric properties (Prout & Ferber, 1988). Measures that assess emotional functioning of children are not recommended tools for assessment of ADHD (DuPaul & Stoner, 1994).

Interviews. A common form of assessment is the interview procedure. Burcham and DeMers (1995) outline several objectives of interviewing: "to allow target areas of concern to be expressed and clarified, to allow rapport to develop with teachers, parents, the child, and others directly involved with the child, and to allow the school psychologist to elicit information regarding the child's competencies" (p. 215). Interviews allow those who are referring the child to explain the specifics of the problem over different situations and settings (Burcham & DeMers, 1995).

Several different groups should be included in the interview process. An advantage of obtaining a parent interview is that parents are a good source of information regarding developmental and medical histories. They can give information regarding sibling rivalry, relations with parents, family perceptions of problems, and challenges with behavior at home (Burcham & DeMers, 1995). Interviews of school personnel also have advantages. They can assess the child's strengths and weaknesses in relation to others. In addition, the teachers can provide information on work habits, perceived academic ability, and actual performance of the child in the classroom. Moreover, teachers can give feedback on what
interventions have been tried and the success of each of these interventions (Landau, Milich, & Widiger, 1991). An interview with the child can be an important asset. An advantage of a child interview is that it establishes rapport and communicates acceptance to the child. The child interview should focus on their perception of the problem, the feelings they have towards themselves, family and friends, and their attitude toward school (Landau et al., 1991; Barkley, 1990).

Interviews also have some disadvantages. Parent and teacher reports have been criticized for their low level of reliability across different settings. However, Barkley (1990) comments that the low level of reliability could be a result of the parents and teachers observing the child in different situations and with different levels of familiarity. Also, self-reports are known to be less reliable than reports from other informants. An example would be that children with ADHD deny about 50% of the problems their mothers report (Landau et al., 1991).

Observations of behavior. Behavioral observations are conducted by a "third party" and can provide specific information on the frequency, intensity, and duration of various behaviors. Research has shown that there is no single observation system that can be recommended for all referred children with ADHD. The selection of what direct observation system to use should depend on what information is needed to determine whether a problem exists (Landau & Burcham, 1995). Observations conducted at schools can provide data covering areas such as on-task behavior, structured activities, peer relations, and ability to follow directions.

The specifics of a certain behavioral observation system are what allows the school psychology practitioner to determine whether or not it is used in a certain situation. The areas of concern are the determining factors; each system needs to be sensitive to
inattention, motor excess, and impulsive responding (Landau & Burcham, 1995). Also, the observation system needs to provide the school psychologist with the desired information regarding the referral question. There have been various published systems that use behavioral observation codes to assess ADHD symptoms and potential behavior problems accompanying ADHD. Classroom observation systems were developed by Jacob, O'Leary, and Rosenblad (1978) and Abikoff, Gittelman-Klein, and Klein (1977) and observation systems for clinic situations were developed by Roberts (1987) and Barkley (1990). These systems record such activities as off-task behavior, out-of-seat time, fidgets, locomotion, vocalizations, and attention shifts (Shelton & Barkley, 1994).

Behavior observations during standardized testing have also been used in the assessment of ADHD. Characteristics such as problem solving style, manner of approaching a task, motivation throughout testing, and strategies the student uses to maintain attention were judged. Furthermore, the child’s task preferences, temperament or mood, and attributions the child makes for his or her success or failure can also be observed (Barkley, 1990).

One of the advantages for behavioral observations is that they can provide a wealth of information. This information includes the frequency, severity, antecedents, and consequences of ADHD symptoms. Landau and Burcham (1995) mention several ways direct observations of students can be beneficial. First, observations determine whether a problem does exist and what level of performance would be a realistic target for an intervention. Second, observations are helpful in problem analysis by determining what the child is actually doing and in what settings and situations. Finally, observations can be
used for plan implementation and treatment. They can provide feedback on interventions that are already in place.

Observations of behavior also have disadvantages. Direct observation systems require an extensive amount of time and training, which translates into higher costs. Also, certain observation methods may not always be appropriate (Landau & Burcham, 1995). The time-sampling method of observing is not sensitive to low rate events and, therefore, may miss the behaviors entirely (Atkins & Pelham, 1991). Informal observations, which do not focus on specific target behaviors, provide no quantitative data that can be compared to peers. An example of an informal observation method would be narrative recording, which merely describes a short sample of behavior. Attention should always be given to make sure that peers who are observed for comparison purposes are similar to the target child in culture and gender, as these may cause differing interpretations (Burcham & DeMers, 1995).

**Computer continuous performance tests.** Computer driven continuous performance tests (CPTs) are another way of assessing ADHD in children. CPTs attempt to quantify inattention and impulsivity in a laboratory setting (Burcham & DeMers, 1995). There are numerous CPTs, but most involve having a child watch a computer screen while letters or numbers are quickly displayed. The child is required to press a button for a certain stimulus and not press it for similar stimuli.

Advantages of continuous performance tests are highlighted by Conners (1995) in his Conners’ Continuous Performance Test (CCPT) manual. He describes the CCPT as a useful tool in measuring attention that is sensitive to drug treatment in hyperactive
children. He notes that children’s ability to respond to stimuli at different time intervals is especially important in assessing hyperactive children.

Disadvantages of using computer performance tests, however, have been addressed by other researchers. Barkley (1991) mentioned that systematic observation systems have been found to be more discriminatory of ADHD in children and to be more highly correlated with behavior rating scales than computer tests such as the CCPT. The psychometric properties of the continuous performance tests should be evaluated, and it should be understood that the data obtained from these tests may not be useful in assessing the child due to the fact that they contribute very little in relation to the actual functioning of the child in different settings (Burcham & DeMers, 1995). Landau and Burcham (1995) have suggested that CPTs should be used with caution, if at all.

Neuropsychological tests. There are views that suggest that ADHD results from an impairment in the prefrontal cortex and/or the connections between the prefrontal and limbic motivational systems (Barkley, 1997). Given this assumption, neuropsychological tests could potentially be useful in assessing ADHD because some neuropsychological tests can be sensitive to frontal lobe injuries and, theoretically, ADHD symptoms (Barkley, 1990; Riccio, Hynd, Cohen, & Gonzalez, 1993). Unfortunately, the usefulness of neuropsychological tests to assess ADHD has not yet been demonstrated. One of the major disadvantages of using neuropsychological tests is that they lack adequate information regarding their psychometric properties (i.e., reliability and validity) for assessing ADHD. In addition, neuropsychological instruments tend not to have adequate samples of normative data to be used as identifiers of behavioral disorders. Finally, these measures often are not able to identify the antecedents and consequences of a behavior
that aid in the functional analysis of why a child behaves the way he or she does. Functional analysis is helpful in developing interventions that are appropriate to a specific child (Barkley, 1990).

Summary. The literature highlights certain assessment tools that are suggested for assessing ADHD. Behavior rating scales are useful in that they are able to provide the school psychologist with information on a wide range of behaviors from multiple informants over various settings. Interviews, especially from teachers and parents, can be very beneficial in providing the school psychologist with a perception of the student’s home and school behaviors. Behavioral observations are also an asset to the assessment of ADHD. Systematic observations are recommended more frequently than informal observations due to the subjectivity and lack of useful information obtained from informal methods. Systematic observations can provide the school psychologist with specific data regarding the frequency, duration, and intensity of the behaviors of concern. In conclusion, the literature suggests that the most recommended assessment tools, to be included in an ADHD assessment, are behavior rating scales, interviews with the parents and teachers, and systematic behavior observations.

ADHD assessment practices that are not recommended can also be found in the literature. Pattern analysis (i.e., Freedom from Distractibility factor on the WISC-III) is not a recommended practice due to the inconsistencies of identifying children with ADHD. Projective measures are also not recommended; they are more useful in assessing emotional problems rather than attentional difficulties. Continuous performance tests via computers are not recommended to assess sustained attention; they are better predictors of behavioral changes due to medication modifications. Finally, neuropsychological tests
are not recommended because of the lack of reliability and validity in some of these measures.

Interventions for ADHD

The assessment of ADHD is the beginning for determining what special services a student needs. The assessment should be directly linked to the development of the interventions for more effective treatment. The interventions are the strategies and techniques that school personnel and parents can use to help the child with ADHD. Barkley (1997) identifies four treatments for children with ADHD: (a) parent, family, and teacher counseling about the disorder, (b) parent and teacher training in behavior management techniques, (c) special education services, and (d) medications.

Parent, family, and teacher counseling. DuPaul and Stoner (1994) note that it is quite helpful for parents of children with ADHD to interact with other parents who also have children with ADHD. Within a support group format, the parents can share their frustrations, successes and advocacy strategies. One of the fastest growing national ADHD support groups is Children with Attention Deficit Disorder (C.H.A.D.D.). Organizations such as C.H.A.D.D. can serve an important role in treatment because they provide information and guidance to the group members.

Teachers also are in need of counseling about the disorder. Often teachers unfamiliar with ADHD assume the child is simply misbehaving. DuPaul and Stoner (1994) believe that teachers who have students with ADHD in their classroom are entitled to systematic assistance by way of consultation. Support services for the design, implementation, and evaluation of classroom-based interventions are also needed. Further, these teachers will potentially experience the stress and frustration associated with having
a student with ADHD. Professionals should make every effort to help teachers deal with their feelings productively (e.g., stress management). Finally, treatment strategies should be developed, keeping in mind the constraints perceived by the teacher.

**Parent and teacher training.** Medication is a common treatment, but behavioral interventions are also useful in treating ADHD. A combination of both medication and behavioral interventions has been promoted by research as the most effective (Barkley, 1990). Various systems of reinforcement have been useful for children with ADHD such as token economies, response cost, home-school report cards, and time-out procedures. Also, cognitive-behavioral interventions such as self-monitoring, self-instruction, and self-evaluation can be helpful (Landau & Burcham, 1995).

The home environment and the classroom are both places where behavioral interventions can be implemented. Parent training is an intervention that can be effective. Barkley (1987) published a manual that dealt specifically with training parents of children with ADHD and oppositional/defiant behaviors. Specific topics included increasing compliance, decreasing disruptiveness, and praising children for appropriate behavior. Barkley's manual was designed so that over the course of ten sessions, parents could be taught skills to deal with their children more effectively. School-based interventions included social skills training and interventions designed to enhance academic performance such as peer tutoring or computer-assisted instruction (DuPaul & Stoner, 1994). For many children with ADHD simple environmental changes can be very effective; however, for others an individualized program is an essential ingredient of success for treatment (Reeve, 1990). School psychologists play a vital role in making the link between assessment of ADHD and the interventions that may follow.
Special education services. Two different venues have been tried in order to increase services for children with ADHD. The venues consist of making ADHD a disability category under the Individuals with Disabilities Education Act of 1990 (IDEA) and providing services under Section 504 of the Vocational Rehabilitation Act of 1973 (Reid & Katsiyannis, 1995). Because of the interest in making ADHD a separate IDEA disability category, the United States Department of Education issued a memorandum in 1991 stating that students with ADHD were eligible for special education services under the “Other Health Impaired” category if limited alertness negatively affected academic performance. Children with ADHD may also qualify for services under existing special education services, such as learning disabled, if eligibility requirements are met (Davila, Williams, & MacDonald, 1991). Under Section 504, in contrast to IDEA mandates, appropriate education might be provided through the provisions of general education or related aids and services without an Individualized Education Program (IEP) (Reid & Katsiyannis, 1995).

Medications. It is very important for school psychologists to be knowledgeable about special features and side effects of certain medication and/or medication combinations used in the treatment of ADHD (Burcham & DeMers, 1995). There are three types of medical treatments that are often used with children with ADHD: stimulants, anti-depressants, and anti-hypertensives. Approximately 1-2.6% of all school age children are treated with stimulants (Landau & Burcham, 1995). Stimulants have been reported to manage diagnostic symptoms and improve associated problems such as compliance, social interactions, and academic productivity. Children with ADHD who do
not respond positively to stimulants may receive trials of other medications such as anti-depressant or anti-hypertensive drugs (Burcham & DeMers, 1995).

Burcham and DeMers (1995) urged the collaboration of school personnel and physicians in monitoring medication. Gadow, Nolan, Paolicelli, and Sprafkin (1991) recommend using behavior rating scales and observations to monitor the effects of medication. School psychologists can play an important role in such monitoring efforts. Physicians often rely on parent reports to determine proper dosage, yet the parents can only report what the teachers have told them. The teachers may not be aware of what behavioral indicators to observe. School personnel may be the only adults in the child's life who are able to see the effects of the medication since many children with ADHD take medication only during school hours. School psychologists have the knowledge and background to more accurately evaluate dosage effects (Burcham & DeMers, 1995).

When medication monitoring is being conducted, documentation of improved behavior is not enough information; the impact of the medication on the amount of assignments completed and the accuracy of the schoolwork also needs to be assessed (Burcham & DeMers, 1995).

Past Research on ADHD Assessment Practices

Research on the actual ADHD assessment practices of school psychologists is limited. In 1992, the National Association of School Psychologists offered a position paper on the assessment of ADHD (NASP, 1992). No specific methods, however, were advocated. Instead, the position paper proposed that a collaborative approach involving school psychologists, teachers, parents, the child's pediatrician, and, if appropriate, clinic-based mental health specialists be used to conduct a full evaluation of the child.
Bansilal and Chissom's (1996) unpublished study on the assessment practices of school psychologists was identified in a literature search. The study was very limited in scope and was not published. Their return rate was 26% and consisted of 43 respondents representing four states in the southeast. Their results indicate that school psychologists do conduct ADHD assessments. Evaluation procedures were also examined. Fifty-seven percent of the respondents indicated that they used their State Department of Education's guidelines. The other 43% used "other" diagnostic criteria. Information was obtained on preferred assessment methods, but the authors concluded that there was no standard battery of instruments for the assessment of ADHD. They did note that research similar to theirs with a larger national sample could yield more comprehensive results.

In 1984, Smith published an article on practicing school psychologists. He surveyed a random, national sample of 877 school psychologists to determine characteristics and activities. A regional analysis indicated a more clinical approach to school psychology in the northeast and a more assessment-oriented approach in the southeast region. An analysis of ADHD practices by geographic region would help to determine if the above trend is still existing and what assessment practices the respective geographic regions engage in most.

Another article of interest for this research was on consultation in the school setting. Costenbader, Swartz, and Petrix (1992) were discouraged in their finding that years of experience of a school psychologist did not increase the amount of time that the psychologist spent in consultation. Like consultation, the ADHD assessment practices can also be analyzed by years of experience to determine whether there are differences between more experienced practitioners and more "novice" practitioners.
Purpose of the Present Research

The present research is designed to determine school psychology practitioners' assessment practices regarding ADHD. School psychologists' involvement with ADHD was determined along with personal views on issues related to ADHD. Actual assessment practices were solicited. Six specific hypotheses were investigated. Hypotheses 1-4 were analyzed by geographic region to determine whether school psychologists' practices differed in various parts of the country. Hypotheses 5 and 6 were analyzed by school psychologists' years of experience to determine whether more experienced practitioners differed from more "novice" practitioners. Hypotheses 2 through 4 were based on medians. A median is the number that occurs most frequently in a distribution of numbers. Therefore, if the median was zero then that is the value that was the most frequent response; however, it may not have been the only value listed. This point is important information for the results and discussion sections.

**Hypothesis 1.** Regions of the country will differ in terms of whether or not they have written procedures for assessing ADHD.

**Hypothesis 2.** Regions of the country will differ in whether they conduct systematic interventions before, or as part of, the assessment or treatment of ADHD.

**Hypothesis 3.** Regions of the country will differ in whether the school psychologist or other school personnel assist in monitoring the side effects of medication given for ADHD.

**Hypothesis 4.** Regions of the country will differ in their assessment practices for assessing ADHD.
**Hypothesis 5.** Whether the respondent conducts systematic interventions before, or as part of, the assessment or treatment of ADHD will vary by the years of experience as a school psychologist.

**Hypothesis 6.** Whether the school psychologist or other school personnel assist in monitoring the side effects of medication given for ADHD will differ in relation to the respondent’s years of experience as a school psychologist.
Method

Subjects

A sample of 400 school psychology practitioners was randomly selected from the computer database at the National Association of School Psychologists’ (NASP) headquarters in Bethesda, Maryland. The total number of school psychology practitioners, who are members of NASP, is approximately 9,800. NASP membership (n=20,000) consists of school psychology practitioners, school psychologists in private practice, university professors, and students. The reason for limiting the sample to only school psychology practitioners was to select a sample that would most likely assess ADHD as part of their job duties in school systems. The response rate, after both the original mailing and a follow-up mailing, yielded a 66.3% return rate (n=265). In summary, the majority of the respondents were female, the average educational level attained was a Masters/Masters+30 or Specialist degree and the mean years of experience as a practitioner was 15.3. These demographic findings were compared with NASP’s statistics from their October 31, 1996, demographic survey (NASP, 1996). The characteristics of both surveys are exhibited in Table 1. There were no data available with which to compare the years of experience variable. Compared to NASP data, the sample is considered representative of the population.
Table 1

Characteristics of Sample

<table>
<thead>
<tr>
<th>Variable</th>
<th>Current Sample (n=265)</th>
<th>Comparative Demographics*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Females</td>
<td>71.4%</td>
<td>71.7%</td>
</tr>
<tr>
<td>Males</td>
<td>28.6%</td>
<td>28.3%</td>
</tr>
<tr>
<td>Highest Degree Earned</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Masters/Masters + 30 or Specialist</td>
<td>73.0%</td>
<td>67.7%</td>
</tr>
<tr>
<td>Doctorate</td>
<td>27.0%</td>
<td>24.9%</td>
</tr>
</tbody>
</table>

Avg. Years of Experience 15.3 ---

*Comparative demographics were obtained from NASP (1996).

The random sample of school psychologists produced subjects from 45 states and all five geographic regions as designated by NASP. Table 2 contains the percentages of surveys mailed and returned by geographic region. The percentage of surveys returned per region is equivalent to the proportion of school psychologists in each region providing an additional basis for considering the sample to be representative of practicing school psychologists across the country.
Table 2

Return Rate by Geographic Region

<table>
<thead>
<tr>
<th>Region</th>
<th>n mailed</th>
<th>% mailed per region</th>
<th>n returned</th>
<th>% of total sample returned</th>
</tr>
</thead>
<tbody>
<tr>
<td>Northeast(^a)</td>
<td>128</td>
<td>32.0</td>
<td>84</td>
<td>31.7</td>
</tr>
<tr>
<td>Southeast(^b)</td>
<td>85</td>
<td>21.2</td>
<td>56</td>
<td>21.1</td>
</tr>
<tr>
<td>North Central(^c)</td>
<td>36</td>
<td>9.0</td>
<td>24</td>
<td>9.1</td>
</tr>
<tr>
<td>West Central(^d)</td>
<td>84</td>
<td>21.0</td>
<td>56</td>
<td>21.1</td>
</tr>
<tr>
<td>Western(^e)</td>
<td>67</td>
<td>16.8</td>
<td>45</td>
<td>17.0</td>
</tr>
<tr>
<td>Total</td>
<td>400</td>
<td>100.0</td>
<td>265</td>
<td>100.0</td>
</tr>
</tbody>
</table>


\(^b\)Southeast = Alabama, Washington DC, Florida, Georgia, Kentucky, Maryland, Mississippi, North Carolina, South Carolina, Tennessee, Virginia, and West Virginia.

\(^c\)North Central = Illinois, Indiana, Michigan, Ohio, and Wisconsin.

\(^d\)West Central = Arkansas, Iowa, Kansas, Louisiana, Minnesota, Missouri, Nebraska, North Dakota, Oklahoma, South Dakota, and Texas.

\(^e\)Western = Alaska, Arizona, California, Colorado, Hawaii, Idaho, Montana, Nevada, New Mexico, Oregon, Utah, Washington, and Wyoming.

Respondents also indicated the settings where they worked. These data are presented in Table 3. The percentages do not add up to 100% due to the fact that most school psychology practitioners indicated that they worked in more than one setting. The majority of school psychologists in this sample work in an elementary school setting, which is the setting where children are most likely to be identified with ADHD.
Table 10

Settings Where School Psychologists Work

<table>
<thead>
<tr>
<th>Work Settings</th>
<th>n</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Preschool</td>
<td>107</td>
<td>40.5</td>
</tr>
<tr>
<td>Elementary</td>
<td>215</td>
<td>81.4</td>
</tr>
<tr>
<td>Middle/Junior High</td>
<td>154</td>
<td>58.3</td>
</tr>
<tr>
<td>High School</td>
<td>120</td>
<td>45.5</td>
</tr>
<tr>
<td>Other</td>
<td>53</td>
<td>20.2</td>
</tr>
</tbody>
</table>

Note. No current comparative data available. Percentages add to more than 100% because many respondents indicated that they worked in more than one setting.

Instrument

A survey was designed for this study to gain information regarding ADHD practices and perceptions of school psychology practitioners. A copy of the Attention-Deficit Hyperactivity Disorder Screening/Assessment Questionnaire can be found in Appendix A. This survey was initially administered to five school psychology graduate students and one school psychology practitioner for their comments regarding the clarity and appropriateness of the questions. Their feedback was incorporated into the final version of the questionnaire.

The survey included demographic questions that assessed aspects such as gender and years of experience. Items on the survey were included to assess the degree to which school psychologists are involved in the assessment of ADHD. Personal views on issues related to ADHD were assessed using a Likert scale format. Questions regarding the use of systematic interventions and medication monitoring were also included to determine
school psychologists' involvement in roles other than assessment. Finally, a list of assessment practices derived from the literature review was provided to determine the percentage of ADHD cases in which these different screening or assessment activities were conducted. Respondents were asked to place an "X" on a line that ranged from 0-100 for the questions that involved systematic interventions, medication monitoring, and assessment practices. The "X" was assigned to be whatever value it was closest to on the line. Most responses were placed on a specific value.

Procedure

Surveys were sent to the 400 randomly selected school psychologists. A stamped, addressed return envelope and a cover letter were included with each survey. The cover letter, found in Appendix B, addressed topics such as confidentiality and information regarding informed consent. It also included a list of definitions that the respondents could refer to in helping them fill out the survey. Respondents were informed that the code number on top of their survey was only for the purpose of follow-up mailings and that informed consent was implied if the participant chose to mail back the survey. Also, the opportunity was offered for the respondents to obtain the final results of the study. A second mailing of the survey and a follow-up cover letter with definitions were sent to nonrespondents one month from the original mailing date. This letter can be found in Appendix C. This study was approved by Western Kentucky University's Human Subjects Review Board. A copy of the Board's approval can be found in Appendix D.
Results

Hypothesis 1: Written Procedures

The first hypothesis was that regions of the country will differ in terms of whether or not they have written procedures for assessing ADHD. School psychologists were asked to respond to one question addressing whether or not the school or agency they worked for had written procedures for screening or assessing students with ADHD. This question was assessed on a “Yes,” “No,” and “Don’t Know” format. Only 36.8% of the respondents indicated that their school/agency had specific procedures for screening or assessing students with ADHD. Most of the respondents reported that their school or agency did not have written procedures (61.5%) while only a few (1.7%) reported they did not know. A chi-square test of independence was applied to the relationship between geographic region of the respondent and whether or not their school or agency had written procedures for assessing ADHD. The relationship was statistically significant, $\chi^2(4, n=227) = 14.03$, $p<.01$. The southeast region of the country was more likely to have written procedures for assessing ADHD than the northeast, north central, west central, and western regions.

Hypothesis 2: Systematic Interventions

The second hypothesis was that the use of systematic interventions will differ in relation to the assessment or treatment of ADHD. The respondents indicated the percentage of ADHD cases in which they used systematic interventions. The respondents
marked an “X” on a line, that ranged from 0 to 100, to indicate the percentage of cases that best reflected their own practices. Overall, systematic interventions were tried before, or as part of, the screening or assessment of ADHD a median of 50% of the cases. These results were further analyzed to determine whether geographical region influenced the results. An ANOVA indicated no significant differences between region and the use of systematic interventions tried before, or as part of, the screening or assessment of ADHD, $F(4,254) = .80, p>.05$. Another question was whether regions would differ in relation to whether systematic interventions were conducted as part of the treatment of ADHD. This question resulted in a median of 60% of the cases. An ANOVA indicated that there were no significant findings between geographic region and the use of systematic interventions that were part of treatment in the school psychologist’s district, $F(4,252) = .23, p>.05$.

Hypothesis 3: Medication Monitoring

The next hypothesis stated that regions of the country will differ in whether the school psychologist monitors the side effects of medication given for ADHD. Respondents were asked to answer two questions regarding the monitoring of medication given for ADHD. Again, the respondents marked an “X” on a line, that ranged from 0 to 100, to indicate the percentage of cases that best reflected their own practices. The respondents were questioned as to whether anyone was involved in the monitoring of medication for ADHD students and they indicated school personnel often assisted in monitoring the effects of medication given for ADHD (median = 60%). However, school psychologists reported they were not as likely to assist in monitoring the effects of medication (median = 20%) as were other school personnel. No significant differences were found between region and whether school psychologists assisted in the monitoring of medication given for
ADHD, \(F(4,254) = 2.21, p>.05\), or whether or not school personnel assisted in monitoring of medication given for ADHD, \(F(4,254) = .92, p>.05\).

**Hypothesis 4: Assessment Practices**

The hypothesis was that practices for identifying ADHD vary greatly among geographic regions of the country. The percentage of students for which school psychologists used various assessment and screening instruments was determined by having the respondents place an “X” on a line ranging from 0-100% usage. The respondents were again asked to indicate the percentage that best reflected how much they used the screening/assessment activities in their current practice. Results of respondents’ median usage of ADHD screening/assessment activities can be found in Table 4. These results indicate that all of the assessment methods listed on the survey except computer vigilance, projective, and neuropsychological tests yielded a median of at least 60% usage. One-way ANOVAs were calculated by geographical region. The findings indicated that there was a significant difference between geographical region and frequency of usage of behavior rating scales, \(F(4,245) = 3.1, p<.05\). A post-hoc least significant difference test showed that the southeast, west central, and western regions use behavior rating scales significantly more that the northeast region. There were no significant findings for the usage of the rest of the assessment methods by geographical region.

The mean usage and standard deviations of the assessment and screening devices in each region can be found in Table 5. These results further indicate that behavior rating scales and teacher interviews were used the most in the respondents’ assessments. Informal observations and parent interviews were also used quite often. Methods such as computer vigilance tests, projective tests, and neuropsychological tests were very rare.
Table 4

Median Percentages for the Use of ADHD Screening/Assessment Activities

<table>
<thead>
<tr>
<th>Assessment Activities</th>
<th>NE</th>
<th>SE</th>
<th>NC</th>
<th>WC</th>
<th>WS</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Informal Observation</td>
<td>100</td>
<td>90</td>
<td>100</td>
<td>90</td>
<td>90</td>
<td>97.5</td>
</tr>
<tr>
<td>Systematic Observation</td>
<td>50</td>
<td>50</td>
<td>55</td>
<td>55</td>
<td>65</td>
<td>60</td>
</tr>
<tr>
<td>Parent Interview</td>
<td>85</td>
<td>100</td>
<td>90</td>
<td>90</td>
<td></td>
<td>92.5</td>
</tr>
<tr>
<td>Teacher Interview</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
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<tr>
<td>Child Interview</td>
<td>90</td>
<td>80</td>
<td>65</td>
<td>65</td>
<td>85</td>
<td>80</td>
</tr>
<tr>
<td>Behavior Rating Scales</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
</tr>
<tr>
<td>Behavior during standardized testing</td>
<td>90</td>
<td>100</td>
<td>70</td>
<td>90</td>
<td>95</td>
<td>90</td>
</tr>
<tr>
<td>Pattern Analysis</td>
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<td>30</td>
<td>55</td>
<td>55</td>
<td>60</td>
</tr>
<tr>
<td>Computer Vigilance Test</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Projective Test</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>DSM-IV Criteria</td>
<td>85</td>
<td>100</td>
<td>87.5</td>
<td>55</td>
<td>80</td>
<td>80</td>
</tr>
<tr>
<td>Neuropsychological Test</td>
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<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

*NE=Northeast, SE=Southeast, NC=North Central, WC=West Central, and WS=Western
# Table 5

**Means and Standard Deviations for the Use of ADHD Screening/Assessment Activities**

<table>
<thead>
<tr>
<th>Assessment Activities</th>
<th>NE</th>
<th>SE</th>
<th>NC</th>
<th>WC</th>
<th>WS</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Informal Observation</td>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>M</td>
<td>79.2</td>
<td>69.6</td>
<td>87.9</td>
<td>78.4</td>
<td>79.4</td>
<td>77.8</td>
</tr>
<tr>
<td>SD</td>
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<td>36.2</td>
<td>19.3</td>
<td>29.5</td>
<td>27.9</td>
<td>30.2</td>
</tr>
<tr>
<td>Systematic Observation</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>M</td>
<td>53.2</td>
<td>49.9</td>
<td>61.6</td>
<td>56.0</td>
<td>57.5</td>
<td>54.6</td>
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<td>41.8</td>
<td>38.8</td>
<td>39.9</td>
</tr>
<tr>
<td>Parent Interview</td>
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<td>M</td>
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<td>71.5</td>
<td>77.8</td>
<td>75.5</td>
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<td>19.0</td>
<td>34.7</td>
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<td>31.1</td>
</tr>
<tr>
<td>Teacher Interview</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>M</td>
<td>91.7</td>
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<td>89.6</td>
<td>92.4</td>
<td>91.7</td>
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<td>18.3</td>
<td>16.3</td>
<td>18.1</td>
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<td>M</td>
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<td>69.9</td>
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</table>

*(table continues)*
Table 5 (continued)

<table>
<thead>
<tr>
<th>Assessment Activities</th>
<th>NE</th>
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<th>NC</th>
<th>WC</th>
<th>WS</th>
<th>Total</th>
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<tbody>
<tr>
<td>Behavior during standardized testing</td>
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<td>Pattern Analysis</td>
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<td>64.9</td>
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<td>Projective Test</td>
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<td>19.9</td>
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<td>DSM-IV Criteria</td>
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<td></td>
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<td>66.5</td>
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<td>65.2</td>
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<td><strong>SD</strong></td>
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<td>18.1</td>
<td>34.0</td>
<td>32.6</td>
<td>33.1</td>
</tr>
</tbody>
</table>

*NE=Northeast, SE=Southeast, NC=North Central, WC=West Central, and WS=Western
Hypothesis 5: Systematic Interventions with Years of Experience

The hypothesis stated that years of experience of the respondents will differ in relation to whether they conduct systematic interventions before, or as part of, the assessment or treatment of ADHD. To determine if the use of interventions was related to school psychologists' years of experience, a Pearson product moment correlation was conducted; there were no significant correlations between the respondents' years of experience and whether they conducted pre-interventions (r=.12, p>.05) or treatment interventions (r=.09, p>.05). Refer to Table 6 for results.

Hypothesis 6: Medication Monitoring with Years of Experience

The hypothesis stated that respondent’s years of experience will differ in relation to whether the school psychologist or other school personnel assist in monitoring the side effects of medication given for ADHD. A Pearson product moment correlation was calculated, and no significant correlation was found between years of experience and the school psychologist’s role in monitoring of medication (r=.12, p>.05). Also, a nonsignificant correlation was found between years of experience and whether other school personnel assisted in the monitoring of medication (r=.03, p>.05). Refer to Table 6 for results.
Table 6

Intercorrelations Between Years of Experience and Systematic Interventions/Medication Monitoring

<table>
<thead>
<tr>
<th>Involvement Questions</th>
<th>Correlation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Systematic interventions are tried before, or as part of, screening/assessment of ADHD.</td>
<td>.12</td>
</tr>
<tr>
<td>Systematic interventions are part of the treatment of ADHD in my district.</td>
<td>.09</td>
</tr>
<tr>
<td>A school psychologist assists in monitoring the effects of medication given for ADHD.</td>
<td>.12</td>
</tr>
<tr>
<td>Other school personnel assist in monitoring the effects of medication given for ADHD.</td>
<td>.03</td>
</tr>
</tbody>
</table>

Note. No significant correlations were found.

Other Issues Addressed in the Survey Questionnaire

Involvement with ADHD. Participants were asked about their personal involvement with ADHD screening and assessment. School psychologists’ involvement with ADHD was determined by asking the respondents to specify the number of children they evaluated with regard to ADHD and what types of services were provided to those children. Practically all school psychologists who responded to the survey (89.1%) were involved in ADHD evaluations. Only 29 respondents (10.9%) indicated they did not evaluate any students for ADHD in the past year or left the question blank. The number of ADHD screenings or evaluations conducted during the last school year ranged from 0 to 170 with a median of 10. The “170” response was an extreme outlier; the next highest
number of evaluations was 51. Of the children evaluated for ADHD, a median of 4.5 children received special education services and a median of 2 received services under Section 504.

**Personal Views.** Participants completed a survey that contained questions about their personal views on five different areas. Survey questions covered issues about the assessment of ADHD, school input on ADHD cases, diagnosis of ADHD, medication concerns, and preschool identification of ADHD. These questions were evaluated on a 5-point Likert scale 1 (strongly disagree), 2 (disagree), 3 (neutral), 4 (agree), and 5 (strongly agree). The mean ratings for the personal views for each region and for the overall sample are presented in Table 7. Overall, school psychologists strongly agreed they should be involved in the assessment of ADHD and that input from schools is important in such decisions. These professionals, however, “agree” that too many children are being classified as ADHD and that medication is helpful in the treatment of ADHD. The responses to the last question addressed whether it is appropriate to identify preschool-age children as having ADHD. School psychologists indicated that they are essentially neutral regarding this issue. An analysis of variance indicated that there were no significant differences among geographic regions of the respondents and their personal views on various issues.

**Screening/assessment instruments.** Subjects reported using specific instruments in the screening and assessment of children with ADHD. These were determined by asking each of the respondents to list the two assessment instruments they used most often for
Table 7

Means Ratings and Standard Deviations of Personal Views by Region

<table>
<thead>
<tr>
<th>Statement</th>
<th>NE</th>
<th>SE</th>
<th>NC</th>
<th>WC</th>
<th>WS</th>
<th>Total Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>School psychologists should be involved the assessment of ADHD.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>M</td>
<td>4.55</td>
<td>4.48</td>
<td>4.38</td>
<td>4.49</td>
<td>4.67</td>
<td>4.53</td>
</tr>
<tr>
<td>SD</td>
<td>0.77</td>
<td>0.89</td>
<td>1.17</td>
<td>0.72</td>
<td>0.71</td>
<td>0.82</td>
</tr>
<tr>
<td>Input from schools is important in the assessment of ADHD.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>M</td>
<td>4.83</td>
<td>4.75</td>
<td>4.79</td>
<td>4.82</td>
<td>4.73</td>
<td>4.79</td>
</tr>
<tr>
<td>SD</td>
<td>0.66</td>
<td>0.72</td>
<td>0.83</td>
<td>0.47</td>
<td>0.69</td>
<td>0.66</td>
</tr>
<tr>
<td>Too many children are being classified as having ADHD.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>M</td>
<td>3.80</td>
<td>4.00</td>
<td>4.25</td>
<td>4.03</td>
<td>4.11</td>
<td>3.99</td>
</tr>
<tr>
<td>SD</td>
<td>0.98</td>
<td>0.95</td>
<td>0.85</td>
<td>0.97</td>
<td>1.03</td>
<td>0.97</td>
</tr>
<tr>
<td>Medication is helpful in the treatment of ADHD.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>M</td>
<td>4.24</td>
<td>4.29</td>
<td>4.22</td>
<td>4.25</td>
<td>4.13</td>
<td>4.23</td>
</tr>
<tr>
<td>SD</td>
<td>0.77</td>
<td>0.87</td>
<td>0.95</td>
<td>0.70</td>
<td>0.69</td>
<td>0.78</td>
</tr>
<tr>
<td>It is appropriate to identify preschool-age children as having ADHD.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>M</td>
<td>2.86</td>
<td>2.93</td>
<td>3.20</td>
<td>3.15</td>
<td>2.98</td>
<td>2.99</td>
</tr>
<tr>
<td>SD</td>
<td>1.09</td>
<td>1.08</td>
<td>1.10</td>
<td>0.99</td>
<td>1.06</td>
<td>1.06</td>
</tr>
</tbody>
</table>

Note. NE=Northeast, SE=Southeast, NC=North Central, WC=West Central, and WS=Western
each of the following categories: behavior rating scales, computer vigilance tests, projective tests, and neuropsychological tests.

Frequencies and percentages of usage of these scales and tests can be found in Tables 8-11. The analysis of the responses indicated that most of the school psychology respondents use behavior rating scales, but few use the other assessment measures. It was found that the Conners’ Rating Scale (Conners, 1989) was the most commonly used behavior rating scale. The computer vigilance test used the most was the Conners’ Continuous Performance Test (Conners, 1995). However, the computer vigilance tests were rarely used by school psychologists in the sample. Only one neuropsychological test, the Bender Visual Motor Gestalt test (Bender, 1938), was primarily used. It should be stressed, however, the neuropsychological tests were also not commonly used by the respondents. Projective measures were used relatively infrequently; the Draw-a-Person Screening Procedure for Emotional Disturbance (Naglieri, 1991) was the projective test used most often when a projective test was used.
Table 8

**Frequencies and Percentages of Behavior Rating Scale Usage**

<table>
<thead>
<tr>
<th>Behavior Rating Scale</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Conners' Rating Scale</td>
<td>125</td>
<td>52.5</td>
</tr>
<tr>
<td>Achenbach Child Behavior Checklist</td>
<td>91</td>
<td>38.2</td>
</tr>
<tr>
<td>Attention Deficit Disorder Eval. Scale</td>
<td>75</td>
<td>31.5</td>
</tr>
<tr>
<td>Behavior Assessment System for Children</td>
<td>47</td>
<td>19.7</td>
</tr>
<tr>
<td>ADD-H Comprehensive Teacher's Rating Scale</td>
<td>17</td>
<td>7.1</td>
</tr>
<tr>
<td>Behavior Evaluation Scale</td>
<td>12</td>
<td>5.0</td>
</tr>
<tr>
<td>Burk's Behavior Rating Scale</td>
<td>9</td>
<td>3.8</td>
</tr>
<tr>
<td>Barkley's Home/School Questionnaire</td>
<td>6</td>
<td>2.5</td>
</tr>
</tbody>
</table>

*a* Scales with a percentage of use less than one percent were not included in this table. There were 18 scales that met this criteria.

*b* There were 238 responses to this question. Of those, 165 listed two behavior rating scales and 73 only listed one. Thus, percentages add to more than 100.

Table 9

**Frequencies and Percentages of Computer Vigilance Test Usage**

<table>
<thead>
<tr>
<th>Computer Vigilance Test</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Conners' Continuous Performance Test</td>
<td>7</td>
<td>58.3</td>
</tr>
<tr>
<td>Tests of Variable Attention</td>
<td>3</td>
<td>23.1</td>
</tr>
<tr>
<td>Gordon System</td>
<td>2</td>
<td>15.4</td>
</tr>
<tr>
<td>Visual and Auditory Computer Perf. Test</td>
<td>1</td>
<td>7.7</td>
</tr>
</tbody>
</table>

*a* There were 12 responses to this question. Of those, one listed two computer vigilance tests and 11 listed only one.
Table 10

Frequencies and Percentages of Neuropsychological Test Usage

<table>
<thead>
<tr>
<th>Neuropsychological Test</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bender Visual Motor Gestalt Test</td>
<td>60</td>
<td>73.1</td>
</tr>
<tr>
<td>Visual Motor Integration Test</td>
<td>10</td>
<td>12.2</td>
</tr>
<tr>
<td>Wechsler Scales of Intelligence - 3rd ed.</td>
<td>7</td>
<td>8.5</td>
</tr>
<tr>
<td>Quick Neurological Screening Test</td>
<td>6</td>
<td>7.3</td>
</tr>
<tr>
<td>Halstead-Reitan Neurological Test</td>
<td>6</td>
<td>7.3</td>
</tr>
</tbody>
</table>

a Scales with a percentage of usage less than five percent of the time were not included in this table. There were 14 tests that met this criteria.

b There were 82 responses to this question. Of those, 27 listed two neuropsychological tests and 55 listed only one. Thus, percentages add to more than 100.
Table 11

Frequencies and Percentages of Projective Test Usage

<table>
<thead>
<tr>
<th>Projective Test</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Draw-a-Person Test</td>
<td>27</td>
<td>28.1</td>
</tr>
<tr>
<td>Robert's Apperception Test for Children</td>
<td>21</td>
<td>21.8</td>
</tr>
<tr>
<td>House-Tree-Person Test</td>
<td>21</td>
<td>21.8</td>
</tr>
<tr>
<td>Thematic Apperception Test</td>
<td>20</td>
<td>20.8</td>
</tr>
<tr>
<td>Sentence Completion</td>
<td>16</td>
<td>16.7</td>
</tr>
<tr>
<td>Kinetic Drawings</td>
<td>11</td>
<td>11.5</td>
</tr>
<tr>
<td>Human Figure Drawing</td>
<td>9</td>
<td>9.3</td>
</tr>
<tr>
<td>Rorschach</td>
<td>8</td>
<td>8.3</td>
</tr>
</tbody>
</table>

*a Scales with a percentage of usage less than five percent of the time were not included in this table. There were 11 tests that met this criteria.

*b There were 96 responses to this question. Of those, 64 listed two projective tests and listed only one. Thus, percentages add to more than 100.
Discussion

NASP practitioners were surveyed to obtain information about their ADHD assessment practices. A relatively high return rate was achieved, especially in relation to previously published NASP surveys which had return rates as low as 33% (e.g., Costenbader et al., 1992). This sample appeared to be representative based on factors such as gender, degree, and geographic region. In general, it was found that practically all (89.1%) school psychologists are involved in ADHD evaluations.

Written Procedures

It was found that the southeast region of the country differs from the other geographical regions in whether or not they have written procedures for screening or assessing ADHD. This finding appears compatible with Smith’s (1984) findings. His results indicated that the southeast is more assessment-oriented. The southeast could have more written procedures for the assessment of ADHD because they are more assessment-minded than the other geographic regions.

Over half of the respondents indicated that they did not have any written ADHD procedures in their school or agency. These indications mean that many school psychologists do not work in places where there are specific written procedures for assessing ADHD. This finding is an interesting one since children with ADHD can qualify for special services in the schools under IDEA or Section 504. Specific methods for assessing ADHD would help school psychologists with their evaluations. The literature
indicates the importance of a multi-method approach to ADHD even if specific assessment tools to use in the screening or assessment of ADHD are not specified (Barkley, 1997). Having no procedures for ADHD assessment may result in overclassification, underclassification or misidentification of children with ADHD. A best practices approach would make the assessment procedures more explicit and provide examples of specific assessment tools that are considered appropriate.

**Systematic Interventions**

Results showed that the different geographic regions did not relate to the psychologists’ use of systematic interventions in the assessment or treatment of ADHD. Systematic interventions were used, in conjunction with the assessment or treatment of ADHD, roughly half of the time. This finding is a discouraging one due to the emphasis in the literature about the importance of providing behavioral treatments. Systematic interventions used prior to assessment for ADHD may actually prevent the unnecessary referral process by targeting the behavior of concern and finding appropriate interventions within the school and home environments. This prereferral process is often conducted prior to a initiation of a full referral to help eliminate an unwarranted referral. Further, systematic interventions should be part of the treatment of ADHD. Medication can be helpful, but cognitive-behavioral interventions can benefit the student by teaching and reinforcing appropriate behaviors (Barkley, 1990).

**Medication Monitoring**

No significant findings were indicated for geographic region of the respondent and the monitoring of ADHD medication. In addition, the monitoring of the behavioral effects of medication occurs less than half of the time in school psychologists’ practices. School
personnel, other than school psychologists, appeared to take a more active role in this process. Collaboration between medical and school personnel is important in treating ADHD. If a school system did not have personnel that understood how to monitor medication effects, then the school psychologist could assist in fulfilling this role by setting up a system to monitor the behavioral effects of the ADHD medication. It is important for school psychologists to be aware of the side effects and consequences of medications used to treat ADHD.

**Assessment Practices**

Most all of the assessment tools mentioned on the survey were used by school psychologists at least 60% of the time. The most used methods were informal observations, parent interviews, teacher interviews, behavior rating scales, and observing behavior during standardized testing. These methods were all used a median of 90% of the time for the sample as a whole. This percentage is somewhat encouraging because observations, interviews, and behavior rating scales all are appropriate assessment tools as noted within the ADHD literature (e.g., Barkley, 1990; Burcham & DeMers, 1995).

However, the respondents reported using informal observations much more than systematic observations. Informal observations have disadvantages. Often they are simply anecdotal in nature and do not provide quantitative information on the intensity, frequency or duration of behavior as would systematic observations. Furthermore, behavior during standardized testing should be relied on less because children with ADHD tend to behave differently when one-on-one in a novel setting with novel tasks (Barkley, 1990).

Methods that were used at least 75% of the time were child interviews and the DSM-IV criteria. Child interviews have disadvantages due to children often not perceiving
themselves as other adults do. However, obtaining the child’s perception of a situation can enable a psychologist to determine what assessments and interventions will be the most beneficial. The use of DSM-IV criteria most likely serves to supplement state special education guidelines, if they are available. The DSM-IV is more specific, in most cases, than state regulations and can serve as a more strict framework. However, school psychologists must ultimately determine whether the child meets educational guidelines because not all DSM-IV diagnosed children may require special services at school.

Methods used at least 50% of the time are systematic observations and pattern analysis. This finding is more discouraging. Systematic observations should be used more often to document precisely what behaviors are occurring and why. Systematic observation systems can be more time-consuming than informal observations and, possibly, that is why they are not used as often. Further, the use of pattern analysis such as the Freedom from Distractibility scale on the WISC-III is not recommended. There is controversy over whether it is a valid procedure for discriminating between children with and without ADHD (Burcham & DeMers, 1995). Further research is needed to evaluate this method for assessing ADHD.

Finally, methods that are used less than 50% of the time are computer vigilance tests, projective measures, and neuropsychological tests. Computer vigilance tests are often expensive, and school psychologists may not have the resources to purchase them. Further, there is considerable doubt as to whether these tests accurately measure what they purport to measure. Also, projective measures are not recommended. They are better used to assess emotional disturbances. If a referral did not have these concerns, then using a projective measure could be seen as unnecessary. Finally, neuropsychological tests can
also be expensive, and some require advanced technology that is not usually available to school psychologists. The study of neuropsychology is probably beyond the scope and training of most school psychologists and may be better assessed by a neuropsychologist.

A statistically significant result was found regarding the use of behavior rating scales across the different geographical regions. The analysis indicated that the northeast region used this method significantly less than the southeast, west central, or western regions. This result may be due to a statistical artifact or perhaps to a different theoretical framework. The northeast region of the country stereotypically is viewed as more psychodynamic. Rating scales that focus on behavior may be used less with such an orientation.

Years of Experience of the Respondent

Results indicated that respondents’ number of years of experience had no significant impact on whether school psychologists used systematic interventions or monitored effects of ADHD medication. Thus, “novice” school psychologists do not appear to differ in these practices from more experienced school psychologists as is evident from the lack of differences in ADHD assessment based on years of experience of the practitioner.

Personal Views

Because school psychologists report being involved in ADHD assessment, it is appropriate to ascertain their views on a variety of issues related to ADHD. The school psychologists agreed that they should be involved in ADHD assessment and that input from schools is important in the assessment of ADHD. Such findings do reflect recommended best practices. School psychologists, with their psychological and
educational training, are in a prime position to be involved in ADHD assessment. Furthermore, the DSM-IV (APA, 1994) requires the evaluation of suspected ADHD behaviors in at least two settings, which usually includes the school setting.

The practitioners surveyed also indicated a belief that medication is helpful in the treatment of ADHD. The respondents, however, believe that too many children are being classified as having ADHD. The pharmacological treatment of children is controversial. Research indicates that Ritalin, the most commonly prescribed medication for children with ADHD, has greatly increased in use (Barkley, 1997). The school psychologists surveyed in the study demonstrate the crux of the problem. Medications such as Ritalin can help children with ADHD. Yet, too many children are being identified as ADHD and may be unnecessarily placed on medications.

An interesting finding is that the respondents seemed less sure of whether it was appropriate to identify preschool-age children as having ADHD. The reason for this finding could be that they believe, as stated above, too many children are being classified as ADHD and classifying at a preschool-age is premature. Or, this finding may simply reflect that there is a limited amount of research in regard to preschool ADHD assessment. The behavioral diagnosis of ADHD is tricky enough in middle childhood. It is even more difficult at the preschool age where such children are naturally very active.

Screening/Assessment Instruments

Various assessment tools were reported to be used in the assessment of ADHD. As previously noted, while behavior rating scales were commonly used and are recommended for use in the assessment of ADHD, the technical adequacy of the rating scale most commonly used by school psychologists has its flaws (Barkley, 1990).
Specifically, the Conners’ Rating Scale (Conners, 1989) was used most frequently in the assessment process. The Conners’ Rating Scale, however, has been criticized for its poor standardization. The critique of the Conners’ Rating Scales in Buros’ Eleventh Mental Measurements Handbook (Martens & Oehler-Stinnet, 1989) says that three of the four scales have questionable sample representativeness because they were collected from a single metropolitan area of almost exclusively white children. The Conners’ Rating Scales were further criticized for their use of norms from the late 1970s. However, the Conners’ Rating Scale-Revised (CRS-R) has just been developed and the normative data is greatly improved (Conners, 1997). Normative data for the revised version comes from a large sample of children and adolescents across the United States and Canada. The parent and teacher versions have normative data from more than 2,000 participants. Also, items have been added that match the DSM-IV criteria for ADHD.

The computer vigilance test, most commonly reported being used, was the Conners’ Continuous Performance Test (CCPT). However, the use of computer vigilance tests in assessment of ADHD is rare, according to the respondents. It is important to note that the CCPT may be sensitive to drug treatment in children but that professionals should not assume that it accurately measures sustained attention (Conners, 1995).

Neuropsychological and projective assessment tools were reported as being used, but not very often by school psychologists. Of neuropsychological tests being used in ADHD assessment, the Bender Visual Motor Gestalt test was the most often cited (Bender, 1938). Lower scores may be expected for children with hyperactivity on the Bender Visual Motor Gestalt test due to their inability to maintain attention and focus on a single task (Sattler, 1992). Overall, however, respondents did not indicate that they used
neuropsychological tests often. This reason could be that they are not comfortable administering and/or interpreting them. Many school psychologists probably do not have the expertise or resources to use such tests. The projective measure most used was the Draw-a-Person: Screening Procedure for Emotional Disturbance (Naglieri, 1991). The author notes that this measure is intended for use as a screening measure to aid in the identification of children and adolescents who may have emotional or behavioral disturbances. Once again these measures were used rarely by the respondents, which in itself is promising since projectives lack empirical and psychometric support for assessing ADHD.

Limitations of Current Study

Various limitations can be found within the current study. These findings can only be generalized only to the population of NASP members. It is unknown whether ADHD assessment practices vary between non-NASP and NASP members. Also, the responses on the survey came from the professionals’ own perceptions of how they assess ADHD and not actual observations of their behavior. This survey requested that they estimate how often they used certain measures. Therefore, the data would not be as precise as if they had researched their files to determine their exact frequency. Further, determining whether school psychologists were using a multimethod approach to the assessment of ADHD would have been more evident if the respondents had been asked to identify what assessment methods they used on their last few ADHD referrals.

Future Directions

These results indicate that there is still work to be completed in the area of ADHD assessment. Professionals need to closely examine their own techniques in relation to what
has been recommended in the research. In focusing more on the recommended practices, the view that too many children are being classified as ADHD should decrease. Professionals also need to look more at the reason why the child was referred for evaluation and not so much on giving a standard battery of tests to every ADHD child. Each child is individual and may require some modifications within the assessment process. This approach may also enable professionals to avoid labeling as ADHD children who, in reality, have another disorder or do not fit the criteria. Finally, professionals need to spend more time aiding in the development of systematic interventions both prior to and during treatment of ADHD.

These results also have many implications for researchers. Previous research on school psychologists' ADHD assessment practices on a national scale is apparently nonexistent. Thus, this study provides important information on current practices. The area of preschool-age ADHD assessment needs to be examined to see whether it is appropriate and, if so, with what assessment practices. Further, research needs to be ongoing to continually evaluate new assessment tools to determine that they are psychometrically sound for assessing children for ADHD. Also, there is a research need regarding interventions for ADHD. More studies should be conducted to evaluate the effectiveness of various interventions and to specifically examine effectiveness for children of different ages, gender, and co-morbid conditions.

In sum, the national ADHD practices of school psychologists are not as diverse as thought previously. However, improvement in the assessment of ADHD is still needed. School psychologists and school psychology trainers need to focus more on using the assessment methods mentioned above such as interviews, rating scales, and systematic
observations, and rely less on methods such as behavior during standardized testing, projectives, and pattern analysis. With regard to interventions, more monitoring of the behavioral effects of medication needs to be done and more systematic interventions need to be implemented. Overall, the knowledge of ADHD and its treatments has increased over the last decade, and the continuing research and applied efforts may further the understanding of this disorder for parents, teachers, and other professionals.
References


APPENDIX A

SURVEY INSTRUMENT
ATTENTION-DEFICIT HYPERACTIVITY DISORDER
SCREENING/ASSESSMENT QUESTIONNAIRE

I. Descriptive Information: (circle the appropriate category and fill in the blank)

Gender: Female Male

Highest Degree: Masters/Masters + 30 Specialist Doctorate

Years of Experience as a school psychologist: ________________

Settings in which you work: (check all that apply) Preschool ____ Elementary ____
Middle/Junior High ____ High School ____ Other ____—please describe: ________________

II. Personal Views. Using the following scale, circle the number for each of the next five statements that best represents your views: (1=Strongly Disagree; 2=Disagree; 3=Neutral; 4=Agree; 5=Strongly Agree)

1. School psychologists should be involved in the assessment of ADHD. 1 2 3 4 5
2. Input from schools is important in the diagnosis of ADHD. 1 2 3 4 5
3. Too many children are being classified as having ADHD. 1 2 3 4 5
4. Medication is helpful in the treatment of ADHD. 1 2 3 4 5
5. It is appropriate to identify preschool-age children as having ADHD. 1 2 3 4 5

III. Involvement with ADHD

How many ADHD screenings/evaluations did you conduct during the past school year? ________________

Of those ADHD screenings/evaluations you conducted, how many received services under:
Section 504 ________ IDEA/Special Education ________ Other ________

The school/agency I work for has written procedures for screening or assessing students with ADHD.

YES NO DON'T KNOW

On each line below, mark an "X" to indicate the percentage of cases where it best reflects practices in your school(s). For example, if interventions are tried for half of the students with ADHD, you would mark the line like this:

Systematic interventions are tried before, or as part of, screening/assessment of ADHD.

0 20 40 60 80 100

Systematic interventions are part of the treatment of ADHD in my district.

0 20 40 60 80 100

A school psychologist assists in monitoring the effects of medication given for ADHD.

0 20 40 60 80 100

Other school personnel assist in monitoring the effects of medication given for ADHD. 0 20 40 60 80 100
IV. Screening/Assessment Activities

On each line below, mark an "X" where it reflects the percentage of students for which you used each of the assessment methods when screening or assessing for ADHD. For example, if you assessed 10 students and you conducted an informal observation for 8 of those students, you would put a mark at 80%. Definitions and/or examples of each method are listed on the back of the cover letter.

<table>
<thead>
<tr>
<th>Method</th>
<th>0</th>
<th>20</th>
<th>40</th>
<th>60</th>
<th>80</th>
<th>100</th>
</tr>
</thead>
<tbody>
<tr>
<td>Informal Observation</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Systematic Observation</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Parent Interview</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Teacher Interview</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Child Interview</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Behavior Rating Scales</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Behavior during standardized testing</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pattern analysis (e.g., Freedom from Distractibility Scale) on intelligence test.</td>
<td></td>
<td></td>
<td></td>
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<td>Computer Vigilance Test</td>
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<td>Projective Test</td>
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<td>DSM-IV criteria</td>
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<td>Neuropsych Test</td>
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<td>Other. Specify below:</td>
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V. Assessment Instruments

Please list which assessment instruments, if any, you use in the screening or assessment of ADHD. If you use several instruments for any category, list the two you use most often.

Behavior Rating Scales: ____________________________
Computer Vigilance Tests: ____________________________
Projective Tests: ____________________________
Neuropsych Tests: ____________________________

Thank you for taking the time to complete this. We really appreciate it!
APPENDIX B

COVER LETTER

AND

LIST OF DEFINITIONS
June 5, 1996

Dear Colleague,

As you wind down another school year, we hope you will take just a few minutes out of your hectic end-of-the-year schedule to complete the enclosed survey. As you know, many school districts are now providing services to children with Attention Deficit/Hyperactivity Disorder (AD/HD) either through special education (e.g., "Other Health Impaired") or through Section 504.

The enclosed survey addresses questions about school psychologists' roles with children with AD/HD. In particular, we're interested in the extent to which school psychologists are involved in the screening or assessment of children suspected of having AD/HD and what methods are being used as part of that screening or assessment.

Your name was randomly selected as part of a small sample of Nationally Certified School Psychologists. The survey is limited to the front and back of one page and should only take a few minutes to complete. A stamped, addressed envelope is included for your convenience. Please call us if you have any questions. (Should you choose not to participate, please indicate such on the survey and return it to avoid follow-up requests.)

We hope to present the results of this survey at the 1997 NASP convention. However, if you would like a copy of the results mailed to you, please fill out the form at the bottom of the page and include it with your survey. Your name will be kept separate from the survey. Furthermore, please be assured that your responses will be kept confidential. The code number on the survey is only for the purpose of follow-up mailings.

Thank you for your help!

Sincerely,

Donna Ridenour, B.S.
School Psychology Graduate Student

Carl Myers, Ph.D.
Assistant Professor

If you would like the results of this survey, please detach this form, list your name and mailing address and either include it with the survey or mail it in a separate envelope. Thank you!
DEFINITIONS FOR SURVEY

Informal observation - observing a student while taking anecdotal notes or a narrative recording of behaviors.

Systematic observation - observing a student using systematic recording methods (e.g. interval, frequency, duration) to obtain data on the student's behaviors.

Parent interview - interviewing the parent to obtain information about the student.

Teacher interview - interviewing the teacher to obtain information about the student.

Child interview - interviewing the student to obtain their perceptions.

Behavior rating scales - any standardized behavior rating scale.

Behavior during standardized testing - observing a child during testing to see if there are signs of inattention, impulsivity, and/or hyperactivity.

Pattern analysis - examining the subtests on an intelligence scale for diagnostic information.

Computer vigilance tests - examples include Continuous Performance Test and Matching Familiar Figures Test

Projective test - examples include the Rorschach Inkblot Test, Thematic Apperception Test, and Draw-a-Person Test.

DSM-IV criteria - a checklist of the DSM-IV criteria to assess the presence or absence of ADHD-related behaviors.

Neuropsychological test - examples include the Bender Visual Motor Gestalt Test and the Halstead-Reitan Neuropsychological Battery.

Other - If there is another technique you use, please write it in the blank provided.
APPENDIX C

FOLLOW-UP LETTER
July 22, 1996

Dear Colleague,

Hi! We hope you are enjoying your summer (which seems to be flying by, as usual).

We're interrupting your summer for something that should only take a few minutes. (Visualize us begging.) There is a follow-up survey enclosed which is the same as one sent to you previously. So far, we have a little over 50% for a return rate. While pleased with that, WE REALLY WANT YOUR INPUT.

We have limited the survey to the front and back of one page so it should only take a few minutes to complete. A stamped, addressed envelope is included for your convenience. Please call us if you have any questions. (Should you choose not to participate, please indicate such on the survey and return it anyway. Thanks!)

We hope to present the results of this survey at the 1997 NASP convention. However, if you would like a copy of the results mailed to you, please fill out the form at the bottom of the page and include it with your survey or mail it separately. Your name will be kept separate from the survey. Please be assured that your responses will be kept confidential. The code number on the survey is only for the purpose of follow-up mailings.

Thank you for your help!

Sincerely,

Donna Ridenour, B.S.
School Psychology Graduate Student

Carl Myers, Ph.D.
Assistant Professor of Psychology

If you would like the results of this survey, please detach this form, list your name and mailing address and either include it with the survey or mail it in a separate envelope. Thank you!

The Spirit Makes the Master
APPENDIX D

HUMAN SUBJECTS BOARD APPROVAL
April 22, 1996

Donna Ridenour  
Graduate Student  
Department of Psychology  
Western Kentucky University  

Dear Ms. Ridenour:

Your research topic "The Assessment of Attention Deficit/Hyperactivity Disorder: A National Survey of School Psychology," has undergone review by the Western Kentucky University IRB for human subjects of research and it has been determined that risks to subjects are: (1) minimized and reasonable; and that (2) research procedures are consistent with a sound research design and do not expose the subjects to unnecessary risk.

Reviewers determined that: (1) benefits to subjects are considered along with the importance of the topic and that outcomes are reasonable; (2) selection of subjects is equitable; and (3) the purposes of the research and the research setting is amenable to subjects' welfare and producing desired outcomes; that indications of coercion or prejudice are absent, and that participation is clearly voluntary.

In addition, the IRB found that: (1) informed consent will be sought and documented from each prospective subject; (2) provision is made for collecting, using and storing data in a manner that protects the safety and privacy of the subjects and the confidentiality of the data; and (3) that appropriate safeguards are included to protect the rights and welfare of the subjects. Please store all data securely at an on campus location for a minimum of three years.

Your research therefore meets the criteria of expedited review under the institutional human subjects protocol and is approved. Copies of your request for human subjects review, your application, and this approval, are maintained in the Office Sponsored Programs at the above address.

Kindest regards.

Sincerely,

Phillip E. Myers, Ph.D.  
Human Subjects Coordinator  
Human Subjects Committee  

c: Human Subjects File  
Dr. Carl Myers  
Le.K.HeibigHSdeterm