5-2003

Differential Diagnosis of Attention Deficit Hyperactivity Disorder and Depression: Potential Bias and Misdiagnosis

Hollie K. Berglof
Utah State University

DIFFERENTIAL DIAGNOSIS OF ATTENTION DEFICIT HYPERACTIVITY DISORDER AND DEPRESSION: POTENTIAL BIAS AND MISDIAGNOSIS

by

Hollie K. Berglof

A thesis submitted in partial fulfillment
of the requirements for the degree

of

MASTER OF SCIENCE

in

Psychology

Approved:

UTAH STATE UNIVERSITY
Logan, Utah

2003

ABSTRACT

Differential Diagnosis of Attention Deficit Hyperactivity Disorder and Depression: Potential Bias and Misdiagnosis

by

Hollie K. Berglof, Master of Science

Utah State University, 2003

Major Professor: Dr. Gretchen A. Gimpel
Department: Psychology

This study investigated whether psychologists are attempting to distinguish between attention deficit hyperactivity disorder (ADHD) and depression in youth. Findings indicate that, overall, clinicians are conducting comprehensive evaluations and considering ADHD and depression as likely diagnoses. Clinicians were more likely to use self-report depression measures if the client was female or adolescent than if the child was male or school age; however, they were equally likely to incorporate ADHD-related measures with males and females, and 8 year olds and 15 year olds. Clinicians were more likely to consider adolescents than school-age children and females than males to have a mood disorder. Doctoral-level clinicians were more likely to consider a mood disorder and ADHD than master's-level clinicians. Clinicians who had completed a child psychopathology course were more likely to consider ADHD than those who had not

completed such a course. The implications of these findings for child-oriented clinicians are discussed.

(95 pages)

ACKNOWLEDGMENTS

I would like to thank my committee chair and advisor, Dr. Gretchen Gimpel, for her continuous support throughout this project. I am grateful for her patience and her willingness to provide timely and thorough feedback during the completion of countless drafts of this manuscript. I am indebted to Dr. Gimpel for being my mentor over the course of this project and many other endeavors throughout my graduate career. I would also like to thank Dr. Susan Crowley and Dr. Donna Gilbertson for their willingness to serve as committee members. Their valuable insights and suggestions have indeed made this a better project. Thank you to the Women and Gender Research Institute for their generosity in providing funding for this project.

Last, but certainly not least, I would like to thank my family, especially my parents, for their endless support throughout the course of my education. Thank you to both my mother and father for listening when, over the course of this project, I experienced frustrating setbacks that left me highly, but momentarily, discouraged. They have always believed in me and encouraged me to persevere despite the obstacles I encounter along the way. For serving as wonderful role models, for their love, and for their immeasurable generosity and support, I will be forever grateful. Thank you also to my brothers, Chris and Brandon, and sisters, Alison and Katie, for their never-ending love and encouragement. Finally, thank you to my grandmothers, Alice Johnson and Mabel Berglof, whose love and words of wisdom I will forever take with me.

Hollie K. Berglof

CONTENTS

Page

LIST OF TABLES

Table Page

CHAPTER I

INTRODUCTION

Attention deficit hyperactivity disorder (ADHD) is an increasingly recognized developmental disorder that is characterized primarily by attention deficits, impulsivity, and hyperactivity. This disorder has an estimated prevalence of 3% to5% with male:female ratios ranging from 4:1 to 9:1 (American Psychiatric Association, 1994).

Research indicates that referrals relating to assessment of ADHD and diagnoses of ADHD have been on the rise in recent years. Slap-Shelton (1994) estimated that some form of ADHD accounts for 40% of all child referrals to clinics. Within a 6-year time frame (from 1990-1995), a 2.3-fold increase in the rate of office-based physician visits resulting in a diagnosis of ADHD was reported (Robison, Sclar, Skaer, & Galin, 1999). Moreover, pharmacological treatment of ADHD via psychostimulant medication has increased dramatically during the past decade. From 1990 to 1995, the rate of prescriptions of methylphenidate (Ritalin), the most commonly prescribed medication for ADHD, increased by 263% (Robison et al.). In addition, three new medications (Adderall, Concerta, and Strattera) have been approved to treat ADHD in the past 7 years. While the increase in referrals for and diagnoses of ADHD may be partly due to increased recognition of the disorder, it may also be that clinicians are unaware of other disorders that might be mistaken for ADHD due to overlapping symptoms.

Much of the research regarding comorbidity of ADHD focuses on the co-occurrence of the disorder with other externalizing disorders. Conduct disorder has

been found to occur in 30% to 50% of ADHD cases, and at least 35% of individuals with ADHD have a comorbid diagnosis of oppositional defiant disorder (Biederman, Newcorn, & Sprich, 1991). High levels of mood disorders such as major depression, dysthymia, and bipolar disorder have also been reported in children and adolescents with ADHD, although there is less research on the overlap of these disorders with ADHD. According to Biederman et al., ADHD and mood disorders have been found to coexist in 15% to 75% of cases in epidemiological and clinical samples of children and adolescents.

Although previous research has assessed the extent of overlapping symptoms between ADHD and mood and anxiety disorders such as major depression, bipolar disorder, and generalized anxiety disorder (Biederman, Mick, & Faraone, 1997; Milberger, Biederman, Faraone, Murphy, & Tsuang, 1995; Willcutt, Pennington, Chhabildas, Friedman, & Alexander 1999), the vast majority of this literature has focused on bipolar disorder. This research has focused primarily on the manic phase and its distinction from ADHD symptomatology. Overlapping symptoms of manic episodes and ADHD include increased motor activity, distractibility, and difficult sleep patterns. Research suggests, however, that the disorders can be differentiated based on the severity of symptoms or level of impairment (West, McElroy, Strakowski, Keck, & McConnville, 1995).

Considerably less attention has been devoted to the overlap of symptoms between ADHD and major depressive disorder. Depression in children and adolescents has only recently gained attention from researchers and clinicians. Over the past two

decades, myths regarding the impossibility or nonexistence of depression in children have gradually been dispelled, and clinicians are more aware that depression is a valid childhood diagnosis. Prevalence rates for childhood depression range from 1% in prepubertal children to 6% to 8% in adolescents (Kutcher, 1997). Given the significant overlap of symptoms between ADHD and major depressive disorder (e.g., psychomotor agitation, distractibility, difficulty concentrating, sleep problems, low frustration tolerance, and irritability), it is imperative that clinicians presented with these symptoms conduct thorough evaluations to ensure an accurate diagnosis. This is particularly important because treatment indications for ADHD and depression are very distinct. Whereas the treatment of ADHD typically entails parent training in behavior management, classroom behavior management, and/or psychopharmacological therapy via stimulant medication (e.g., methylphenidate), treatment of childhood depression generally involves some form of psychosocial intervention (e.g., cognitive-behavioral therapy), focusing more on an individual's maladaptive thoughts and behaviors (Barkley, 1998; Kazdin & Marciano, 1998). It is important to note that ADHD and depression can coexist, which further emphasizes the importance of accurate assessment, diagnostic, and treatment decisions.

In addition to general concerns regarding differential diagnosis, clinicians should be aware of possible diagnostic biases related to age and gender. Specifically, it is conceivable that professionals may be more inclined to assign a diagnosis of depression to adolescents and females, while more often ascribing a diagnosis of ADHD to younger children and males. Because ADHD is more prevalent in males than

females, there may also be a tendency for diagnostic bias. For example, males are four to nine times more likely to receive a diagnosis of ADHD than are girls. Moreover, male:female ratios range from 4:1 for the predominantly hyperactive-impulsive type to 2:1 for the predominantly inattentive type (American Academy of Child and Adolescent Psychiatry [AACAP], 1997). Therefore, if clinicians are making diagnostic decisions according to the base rates of ADHD, it is likely that some males will be erroneously diagnosed as having the disorder and many females who have it will be overlooked. Conversely, females are generally more likely to receive a diagnosis of depression than are males. Although there is some evidence to suggest that school-age boys have higher rates of depression than girls (Anderson, Williams, McGee, & Silva, 1987; Costello et al., 1988; Rutter, 1986), at the onset of puberty, female:male ratios for major depressive disorder are approximately 5:1 (Kazdin & Marciano, 1998). Thus, the gender differential for rates of depression depends heavily on age. As with ADHD, clinicians who are diagnosing depression based solely on information regarding base rates of the disorder will likely make diagnostic errors, overlooking depression in males and over diagnosing it in females.

Given the extensive overlap of symptoms among ADHD and depression, along with the increased recognition of ADHD, there is considerable potential for misdiagnosis of ADHD in children and adolescents who are experiencing depression. Thus, it is important to investigate the assessment and diagnostic practices employed by professionals responsible for the evaluation and treatment of childhood disorders to ensure the accurate diagnosis and appropriate treatment of childhood disorders.

The purpose of this study was to obtain preliminary information on whether clinical child psychologists and school psychologists are attempting to make a distinction between potential diagnoses of ADHD and major depression when presented with a client with overlapping symptoms of these two disorders. Specifically, the practice patterns of clinicians were examined to determine what types of assessments are being utilized and what diagnoses are considered based on the symptom presentation of a child or adolescent "client." The results of the investigation will assist in educating clinicians regarding potentially inadequate assessment practices and misdiagnosis.

CHAPTER II

REVIEW OF LITERATURE

Introduction

In order to appreciate the research questions that will be investigated, it is necessary to first have a general understanding of ADHD and depression as childhood disorders. Thus, the research literature relating to ADHD and depression, as exhibited in children and adolescents, will be outlined in this review. Information regarding diagnostic criteria, prevalence estimates, gender differences, comorbidity, developmental outcome, and assessment practices associated with each disorder will be reviewed. Finally, in order to evaluate the assessment and diagnostic practices of clinical child psychologists and school psychologists, it will be valuable to review the available research regarding the training of these clinicians. Thus, a brief overview of the issues regarding training standards and guidelines will be provided.

Attention Deficit Hyperactivity Disorder

ADHD is a chronic disorder that begins in early childhood and affects a child's cognitive, social, and school functioning. It is characterized primarily by increased motor activity, impulsivity, and inattention. Secondary behavior problems associated with ADHD often include poor academic performance, conduct problems, and social difficulties (Dunne, 1999). Prevalence estimates of ADHD in school-aged children range from 3% to 5% (American Psychiatric Association, 1994).

According to the *Diagnostic and Statistical Manual of Mental Disorders-IV* (*DSM-IV*; American Psychiatric Association, 1994), at least six of nine symptoms must be present in the categories of inattention or hyperactivity-impulsivity for an individual to receive a diagnosis of ADHD. ADHD is subdivided into three types--predominantly inattentive type (e.g., forgetful, easily distracted, lose things), predominantly hyperactive-impulsive type (e.g., talks excessively, interrupts others, fidgets, or squirms), and combined type (displays both inattentive and hyperactive-impulsive symptoms). Diagnoses are made according to the presence or absence of six or more symptoms in each symptom cluster. In addition to these criteria, symptoms must cause significant impairment for the individual in two settings (e.g., home and school) and persist for at least 6 months. Symptoms must be present before the age of 7 and must be differentiated from developmentally appropriate behaviors. Thus, the severity of the child's behaviors must be significantly greater than that of behaviors exhibited by his or her peers. Furthermore, a diagnosis of ADHD cannot be made if the symptoms occur exclusively in the presence of other disruptive behavior disorders, pervasive developmental disorders, or any other mental disorder.

Gender Differences

There are distinct gender differences in the prevalence of ADHD, with males being far more likely than females to receive a diagnosis of ADHD. Within epidemiological samples of children, male:female ratio estimates range from 3:1 to 4:1 (Barkley, 1996; American Psychiatric Association, 1994). In clinic-referred samples, however, the gender differential rises to 6:1 to 9:1 (Barkley, 1996). Moreover,

male:female ratios range from 4:1 for the predominantly hyperactive-impulsive type to 2:1 for the predominantly inattentive type (AACAP, 1997). Although it is not entirely clear why gender differences exist in the prevalence of ADHD, researchers have hypothesized a number of reasons for the discrepancies. One suggestion is that boys with ADHD are more likely to be referred to clinics than girls, particularly if they have comorbid oppositional defiant disorder or conduct disorder (Barkley, 1996). Although it appears that girls in community samples are less likely than boys to exhibit conduct problems, clinic-referred girls and boys tend to present similar symptoms (Befera & Barkley, 1984; Breen & Barkley, 1988). Thus, it may be the presence of a comorbid externalizing disorder that influences referral patterns and weights clinical samples more heavily with males. Moreover, the predominantly hyperactive-impulsive type of ADHD, which is a more disruptive form of the disorder, is more common in males, and, therefore, may lead to referral bias. Another explanation that has been postulated for the gender differences relates to the fact that the diagnostic criteria for ADHD were developed based on a predominantly male population. Because more males than females generally exhibit more of the behaviors characteristic of ADHD, a higher threshold for the diagnosis of females may have been created (Barkley, 1996).

Comorbid Disorders

Comorbid disorders are found in as many as two thirds of clinically referred children with ADHD (AACAP, 1997). Research indicates that conduct disorder (CD) has been found to co-occur with ADHD in 30% to 50% of cases in both epidemiologic and clinical samples. A diagnosis of oppositional defiant disorder (ODD) is reported in

at least 35% of cases. Mood disorders, including major depression and dysthymia in children, and bipolar disorder in adolescents, have also been identified as coexisting with ADHD. Comorbid associations between ADHD and anxiety disorders have been found in approximately 25% of ADHD cases (Biederman et al., 1991). There is also a tendency for learning disorders to co-occur with ADHD, with associated estimates ranging from 10% to 25% of children with the disorder (Richters et al., 1995). Finally, Tourette's disorder and other tic disorders often coexist with ADHD (AACAP). Although they are less often noted in the research, other disorders that have been known to co-occur with ADHD include mental retardation and borderline personality disorders (AACAP; Biederman et al.).

Developmental Outcome

Much of the research regarding the natural course of ADHD suggests that the disorder does continue into adolescence and adulthood. However, estimates of the continuity rate into adulthood vary widely, ranging from 10% to 70% (Biederman et al., 1996; Hechtman, Weiss, & Perlman, 1984; Lomas & Gartside, 1999; Mannuzza, Klein, Bessler, Malloy, & LaPadula, 1993; Mannuzza et al., 1991; Murphy, 1996). The variability of these estimates likely stems from the fact that there are only a limited number of follow-up studies in existence.

A separate, but related issue is that there are currently no separate diagnostic criteria for ADHD in adults. Without such guidelines, the task of determining who actually has ADHD becomes very difficult and further complicates attempts to determine continuity rates of the disorder.

Although there is a lack of consensus regarding the "true" continuity rate of ADHD from childhood into adulthood, many studies have found that a number of children with ADHD do continue to have difficulties with the disorder later in adolescence as well as in adulthood, even if they do not continue to meet diagnostic criteria (Barkley, Fischer, Edelbrock, & Smallish, 1990; Biederman et al., 1996; Claude & Firestone, 1995; Weiss & Hechtman, 1993).

Although ADHD as a disorder may be continuous across the lifespan, there do seem to be differences in symptom presentation based on age. The primary symptomatology of hyperactive-impulsive behaviors in preschool and elementary-age children shifts to a predominance of inattentive behaviors in adolescence and adulthood. Specifically, in 3- to 5-year-old children, the first symptoms to arise are typically hyperactive-impulsive behaviors (e.g., constantly "on the go," fidgety, excessively talkative). As children transition to the elementary age range of 6 to 12 years, problems with hyperactive-impulsive behavior continue and are combined with difficulties with goal-directed persistence (sustained attention) and self-regulation (e.g., easily distracted, forgetfulness, poor organization; Barkley, 1996). In the adolescent years and into adulthood, it is common to see a decline in hyperactive-impulsive behaviors and a move toward inattention and poor self-regulation being the primary symptomatology (Barkley).

Assessment

Although the assessment practices concerning ADHD may vary somewhat among child-oriented practitioners, Barkley (1998) has identified behavior rating scales,

the clinical interview, and the medical examination as the most important measures in a comprehensive evaluation. Other measures that are used, however, are direct observations, sociometric techniques, laboratory measures (e.g., continuous-performance tests), and, occasionally, self-report instruments. The clinical interview most often employed in the assessment of ADHD appears to be the behavioral interview, which allows clinicians to get a clear picture of the specific problems that the child is exhibiting (Merrell, 1999). The general developmental interview, which addresses developmental issues such as pregnancy complications and developmental milestones, as well as psychiatric history, medical history, and academic history, is another type of clinical interview that is used in the assessment of ADHD and is often conducted in conjunction with the behavioral interview. A semistructured behavioral interview approach (e.g., The Problem Guidesheet [Forehand & McMahon, 1981]), in which parents, teachers, or both report on the presence and intensity of symptoms, has been suggested (DuPaul, 1992; DuPaul & Stoner, 1994). Structured interview schedules, such as the National Institute of Mental Health Diagnostic Interview Schedule for Children (DISC; Fisher, Wicks, Shaffer, Piacentini, & Lapkin, 1992) have also been utilized in the assessment of ADHD (Merrell); however, they are more commonly used in research studies than in clinical practice.

Behavior rating scales are another widely used form of assessment and include both broadband measures, which assess a variety of behaviors, as well as narrowband measures, which target more specific problem areas. While broadband measures are commonly used for general screening purposes in terms of distinguishing among

externalizing and internalizing disorders, narrowband measures are more specific to symptoms of ADHD and thus, are particularly useful in the assessment process. The most frequently used broadband measures in the assessment of ADHD include the Child Behavior Checklist (CBCL; Achenbach, 1991a) and Teacher's Report Form (TRF; Achenbach, 1991b), Conners Rating Scales (CRS; Conners, 1990), and Revised Conners Rating Scales (CRS-R; Conners, 1997). In addition to producing scores on internalizing and externalizing domains, the CBCL yields scores for eight different problem syndromes, including attention problems. The CRS, which include various versions of similar basic scales, primarily assess ADHD symptoms; however, they also contain subscales concerning family problems, emotional problems, anger control problems, and anxiety problems. Other broadband measures that may be used when completing a comprehensive assessment for ADHD include the Behavior Assessment System for Children (BASC; Reynolds & Kamphaus, 1992) and the Revised Behavior Problem Checklist (RBPC; Quay & Peterson, 1987, 1996). Measures commonly employed for more specific assessment of ADHD symptoms are the Attention Deficit Disorders Evaluation Scales (ADDES; McCarney, 1989a, 1989b, 1995a, 1995b), the ADHD Rating Scale-IV (DuPaul, Power, Anastopoulos, & Reid, 1998), and the Conners ADHD/DSM-IV Scales (CADS; Conners, 1997). Other narrowband measures that may be used include the Brown Attention Deficit Disorder Scales (BADDS; Brown, 1996) and the Home and School Situations Questionnaires (HSQ, SSQ; Barkley, 1981). Narrowband instruments, such as these, generally assess the presence or severity of hyperactive, impulsive, and inattentive behaviors exhibited by the child.

Finally, medical evaluations are often suggested in the assessment of ADHD. The most important component of this evaluation is to rule out other possible explanations (e.g., severe allergies, asthma) for the ADHD-like symptoms being exhibited (Detweiler, Hicks, & Hicks, 1995; Goldstein, 1995). However, medical evaluations are also conducted to determine the appropriateness of psycho-pharmacological treatments, particularly stimulant medications, in treating the core symptoms of ADHD. If it is determined that medications are appropriate, it is important that physicians also assess for possible side effects and interaction effects of medications.

Current Issues and Controversies

There is some concern, both in the professional and popular literature, regarding the misuse of the ADHD label and misdiagnosis of the disorder in children and adolescents. While some controversy centers on whether ADHD really exists (Pekkanen, 2000; Smelter, Rasch, & Fleming, 1996), others have criticized the use of stimulant medication with children as being inappropriate and perhaps even harmful (Breggin, 1999; Shute, 2000). Some researchers argue that the evaluation process utilized by practitioners may potentially be flawed. Specifically, clinicians may be misdiagnosing other recognizable disorders as ADHD as well as failing to recognize comorbid disorders (Weinberg & Emslie, 1991). Moreover, physicians may be somewhat randomly making diagnostic decisions and immediately prescribing medication. Safer (2000) reported that "physicians diagnose ADHD in a hurried and incomplete manner and they then quickly prescribe medication without offering

alternative or additional treatments (such as counseling, tutoring, etc.)" (p. 58). This may or may not be true of the diagnostic practices of clinical child psychologists and school psychologists, however, as less is known about the diagnostic procedures utilized by these practitioners. No articles were located that address this issue with child-oriented psychologists.

Depression

Childhood and adolescent depression is a serious psychiatric disorder characterized by persistent irritable or depressed mood, loss of interest or pleasure in activities, psychomotor agitation or retardation, change in appetite or weight, sleep disturbance, fatigue or loss of energy, feelings of worthlessness, concentration difficulties, and suicidal ideation. According to the *DSM-IV* (American Psychiatric Association, 1994), a diagnosis of major depressive disorder is given when an individual experiences one or more major depressive episodes. A major depressive episode is defined as a period of at least 2 weeks during which five or more symptoms have been present, one of which must be either depressed mood or the loss of interest or pleasure in nearly all activities. Although depression is not a child-specific disorder, current *DSM-IV* (American Psychiatric Association) diagnostic criteria allow for slight changes in symptomatology for children and adolescents to reflect the somewhat different pattern of symptom presentation seen in this age group. For example, for both children and adolescents, irritable mood may take the place of depressed mood, which is more typically characteristic of adults with this disorder. In addition, in children,

rather than weight loss or gain, the criterion can also be met if there is a failure to make expected weight gains.

Other symptoms that frequently accompany the core features of depression include social withdrawal (Kashani, Rosenberg, & Reid, 1989), excessive worrying and other anxiety symptoms (Goodyer & Cooper, 1993), somatic complaints (Kashani & Carlson, 1987; Ryan et al., 1987), and poor self-esteem. Moreover, some symptoms of depression increase with age (e.g., anhedonia, psychomotor retardation, and diurnal variation); whereas, others decrease with age (depressed appearance, somatic complaints, and poor self-esteem; Carlson & Kashani, 1988).

The average age of onset of depression is most likely in mid- to late adolescence (between the ages of 15 and 19 years) for both males and females (Burke, Burke, Regier, & Rae, 1990). However, earlier onset has been reported, and is associated with a more severe course of the disorder (Kovacs, Feinberg, Crouse-Novak, Paulauskas, & Finkelstein, 1984).

Gender Differences

Research studies regarding the rates of depression in preadolescent boys and girls are somewhat mixed. While some report that the rates for this age group are equal (e.g., Angold & Rutter, 1992; Fleming, Offord, & Boyle, 1989), others have found that more boys than girls present with the disorder (e.g., Anderson et al., 1987; Costello et al., 1988; Rutter, 1986). It has been well established, however, that the rates of depressive symptomatology and diagnoses of depression are much higher (2 or 3:1) in adolescent girls than boys (e.g., Lewinsohn, Hops, Roberts, Seeley, & Andrews, 1993;

McGee, Feehan, Williams, & Anderson, 1992; Petersen, Sarigiani, & Kennedy, 1991; Reinherz, Giaconia, Lefkowitz, Pakiz, & Frost, 1993; Whitaker et al., 1990). This gender discrepancy, in which more females than males exhibit symptoms and diagnoses of depression, is also evident in adulthood (Lewinsohn et al.; McGee et al.).

Assessment and Diagnosis

Although childhood depression has recently gained more attention as a true childhood disorder, problems remain surrounding the assessment and diagnosis of depression in children. One of the major difficulties in assessing childhood depression has to do with the very nature of the disorder. Depression, by definition, involves internal thought processes and subjective perceptions. Thus, external methods of assessment (e.g., direct observations, sociometric techniques, and to a certain extent, behavior rating scales) may not be appropriate (Merrell, 1999), leaving clinicians to rely primarily on self-report methods.

The most commonly used measures in the assessment of childhood depression are self-report scales and clinical interviews (Curry & Craighead, 1993; Merrell, 1999). Self-report instruments, although widely and necessarily used, can pose problems of their own. For example, some measures were designed for use with children as young as age 7 or 8 (e.g., the Children's Depression Inventory; Kovacs, 1992; the Reynolds Child Depression Scale; Reynolds, 1989). There is some concern, however, that young children are not cognitively or developmentally capable of evaluating their cognitive and emotional states in the manner required by self-report questionnaires (Hodges, 1990; Lewinsohn, Rohde, & Seeley, 1998; Rutter, 1986). Moreover, the readability

level of some self-report measures is not always appropriate for very young children or children who have reading and comprehension difficulties (Reynolds, 1993). Although some authors suggest that their measures can be read to children (Kovacs), most measures were not orally administered during standardization procedures. A concern with older children and adolescents is that they may be reluctant to endorse items that reflect undesirable or potentially negative symptoms or behaviors (e.g., suicide-related items; Lewinsohn et al.; Reynolds, 1993).

The clinical interview is another form of assessment that is often used with children being assessed for depression. Interviews are generally conducted with both the parent and the child to obtain information regarding the child's symptom presentation and severity. Various forms of interviews are utilized in the assessment of childhood depression, including traditional or unstructured, behavioral, and structured or semistructured diagnostic interviews (Merrell, 1999). The most frequently used diagnostic interviews for children and adolescents are the National Institute of Mental Health Diagnostic Interview Schedule for Children (DISC; Fisher et al., 1992) and the Schedule for Affective Disorders and Schizophrenia for School-age Children (K-SADS; Puig-Antich & Chambers, 1978). The DISC is a highly structured interview for use with children ages 6 through 18. The parallel child (DISC-C) and parent (DISC-P) forms are designed to assess domains of child and adolescent psychopathology, including depression. The K-SADS is a semistructured diagnostic interview for children and adolescents ages 6 to 17. Like the DISC, it measures a wide range of emotional and behavior problems, which are then classified according to *DSM*

diagnostic criteria. As previously noted, structured and semistructured interviews are generally used to assess childhood disorders within the context of research, while clinicians typically utilize unstructured interviews or behavioral interviews. Although interviews have the advantage of providing a wealth of information regarding the child's functioning, there are problems with inaccuracy and disagreement among parents and children as informants (Curry & Craighead, 1993).

The issue of weak concordance among informants is not a problem specific to reports obtained via interviews. This is true of other assessment methods as well, including self-report measures and behavior rating scales. The perspective taken by many researchers and clinicians in childhood assessment is that it is necessary to conduct an aggregated assessment, which entails obtaining information from multiple sources, generally the child, a parent(s), and, in some cases, a teacher (Curry & Craighead, 1993; Merrell, 1999). However, research indicates that there is often minimal concordance among informants regarding a child's level of depressive symptomatology, thereby making diagnostic decisions somewhat difficult (Achenbach, McConaughy, & Howell, 1987; Hodges, Gordon, & Lennon, 1990; Reynolds, 1993). Contradictory reporting of children's behaviors is not specific to the assessment of depressive symptomatology, as this is true even with broadband measures that assess a range of social, emotional, and behavioral problems (Achenbach et al.). While there appears to be little agreement among informants for childhood behavior problems in general (parent-teacher $r = .27$, parent-parent $r = .59$. self-teacher $r = .20$, and self-parent $r = .25$), there is even less concordance among reporters for internalizing

disorders than with other conditions. Specifically, meta-analyses have indicated that the mean correlations (Pearson *r*) among raters reporting on internalizing problems are as low as .21 among parents and teachers, .59 among pairs of parents, and .16 for children (self) and teachers (Achenbach et al.).

A logical and simple explanation for conflicting reports of children's depressive symptoms is that teachers and parents do actually observe or even perceive different behavioral manifestations, thus their reports may be accurate descriptions of children's behaviors in different contexts. Another plausible explanation for high rates of disagreement among informants relates to the internalized nature of depression. Behaviors and symptoms characteristic of depression (e.g., self-depreciatory thoughts) may not be readily detectable to an outside observer, even someone who is highly familiar with the child (e.g., a parent; Merrell, 1999).

Differentiating Attention Deficit Hyperactivity Disorder and Depression

In addition to the difficulties associated with the assessment of each disorder (e.g., low interrater agreement among informants), there is substantial overlap between symptoms of ADHD and depression. Although they are very distinct disorders, the similarities among their symptom presentations may cause children with the disorders to "look" alike. Symptoms that can be present in both disorders include psychomotor agitation, distractibility, difficulty concentrating, sleep problems, low frustration tolerance, and irritability (see Table 1). Given the difficulties associated with

Table 1

Common and Unique Symptoms of ADHD and Depression

Common symptoms of ADHD and depression	Symptoms specific to ADHD	Symptoms specific to depression
Psychomotor agitation	Fails to attend to detail	Lack of interest in activities
Distractibility	Does not listen when spoken to	Significant weight loss/gain
Difficulty concentrating	Fails to finish schoolwork/ chores	Psychomotor retardation
Sleep problems	Difficulty organizing tasks	Fatigue or loss of energy
Low frustration tolerance	Forgetful in daily activities	Feelings of worthlessness
Irritability	Often leaves seat	Excessive/inappropriate guilt
	Runs about/climbs excessively	Recurrent thoughts of death
	Has difficulty playing quietly	
	Talks excessively	
	Blurts out answers	
	Difficulty waiting turn	
	Often interrupts others	

assessment of each disorder and their considerable overlap in symptoms, it is critical that clinicians who assess and treat childhood disorders are aware of the potential for misdiagnosis. Moreover, if a child is given an incorrect diagnosis, it is likely that he or she will also receive treatment that is highly inappropriate. As noted previously, children with ADHD are typically treated through stimulant medication or behavior management, while children who are depressed commonly receive some form of psychosocial intervention (e.g., cognitive-behavioral therapy). If an unsuitable treatment were provided, it would be ineffective and possibly even detrimental to the child. Therefore, it is important for clinicians to conduct thorough, comprehensive

evaluations to adequately assess and subsequently treat children who exhibit overlapping symptoms of ADHD and depression.

Although children with ADHD and depression are frequently referred to physicians for medical evaluations, the clinicians who are most likely to be involved in comprehensive assessment and diagnostic processes of these children are school psychologists and clinical child psychologists. Thus, it is important that these professionals have appropriate and adequate training in the assessment and diagnosis of childhood disorders. Because the training and general professional duties of clinical child psychologists and school psychologists vary some, these groups are discussed separately below.

Clinical Child Psychology

Only within the past 20 years has the development of training goals and guidelines for aspiring clinical child psychologists emerged as an important issue in the field of clinical psychology (LaGreca & Hughes, 1999). With the inception of clinical child psychology as a specialty of professional psychology in 1998, the American Psychological Association (APA) proposed some guidelines regarding the preparation of clinical child psychologists. According to these guidelines, clinicians should have knowledge of (a) normal developmental processes; (b) family processes as they relate to children's development; (c) child and adolescent psychopathology including epidemiology, assessment, and treatment of children's problems; (d) the integration of developmental psychology with clinical child psychology reflected in developmental psychopathology; (e) methods of assessment of development, intellect, cognition,

personality, mood and affect, and achievement; (f) theories and research evidence for treatments of childhood mental disorders, adjustment reactions of childhood, family problems, and adaptation to stressful conditions or to chronic illness; (g) special ethical and legal issues in research and practice with children; and (h) an appropriate appreciation for and understanding of principles of diversity and cultural context as they relate to professional behavior and clinical practice (APA, 2002). In addition, APA specifies that clinical child psychologists utilize the following assessment, intervention, and consultation procedures and techniques: (a) interviews, observations, age-normed psychological tests, personality, and family assessment measures; (b) behavioral and cognitive-behavioral approaches, play therapy, individual psychotherapy, family therapy, and counseling; (c) parent education and training; (d) collaboration with pediatricians to monitor effectiveness of psychoactive medication, deal with medication compliance, or help with issues such as pain management; (e) prevention programs aimed at prevention of problems and disorders such as social deviance and delinquency; (f) health promotion programs and prevention of abuse and other problems of childhood; (g) multimethod and comprehensive interventions that target children and families across contexts; and (h) interdisciplinary consultation. Thus, although APA has broadly defined these areas of competency for the preparation of clinicians, graduate program faculty are usually responsible for developing more specific education and training guidelines tailored to clinical child psychology. Therefore, it is likely that the quality of training and experience varies considerably across graduate programs. This hypothesis has been supported to some extent in the research literature

(Zeman, Nangle, & Sim, 1999), which indicates that training in clinical child programs has become increasingly differentiated over the past 20 years. In this recent survey study, some programs identified as clinical child training programs did not require the completion of any clinical child courses (Zeman et al.). In addition, it appears that while some programs incorporate developmental theory into training, the majority of programs currently do not (Zeman et al.). Moreover, not all child-focused clinicians graduate from an educational program that is specific to their specialty area. For example, practicing psychologists who treat children may have received training related to adults and children, and thus, may not have received adequate or in-depth training in clinical child psychology.

School Psychology

Clinical child psychology is not the only specialty area in psychology that has expressed concern regarding specifications for the educational and training experiences of its students. Over the past 10 years, professionals in the field of school psychology have also worked toward achieving such a goal.

Although the National Association of School Psychologists (NASP, 2000) has implemented training standards for trainees in school psychology, they are very general and open to interpretation. The general standards outlined by NASP for school psychology training and field placement programs include that trainees demonstrate competence in the following domains:

1. Data-Based Decision-Making and Accountability
2. Consultation and Collaboration

3. Effective Instruction and Development of Cognitive/Academic Skills
4. Socialization and Development of Life Skills
5. Student Diversity in Development and Learning
6. School and Systems Organization, Policy Development, and Climate
7. Prevention, Crisis Intervention, and Mental Health
8. Home/School/Community Collaboration
9. Research and Program Evaluation
10. School Psychology Practice and Development
11. Information Technology

However, these guidelines do not indicate whether there are specific course requirements in certain areas, nor do they address how a training program would fulfill such requirements. Thus, there is much room for interpretation of these standards, thereby increasing the variability of training experiences of school psychology trainees. Moreover, despite the attempt to incorporate continuity among training and actual practice, there continues to be "dubious consonance between training emphases and actual on-the-job experiences" (Woody & Davenport, 1998, p. 52).

With regard to training in the area of social and emotional assessment, there is some indication that directors of school psychology training programs favor the use of behavioral observation, clinical interviews, and behavior rating scales (Anderson, Cancelli, & Kratochwill, 1984; Prout, 1983). However, projective tests (e.g., Draw-A-Person, Bender-Gestalt) remain a popular choice for many school psychologists (Kennedy, Faust, Willis, & Piotrowski, 1994; Prout; Reschly, 1997). Kennedy et al.

found that although school psychologists reported using projective tests primarily as a means of generating hypotheses about social-emotional functioning, this is not necessarily the sole purpose for their application. Thus, despite the controversies surrounding projective instruments, primarily regarding their weak psychometric properties and questionable relationships to psychological constructs, it appears that they are still being widely used in the assessment of children and adolescents.

Conclusions

Although best practice dictates that social-emotional assessments incorporate information from multiple methods, sources, and settings (i.e., multimethod, multisource, multisetting assessment; Merrell, 1999), it is unclear whether clinicians are actually conducting assessments in this manner. Furthermore, while there are currently broadly defined training guidelines available for students in clinical child psychology programs, the training standards that are available for school psychology programs are vague and open to interpretation. Finally, the training of school psychologists has traditionally been heavily focused on assessment practices, whereas the emphasis of training in clinical child psychology programs tends to be more toward differential diagnosis of childhood disorders. Thus, the training of child-oriented psychologists is likely to be highly variable.

Conclusion

Despite being classified as distinct childhood disorders, there are several overlapping symptoms between ADHD and depression in children and adolescents.

These symptoms include psychomotor agitation, distractibility, difficulty concentrating, sleep problems, low frustration tolerance, and irritability. Given the substantial overlap in symptom presentation, in addition to the gender and age differences associated with these disorders, there is considerable potential for assessment and diagnostic bias by practitioners who work with children and adolescents. Such potential for bias seems even more plausible when one considers the variation in training among child-oriented psychologists. Thus, it is important to investigate the current assessment and diagnostic practices of practitioners in order to further educate clinicians regarding potential bias and misdiagnosis.

The purpose of this study was to obtain preliminary information on whether child-oriented clinicians, both clinical child psychologists and school psychologists, are attempting to distinguish between ADHD and major depression when presented with children who exhibit overlapping symptoms of these disorders. Based on the increased rates of referrals and diagnoses of ADHD in children and adolescents, along with considerably less recognition of depression in youth, it is hypothesized that child practitioners may be overlooking depressive symptoms that could be misconstrued as symptoms of ADHD. Thus, it is plausible that clinicians are erroneously ascribing diagnoses of ADHD to children who are, in fact, experiencing major depression.

Furthermore, given that the prevalence of both ADHD and depression is highly dependent upon gender and age, it is possible that clinicians may be biased toward a particular diagnosis based on these variables. Thus, it was hypothesized that age and gender of a child would affect the assessment practices and diagnostic considerations

employed by clinicians in specific ways. The specific objectives and hypotheses are described below.

This study had three major objectives. The first objective was to obtain information regarding the specific assessment practices employed by child-oriented clinicians. Specifically, the research question that was addressed was:

1. To what extent are child-oriented clinicians conducting evaluations that incorporate assessment of both ADHD and depressive symptomatology when presented with a child exhibiting overlapping symptoms?

It was hypothesized that clinicians would be more likely to employ assessment techniques specific to the evaluation of ADHD symptoms than techniques specific to depressive symptomatology.

The second objective was to determine the extent to which a child's age and gender, as well as clinician type (child clinical vs. school psychologist) affected the assessment and diagnostic practices of clinicians. Thus, the following questions were examined:

2a. Are there differences in the assessment techniques clinicians use and the diagnoses they would consider based on the age and gender of the client?

2b. Are there differences between clinical child and school psychologists in terms of assessment techniques they would use and the diagnoses they would consider?

It was hypothesized that clinicians who were given a case scenario of a male child would be more likely to utilize assessment measures specific to ADHD and subsequently consider a diagnosis of ADHD. Conversely, it was hypothesized that

clinicians who received a description of adolescents and females would be more likely to employ measures specific to depression and more likely to consider a diagnosis of depression. No specific hypotheses were made regarding the effects of type of psychologist on assessment and diagnostic practices.

The final objective was to determine the extent to which clinicians' training, educational backgrounds, and time in practice affected their assessment and diagnostic practices. Although no specific hypotheses were made regarding this issue, the following exploratory question was investigated.

3. Are there differences in the assessment and diagnostic practices of clinicians associated with differences in training, educational background, and time in practice?

CHAPTER III

METHODS

Participants

The participants for this study were 378 child-oriented psychologists (182 school psychologists and 196 clinical child psychologists). The participants were recruited via a random national sampling of clinicians from their respective professional organizations, NASP, and APA, Division 53 (Clinical Child Psychology).

Respondents were 227 females (60.1%) and 151 males (39.9%). Of the respondents who identified themselves as school psychologists, 91 (50%) reported having earned a master's level degree (M.A., M.S., or Ed.S.) and 91 (50%) had achieved a doctoral degree. All clinical child psychologists (n = 196, 100%) reported having obtained a doctorate. Participants ranged in age from 26 to 84 (M = 26, SD = 9.42). The majority of respondents were Caucasian (n = 367; 97.1%). Of the total sample, 45.5% reported working in a school (Kindergarten through Grade 12) and 32% reported that they work in a private practice. Approximately half (51.1%) of respondents reported that they work with both children and adults. The average reported years in practice among respondents was approximately 15 years. Among the school psychologists, 91% reported having taken a child/developmental psychopathology course and 86% reported that they completed a child/adolescent social-emotional assessment course. Ninety-five percent of clinical child psychologists reported that they completed a course in child/developmental psychopathology and 84%

completed a child/adolescent social-emotional assessment course. Respondents' complete demographic and employment information appear in Table 2. Means, standard deviations, and ranges for respondents' employment information appear in Table 3.

Instrument

The survey instrument was a questionnaire consisting of two components. The first part included 10 questions regarding the participant's demographic information and current employment. Two additional questions addressed the participant's current assessment and diagnostic practices. Specifically, participants were asked to report the average number of formal child social-emotional evaluations that they conduct each month and the percentage of children receiving various diagnoses. The second part of the questionnaire contained a description of a child exhibiting several overlapping symptoms of ADHD and depression, followed by three questions concerning the assessment procedures and diagnostic considerations likely to be employed by the clinician based on this information (e.g., "Please rate how likely you would be to consider each of the following diagnoses," "What assessment measures/instruments or techniques are you most likely to use?"). There were four case scenarios; however, each questionnaire contained only one scenario. The four possible case scenarios consisted of a description of the same behavioral manifestations and symptoms; however, the "client's" age and gender differed in each description. Thus, participants received a questionnaire containing one of the following "client" descriptions: (a) an

Table 2

Demographic and Employment Characteristics of Psychologists

Demographic characteristics	Total sample (N = 378)		Clinical child psychologists (n = 196)		School psychologists (n = 182)	
	n	%	*n*	%	*n*	%
Gender						
Male	151	39.9	91	46.4	60	33.0
Female	227	60.1	105	53.6	122	67.0
Ethnicity						
Caucasian	367	97.3	191	97.9	176	96.7
African American	3	0.8	2	1.0	1	0.5
Latino	3	0.8	1	0.5	2	1.1
Native American	1	0.3	0	0.0	1	0.5
Degree						
Master's or Ed.S.	91	24.1	0	0.0	91	50.0
Doctorate	287	75.9	196	100.0	91	50.0
Area of degree						
Clinical	120	31.9	114	58.8	6	3.3
Counseling	16	4.3	8	4.1	8	4.4
School	157	41.8	27	13.9	130	71.4
Combined program	56	14.9	28	14.4	28	15.4
Other	27	7.2	17	8.8	10	5.5
Primary work setting						
Private practice (psychological)	121	32.0	117	59.7	4	2.2
Hospital setting	24	6.3	24	12.2	0	0.0
Community mental health setting	13	3.4	13	6.6	0	0.0
School setting (K-12)	172	45.5	10	5.1	162	89.0
College/university practitioner	2	0.5	2	1.0	0	0.0
College/university faculty	3	0.8	2	1.0	1	0.5
Corrections setting	1	0.3	1	0.5	0	0.0
Other	42	11.1	27	13.8	15	8.2
Age range of population serving						
Infants and preschool (0-5)	7	1.9	3	1.5	4	2.2
School-age/elementary (5-12)	28	7.4	1	0.5	27	14.8
Infants through school-age (0-12)	16	4.2	5	2.6	11	6.0
Adolescent (12-18)	21	5.6	1	0.5	20	11.0
Infants through adolescent (0-18)	17	4.5	17	8.7	0	0.0
Preschool through adolescent (3-18)	38	10.1	19	9.7	19	10.4
School-age through adolescent (5-18)	50	13.2	12	6.1	38	20.9
Children and adults (0-100)	193	51.1	133	67.9	60	33.0

Table 3

Means, Standard Deviations, and Ranges for Employment Characteristics

	Total sample (N = 378)			Clinical child psychologists (n = 196)			School psychologists (n = 182)		
Employment characteristics	Mean	*SD*	Range	Mean	*SD*	Range	Mean	*SD*	Range
Years in practice	14.89	8.51	0-50	14.86	8.38	3-50	14.93	8.68	0-39
Years in current position	9.63	7.46	0-36	8.81	7.15	0-36	10.48	7.70	0-35
Average number of clinical hours/week	26.07	13.52	0-62	27.94	12.10	2-62	23.43	14.92	0-50
Average number of social-emotional evaluations/month	6.12	5.66	0-40	6.71	6.77	0-40	5.50	4.12	0-30
Average percentage of children/adolescents assigned the following diagnoses:									
Anxiety disorder	9.98	12.44	0-75	14.86	13.33	0-75	4.69	8.74	0-50
ADHD	24.91	23.01	0-100	28.72	20.67	0-100	20.78	24.71	0-100
Autism	3.50	9.20	0-70	4.32	10.46	0-70	2.60	7.52	0-50
Mood disorder	13.76	15.35	0-90	19.55	15.07	0-80	7.45	13.03	0-90
ODD/CD	14.18	16.41	0-100	18.12	16.55	0-100	9.87	15.18	0-70
Other	13.27	22.50	0-100	15.18	20.80	0-100	11.21	24.11	0-100
No diagnosis	14.62	29.88	0-100	4.02	13.71	0-100	26.37	37.61	0-100

8-year-old male, (b) an 8-year-old female, (c) a 15-year-old male, or (d) a 15-year-old female. A copy of the questionnaire is contained in Appendix A.

Procedures

Surveys were mailed to 500 school psychologists (250 to individuals with master's degrees and 250 to individuals with doctoral degrees) who were randomly selected from a national listing of members of NASP and 500 clinical child psychologists who were randomly selected from a national listing of members of APA, Division 53 (Clinical Child Psychology). In addition to the questionnaire, all

participants received an introductory letter with a brief description of the study (see Appendix A) and a self-addressed, stamped envelope in which to return the questionnaire. Two months after the surveys were mailed, a second mailing was conducted in order to encourage clinicians who had not returned the survey to do so. Half of the remaining potential participants were randomly selected to receive a second survey. Surveys were coded prior to the initial mailing in order to track nonrespondents and to ensure that individuals who were sent a second survey received the same survey they received at the initial mailing. Four hundred eight surveys were returned for a total response rate of 40.8%. However, only 395 surveys were returned completed. Of those completed, 17 were omitted from data analyses due to respondents' reports that they worked 0 clinical hours and conducted 0 assessments on a weekly basis. Thus, 378 usable surveys were returned, producing a total usable response rate of 37.8%. The distribution of the returned surveys was as follows: 8-year-old male $n = 101$; 8-year-old female $n = 98$; 15-year-old male $n = 81$; 15-year-old female $n = 98$.

CHAPTER IV

RESULTS

Assessment Practices of Clinical Child and School Psychologists

The first objective of this study was to obtain information regarding the assessment practices employed by child clinical and school psychologists when presented with a child or adolescent exhibiting overlapping symptoms of ADHD and depression. Frequency counts and percentages of participants' responses were calculated overall and by type of clinician for each assessment-related item on the questionnaire to provide descriptive information regarding the assessment practices of clinical child and school psychologists. Specifically, frequencies were calculated to determine the percentage of individuals who reported they would use certain types of assessment measures (e.g., depression-specific measures) in the evaluation of the "client." Individual instruments were grouped into categories by combining all measures that assessed a certain class of symptoms (e.g., depression-specific measures include the Children's Depression Inventory, Reynolds Child Depression Scale, and Reynolds Adolescent Depression Scale). Additional categories of assessment measures (e.g., projectives) were created based on participants' responses to the item that asked them to list "any other measures" that they would use in the evaluation. Categories were made for types of measures endorsed by at least 20 respondents. Chi-square analyses were used to evaluate differences in the use of depression- and ADHD-specific

measures based on age and gender of the client. Table 4 presents the overall frequency counts of individuals who reported they would use certain types of assessment measures in the evaluation based on client gender and age. Table 5 presents the assessment information by type of clinician (i.e., clinical child and school psychologists). Frequency counts of each individual instrument endorsed as likely to be utilized in the

Table 4

Overall Frequencies and Percentages of Types of Assessment Instruments Likely to Be Used in the Evaluation

	Male $n = 182$		Female $n = 196$		8-year-old $n = 199$		15-year-old $n = 179$	
Type of instrument/measure	*n*	%	*n*	%	*n*	%	*n*	%
Interviews	180	98.9	195	99.5	198	99.5	177	98.9
Observations	171	94.0	179	91.3	193	97.0	157	87.7
Self-report broadband	118	64.8	139	70.9	116	58.3	141	78.8
Self-report depression	102	56.0	136	69.4	115	57.8	123	68.7
Self-report anxiety	53	29.1	81	41.3	72	36.2	62	34.6
Parent-completed broadband	160	87.9	185	94.4	181	91.0	164	91.6
Parent-completed ADHD	128	70.3	143	73.0	146	73.4	125	69.8
Teacher-completed broadband	156	85.7	182	92.9	175	87.9	163	91.1
Teacher-completed ADHD	127	69.8	143	73.0	149	74.9	121	67.6
Social skills (child, parent, and teacher)	26	14.3	39	19.9	41	20.6	24	13.4
Projective Measures	47	25.8	69	35.2	71	35.7	45	25.1
Cognitive	24	13.2	23	11.7	31	15.6	16	8.9
Achievement	10	5.5	15	7.7	16	8.0	9	5.0
Continuous performance test	21	11.5	24	12.2	24	12.1	21	11.7
Neuropsychological/memory	10	5.5	11	5.6	9	4.5	12	6.7
Other personality/self-report	11	6.0	31	15.8	19	9.5	23	12.8
Other behavior rating scale	19	10.4	28	14.3	30	15.1	17	9.5
Other	28	15.4	29	14.8	29	14.6	28	15.6

Table 5

Frequencies and Percentages of Types of Assessment Instruments Likely to Be Used in the Evaluation by Type of Clinician

	Clinical child psychologist $n = 196$		School psychologist $n = 182$	
Type of instrument/measure	*n*	%	*n*	%
Interviews	195	99.5	180	98.9
Observations	171	87.2	179	98.4
Self-report broadband	107	54.6	150	82.4
Self-report depression	120	61.2	118	64.8
Self-report anxiety	77	39.3	57	31.3
Parent-completed broadband	170	86.7	175	96.2
Parent-completed ADHD	135	68.9	136	74.7
Teacher-completed broadband	166	84.7	172	94.5
Teacher-completed ADHD	134	68.4	136	74.7
Social skills (child, parent, and teacher)	17	8.7	48	26.4
Projective Measures	65	33.2	51	28.0
Cognitive	28	14.3	19	10.4
Achievement	12	6.1	13	7.1
Continuous performance test	37	18.9	8	4.4
Neuropsychological/memory	13	6.6	8	4.4
Other personality/self-report	26	13.3	16	8.8
Other behavior rating scale	28	14.3	19	10.4
Other	36	18.4	21	11.5

evaluation of the fictitious client are presented by age and gender of the child in Appendix B. Results of the chi-square analyses are presented in Table 6.

Frequency counts and percentages indicate that the vast majority of psychologists would utilize a variety of measures in the evaluation. Specifically, most clinicians indicated that they would include interviews, observations, parent-completed

Table 6

Chi-Square Analyses Comparing Use of Depression and ADHD Measures by Age and Gender of the Client

	Age		Gender	
Type of measure	χ^2	p value	χ^2	p value
Self-report depression measure	4.82	.028	7.21	.007
Parent-report ADHD measure	0.58	.446	0.32	.571
Teacher-report ADHD measure	2.45	.118	0.47	.494

broadband measures, and teacher-completed broadband measures in the evaluation. This was true across age and gender of the client as well as type of clinician. However, in general, more school psychologists than clinical child psychologists endorsed that they would use many of the measures presented in the survey. For example, 82% of school psychologists indicated that they would use a self-report broadband measure, whereas only 54% of clinical child psychologists reported that they would use such a measure. With regard to the use of depression- and ADHD-specific measures, two statistically significant differences emerged. Respondents reported being more likely to use self-report depression measures if the client was female ($\chi^2 = 7.21, p = .007$) or adolescent ($\chi^2 = 4.82, p = .028$), than if the child was male or school age (see Tables 4 and 6). Whereas approximately 69% of the respondents reported that they were likely to use a self-report depression measure with a female, only 56% reported they would use such a measure with a male. While 69% of respondents indicated that they were

likely to use a self-report depression measure with an adolescent, only 58% reported that they would use such a measure if the child was school age. In general, clinicians reported that they would utilize ADHD-specific measures for both males (parent-report = 70.3%; teacher-report = 69.8%) and females (parent-report = 73.0%; teacher-report = 73.0%). Respondents also indicated that they were about equally likely to incorporate ADHD-related measures with both 8-year-olds (parent-report = 73.4%; teacher-report = 74.9%) and 15-year-olds (parent-report = 69.8%; teacher-report = 67.6%). A few respondents indicated that they would administer a self-report anxiety measure (39.3% of clinical child psychologists; 31.3% of school psychologists) and an even smaller percentage endorsed that they would administer a social skills measure (8.7% of clinical child psychologists; 26.4% of school psychologists). About a third of respondents indicated that they would administer some type of projective measure (33.2% of clinical child psychologists; 28.0% of school psychologists) in their evaluation of the client.

Diagnostic Considerations of Clinical Child and School Psychologists

The second objective of the study was to determine the extent to which a child's age and gender, as well as clinician type (clinical child vs. school psychologist) affect the assessment and diagnostic practices of clinicians. Analyses of variance were conducted to determine whether there were significant differences in terms of how likely respondents were to consider various diagnoses based on the independent variables of age and gender of the child as well as type of psychologist (i.e., clinical

child or school). Specifically, five 2 x 2 x 2 analyses of variance were computed for the item asking the respondents to rate how likely they would be to consider each of the following diagnoses: anxiety disorders, ADHD, autism, mood disorders, and ODD or conduct disorder. Comparisons resulting in a probability level of .05 or below were considered to be statistically significant. Results of analyses of variance specific to this research question (i.e., those relating to ADHD and mood disorders) are presented in Tables 7 and 8. Means, standard deviations, and effect sizes were calculated by age, gender, and type of clinician for each diagnostic category (see Tables 9 and 10). According to Cohen (1988), effect sizes of .20 are considered small, .50 moderate, and .80 large.

Analyses of variance revealed that overall, clinical child psychologists were more likely to consider a potential mood disorder diagnosis for the fictitious client than school psychologists. This difference was moderate (Effect Size [ES] = .59) in

Table 7

Results of Analyses of Variance for the Effects of Age, Gender, and Type of Clinician on Respondents' Ratings of a Potential Mood Disorder Diagnosis

Source	*SS*	*df*	*MS*	*F*	*p*
Age	7.846	1	7.846	9.885	.002
Gender	6.832	1	6.832	8.608	.004
Type of clinician	17.166	1	17.166	21.626	.000
Age x gender	1.672	1	1.672	2.106	.148
Age x type of clinician	0.635	1	0.635	0.801	.372
Gender x type of clinician	0.151	1	0.151	0.190	.663
Age x gender x type of clinician	1.653	1	1.653	2.082	.150
Error	211.132	266			

Table 8

Results of Analyses of Variance for the Effects of Age, Gender, and Type of Clinician on Respondents' Ratings of a Potential Attention Deficit Hyperactivity Disorder Diagnosis

Source	*SS*	*df*	*MS*	*F*	*p*
Age	3.840	1	3.840	4.174	.042
Gender	2.010	1	2.010	2.185	.141
Type of clinician	13.160	1	13.160	14.304	.000
Age x gender	0.004	1	0.004	0.005	.946
Age x type of clinician	0.295	1	0.295	0.3217	.572
Gender x type of clinician	1.826	1	1.826	1.985	.160
Age x gender x type of clinician	1.055	1	1.055	1.147	.285
Error	246.563	268			

Table 9

Clinicians' Considerations of Disorders By Client Age, Client Gender, and Type of Clinician: Main Effects

	Mood disorder		ADHD		ODD/CD		Autism		Anxiety disorder	
Descriptor	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*
Age										
8-year-old	2.09	1.02	1.74	0.97	3.67	1.12	4.67	0.80	2.43	1.10
15-year-old	1.70	0.86	1.96	1.00	3.70	1.12	4.77	0.67	2.43	1.07
ES	.41		.22		.03		.14		.00	
Gender										
Male	2.08	0.96	1.76	0.94	3.47	1.11	4.69	0.77	2.48	1.13
Female	1.71	0.93	1.94	1.03	3.92	1.08	4.76	0.71	2.38	1.02
ES	.39		.18		.41		.09		.09	
Type of clinician										
Clinical child	1.63	0.77	1.64	0.85	3.56	1.15	4.74	0.63	2.42	1.16
School	2.17	1.06	2.07	1.07	3.82	1.07	4.71	0.84	2.45	0.99
ES	.59		.45		.23		.04		.03	

Scale: 1 = really likely to consider
2 = likely to consider
3 = somewhat likely to consider but not sure
4 = possibility but only somewhat likely
5 = possibility but not all that likely

Table 10

Clinicians' Considerations of Disorders By Client Age, Client Gender, and Type of Clinician: Interaction Effects

	Mood disorder		ADHD		ODD/CD		Autism		Anxiety disorder	
Descriptor	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*
Age x gender										
8-year-old x male	2.32	1.01	1.67	0.92	3.53	1.18	4.62	0.85	2.59	1.17
15-year-old x male	1.79	0.83	1.88	0.96	3.39	1.03	4.78	0.65	2.35	1.08
8-year-old x female	1.81	0.97	1.82	1.02	3.84	1.01	4.74	0.73	2.23	0.97
15-year-old x female	1.62	0.89	2.04	1.04	3.99	1.14	4.77	0.69	2.51	1.06
Age x type of clinician										
8-year-old x clinical	1.76	0.87	1.54	0.77	3.58	1.17	4.64	0.80	2.47	1.25
15-year-old x clinical	1.50	0.65	1.73	0.92	3.54	1.15	4.83	0.42	2.37	1.07
8-year-old x school	2.40	1.06	1.93	1.09	3.76	1.07	4.70	0.81	2.39	0.92
15-year-old x school	1.92	1.01	2.23	1.04	3.89	1.08	4.71	0.87	2.51	1.06
Gender x type of clinician										
Male x clinical	1.82	0.85	1.46	0.72	3.27	1.10	4.75	0.62	2.49	1.27
Female x clinical	1.44	0.65	1.80	0.94	3.84	1.14	4.73	0.65	2.35	1.05
Male x school	2.33	1.00	2.06	1.04	3.65	1.10	4.64	0.89	2.47	0.99
Female x school	2.00	1.09	2.09	1.11	4.02	1.02	4.79	0.77	2.42	1.00
Age x gender x type of clinician										
8-year-old x male x clinical	1.94	0.92	1.31	0.53	3.26	1.24	4.62	0.79	2.63	1.35
8-year-old x female x clinical	1.58	0.79	1.78	0.91	3.93	0.98	4.66	0.81	2.30	1.13
15-year-old x male x clinical	1.70	0.77	1.62	0.85	3.28	0.96	4.88	0.34	2.35	1.18
15-year-old x female x clinical	1.33	0.48	1.82	0.97	3.76	1.26	4.78	0.48	2.38	0.99
8-year-old x male x school	2.65	0.98	1.97	1.07	3.77	1.09	4.62	0.91	2.56	1.00
8-year-old x female x school	2.07	1.08	1.87	1.14	3.74	1.06	4.84	0.62	2.14	0.76
15-year-old x male x school	1.90	0.89	2.16	1.00	3.50	1.11	4.67	0.88	2.35	0.99
15-year-old x female x school	1.94	1.11	2.29	1.07	4.24	0.94	4.75	0.88	2.65	1.13

Scale: 1 = really likely to consider
2 = likely to consider
3 = somewhat likely to consider but not sure
4 = possibility but only somewhat likely
5 = possibility but not all that likely

magnitude. However, both clinical child and school psychologists reported being more likely to consider a potential mood disorder diagnosis for adolescents than for school-age children, although the magnitude of this effect was small. Respondents also rated females as more likely than males to be considered as having a mood disorder (see Tables 7 and 9), but, again, the magnitude of this effect was small. Clinical child psychologists were more likely to consider a potential ADHD diagnosis than school psychologists; however, the magnitude of this difference was small. Both clinical child and school psychologists were more likely to consider an ADHD diagnosis for a school-age child than an adolescent. Although the magnitude of this difference was small, it is in the predicted direction. No other significant effects were found related to ratings of ADHD (see Table 8). Thus, although the hypothesis that clinicians would be more likely to consider males than females as having ADHD was not confirmed, results indicate that clinicians were, indeed, more likely to consider school-age children than adolescents for a potential ADHD diagnosis. Overall, it appears that both clinical child and school psychologists considered a mood disorder and ADHD to be the most likely diagnoses for the client, as respondents' ratings for these disorders were generally in the 1 (really likely to consider) to 2 (likely to consider) range; the higher the number, the less likely clinicians were to consider the disorder. It should be noted that although the category of "mood disorder" was left open to clinician interpretation, it was intended to represent depressive disorders specifically. No significant interactions were found among the independent variables for a mood disorder or ADHD.

Analyses of variance revealed few to no differences for ODD/CD, autism, and

anxiety disorders. For these disorders, respondents' ratings were generally higher (2.4 [anxiety] to 4.8 [autism]), indicating that they were less likely to consider them as potential disorders.

Finally, responses to the open-ended question, "What key information would you attend to in making a diagnosis for this client?" were categorized and counted to further investigate the diagnostic processes employed by clinicians. Categories were created for responses that were endorsed by at least 10% (n = 38) of respondents. The following themes emerged among clinicians' responses: history of symptoms (e.g., onset, duration, frequency; n = 135; 35.7%); review of child-, parent-, and/or teacher-reported information (n = 117; 31.0%); family history of psychopathology (n = 101; 26.7%); family dynamics (e.g., parent-child interactions, marital discord; n = 78; 20.6%); precipitating traumatic events/stressors (n = 77; 20.4%); social/interpersonal history (n = 63; 16.7%), academic history (n = 60; 15.9%); medical history (n = 58; 15.3%); and developmental history (n = 45; 11.9%).

Effects of Training and Educational Background on Diagnostic Practices

The third objective of this study was to determine the extent to which clinicians' training, educational backgrounds, and time in practice affect their assessment and diagnostic practices. First, two linear regressions were conducted to determine if number of years in practice and number of years in current position were predictive of clinicians' ratings of how likely they were to consider diagnoses of a mood disorder and

ADHD. Neither variable emerged as a significant predictor of diagnostic considerations and the variance accounted for was very small, with R^2s of 0.009 (mood disorder) and 0.010 (ADHD; see Table 11). Thus, in this particular study, the number of years in which clinicians have been in practice and in their current position was not predictive of their diagnostic considerations.

Analyses of variance were computed to investigate the extent to which the independent variables related to clinicians' training and educational background (degree, completed a course in child/developmental psychopathology, and completed a course in child/adolescent social-emotional assessment) affected the diagnoses they would consider given the child or adolescent description (see Tables 12 and 13). Comparisons resulting in probability values of .05 or below were considered to be statistically significant. Effect sizes were also calculated to determine if meaningful differences exist between clinicians' training and educational background (degree, completed a course in child/developmental psychopathology, and completed a course in child/adolescent social-emotional assessment) and ratings of disorders that they were

Table 11

Results of Linear Regression Analyses for Years in Practice and Years in Position Predicting Likelihood of Consideration of Diagnoses

Dependent variable	*R*	R^2	Adj. R^2	*F*	*p* value
ADHD	0.101	0.010	0.005	1.860	0.157
Mood disorder	0.097	0.009	0.004	1.699	0.184

Table 12

Results of Analyses of Variance for the Effects of Degree, Completed Child Psychopathology Course, and Completed Child Social-Emotional Assessment Course on Respondents' Ratings of a Potential Mood Disorder Diagnosis

Source	*SS*	*df*	*MS*	*F*	*p* value
Degree	8.253	1	8.253	9.528	.002
Psychopathology course	0.000	1	0.000	0.000	.998
Assessment course	0.313	1	0.313	0.361	.548
Degree x psychopathology course	0.143	1	0.143	0.165	.685
Degree x assessment course	0.386	1	0.386	0.446	.505
Psychopathology course x assessment course	0.035	1	0.035	0.040	.841
Degree x psychopathology course x assessment course	0.001	1	0.001	0.001	.970
Error	225.215	260			

Table 13

Results of Analyses of Variance for the Effects of Degree, Completed Child Psychopathology Course, and Completed Child Social-Emotional Assessment Course on Respondents' Ratings of a Potential Attention Deficit Hyperactivity Disorder Diagnosis

Source	*SS*	*df*	*MS*	*F*	*p* value
Degree	7.242	1	7.242	7.786	.006
Psychopathology course	4.007	1	4.007	4.308	.039
Assessment course	1.335	1	1.335	1.435	.232
Degree x psychopathology course	2.164	1	2.164	2.327	.128
Degree x assessment course	0.392	1	0.392	0.422	.517
Psychopathology course x assessment course	0.038	1	0.038	0.041	.840
Degree x psychopathology course x assessment course	0.112	1	0.112	0.120	.729
Error	244.623	263			

likely to consider. Means, standard deviations, and effect sizes for the independent variables appear in Table 14.

Analyses of variance revealed that clinicians who had earned a doctoral degree were more likely to consider a mood disorder and ADHD as potential diagnoses than clinicians who had earned a master's degree (see Tables 14 and 15). The magnitude of these effects was moderate for mood disorder (*ES* = .70), but small for ADHD (*ES* = .42). There were no differences among clinicians' considerations of a mood disorder based on the completion of courses specific to child psychopathology and assessment. However, clinicians who had completed a child/developmental psychopathology course

Table 14

Clinicians' Considerations of Disorders By Degree, Completed Child Psychopathology Course, and Completed Child Social-Emotional Assessment Course: Main Effects

	Mood disorder		ADHD		ODD/CD		Autism		Anxiety disorder	
Descriptor	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*
Degree										
Master's/Ed.S.	2.37	1.04	2.15	1.06	3.88	1.09	4.59	1.03	2.44	0.93
Doctorate	1.73	0.88	1.74	0.94	3.59	1.12	4.77	0.60	2.44	1.14
ES	.70		.42		.26		.24		.00	
Psychopathology course										
Yes	1.89	0.96	1.82	0.97	3.67	1.13	4.72	0.75	2.43	1.08
No	2.13	1.13	2.27	1.22	3.69	0.86	4.69	0.63	2.64	1.15
ES	.25		.46		.02		.04		.19	
Assessment course										
Yes	1.89	0.96	1.88	0.99	3.70	1.13	4.74	0.73	2.45	1.09
No	2.03	1.05	1.62	0.98	3.46	1.04	4.62	0.82	2.37	1.01
ES	.14		.26		.21		.16		.07	

Scale: 1 = really likely to consider
2 = likely to consider
3 = somewhat likely to consider but not sure
4 = possibility but only somewhat likely
5 = possibility but not all that likely

Table 15

Clinicians' Considerations of Disorders By Degree, Completed Child Psychopathology Course, and Completed Child Social-Emotional Assessment Course: Interaction Effects

	Mood disorder		ADHD		ODD/CD		Autism		Anxiety disorder	
Descriptor	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*
Degree x psychopathology course										
Master's x yes	2.34	1.00	2.06	0.99	3.86	1.12	4.60	1.05	2.43	0.92
Master's x no	2.71	1.38	3.00	1.41	4.17	0.75	4.50	0.84	2.57	1.13
Doctorate x yes	1.74	0.89	1.74	0.96	3.60	1.13	4.77	0.60	2.43	1.13
Doctorate x no	1.63	0.52	1.63	0.52	3.29	0.76	4.86	0.38	2.71	1.25
Degree x Assessment Course										
Master's x yes	2.32	1.03	2.11	1.03	3.89	1.11	4.60	1.05	2.41	0.93
Master's x no	2.78	1.09	2.44	1.33	3.87	0.99	4.50	0.93	2.67	1.00
Doctorate x yes	1.74	0.88	1.79	0.97	3.63	1.13	4.79	0.57	2.46	1.15
Doctorate x no	1.73	0.88	1.30	0.56	3.30	1.03	4.67	0.80	2.26	1.01
Psychopathology course (P) x assessment course (A)										
Yes (P) x Yes (A)	1.89	0.95	1.87	0.98	3.69	1.13	4.74	0.73	2.43	1.09
Yes (P) x No (A)	1.95	1.02	1.36	0.79	3.42	1.12	4.55	0.89	2.36	1.05
No (P) x Yes (A)	2.00	1.23	2.40	1.52	4.00	0.82	4.50	0.58	3.25	1.50
No (P) x No (A)	2.20	1.14	2.20	1.14	3.56	0.88	4.78	0.67	2.40	0.97
Degree x psychopathology course x assessment course										
Master's x Yes (P) x Yes (A)	2.31	1.01	2.08	0.96	3.86	1.12	4.60	1.06	2.39	0.92
Master's x Yes (P) x No (A)	2.75	0.96	1.75	1.50	3.75	1.26	4.50	1.00	3.00	0.82
Master's x No (P) x Yes (A)	2.50	2.12	3.00	2.83	4.50	0.71	4.50	0.71	3.00	1.41
Master's x No (P) x No (A)	2.80	1.30	3.00	1.00	4.00	0.82	4.50	1.00	2.40	1.14
Doctorate x Yes (P) x Yes (A)	1.74	0.89	1.79	0.98	3.63	1.13	4.79	0.57	2.45	1.14
Doctorate x Yes (P) x No (A)	1.76	0.97	1.28	0.58	3.33	1.11	4.56	0.89	2.22	1.06
Doctorate x No (P) x Yes (A)	1.67	0.58	2.00	0.00	3.50	0.71	4.50	0.71	3.50	2.12
Doctorate x No (P) x No (A)	1.60	0.55	1.40	0.55	3.20	0.84	5.00	0.00	2.40	0.89

Scale: 1 = really likely to consider
2 = likely to consider
3 = somewhat likely to consider but not sure
4 = possibility but only somewhat likely
5 = possibility but not all that likely

were more likely to consider an ADHD diagnosis than those who had not completed such a course. The magnitude of this effect was small (*ES* = .46). There were no differences among clinicians' considerations of ADHD based on the completion of a child-oriented assessment course. No significant interactions emerged in clinicians' diagnostic considerations related to training and education.

CHAPTER V

DISCUSSION

Overview

The purpose of this study was to investigate the extent to which a child's age and gender, as well as clinicians' training, educational backgrounds, and time in practice affect child-oriented psychologists' assessment practices and diagnostic considerations when given a case scenario of a child exhibiting overlapping symptoms of ADHD and depression. In general, findings suggest that clinicians would utilize a variety of assessment measures and procedures with males and females, as well as school-age children and adolescents. However, it appears that a child's age and gender, at least to some extent, affect the likelihood with which clinicians would use self-report measures specific to depression. The child's age and gender also affected clinicians' diagnostic considerations, with a mood disorder endorsed as more likely to be considered for adolescents and females than school-age clients and males. Clinicians also endorsed that they would be more likely to consider a potential ADHD diagnosis for school-age children than adolescents. Although clinical child and school psychologists considered both a mood disorder and ADHD as likely diagnoses, clinical child psychologists were significantly more likely to do so. Findings indicate that clinicians' degrees, and completion of child-oriented courses, but not time in practice, affected their considerations of potential diagnoses.

Assessment Practices of Clinical Child and School Psychologists

Contrary to the hypothesis that clinicians would be more likely to employ assessment techniques specific to ADHD than those specific to depression, the majority of clinicians reported that they would utilize a variety of measures in the evaluation of the client. These findings may be indicative of the move toward the multimethod, multisource, multisetting approach to social-emotional assessment of children (Merrell, 1999). Although this is a generally positive finding, results indicate that age and gender of the child, at least to some extent, influence the clinicians' use of self-report measures specific to depression. More clinicians reported that they would administer this type of measure with adolescents and females than with school-age children and males. It is plausible that this finding is reflective of age and gender biases toward adolescents and females in the consideration of depression as a potential diagnosis. However, it is also plausible that these findings are a reflection of the higher base rates of depression in female adolescents than male adolescents combined with the evidence that the onset of depression typically occurs during adolescence. Specifically, clinicians may be choosing to utilize first the measures that would be most likely to target the problem with the intent of using subsequent measures only if necessary. Nevertheless, it is important for clinicians to recognize that base rates provide information about the group, not the individual.

Although it is important to be aware of base rates, clinicians should balance this information with an individual client's symptom presentation when conducting

assessments and assigning diagnoses. Finally, with regard to the differences in age, clinicians may be choosing not to use self-report depression measures with 8-year-olds due to the potential cognitive and interpretation difficulties inherent in such measures with this age group. While such measures are generally designed for use with children as young as age 7 or 8, there is some concern that young children are not cognitively or developmentally capable of evaluating their cognitive and emotional states in the manner required by self-report questionnaires (Hodges, 1990; Lewinsohn et al., 1998; Rutter, 1986). Moreover, the readability level of some self-report measures is not always appropriate for very young children or children who have reading and comprehension difficulties (Reynolds, 1993). However, self-report measures are an important and necessary component in the assessment of children's internalizing problems. Overall, these findings suggest that although it is best practice to conduct thorough and appropriate evaluations regardless of age and gender, not all clinicians are doing this. Thus, it is important to rule out mood disorders in all child clients, particularly males and young children, whose difficulties may be overlooked or misdiagnosed as a result of their gender and age.

Another interesting finding was that about a third of clinicians indicated that they would use some type of projective measure in the evaluation of the client. Although a few respondents indicated that they would use such measures informally (i.e., only to establish rapport), the majority did not qualify their use of the instruments. Given the controversy regarding the use of projective measures due to their poor psychometric properties (e.g., lack of validity), this is surprising and somewhat

troubling. Moreover, because clinicians had to endorse that they would use such measures via an optional write-in opportunity (i.e., "Please list any other measures that you would use that are not listed above.") rather than simply checking an item, the percentage of individuals who chose to do so may be an underestimate of those who actually utilize projective measures. Indeed, research that has investigated school psychologists' assessment practices has indicated the continuing widespread use of projectives. Hosp and Reschly (2002) found that among school psychologists, the use of projective measures was second in frequency only to behavior rating scales. Another study found that at least two thirds of school psychologists were administering an interpretative drawing test every month (Wilson & Reschly, 1996).

Diagnostic Considerations of Clinical Child and School Psychologists

Results revealed that clinicians who were given a case scenario of a female were equally likely to consider a diagnosis of ADHD as those who received the male case scenario. One possible explanation for this finding is that clinicians have become increasingly aware of the disorder, and are therefore more likely to consider it as a potential diagnosis for clients in general, regardless of gender. However, consistent with the hypothesis, clinicians were more likely to consider an ADHD diagnosis for a school-age child than an adolescent. One possible explanation for this finding is that it is reflective of an age bias, in which clinicians are biased toward school-age children in their consideration of an ADHD diagnosis. However, it is equally plausible that

clinicians are more likely to consider a potential ADHD diagnosis for school-age children than for adolescents due to the onset of the disorder typically occurring in early childhood. Moreover, given the diagnostic criterion that children must exhibit symptoms of the disorder prior to age 7, clinicians might consider it unlikely that children who truly have ADHD would reach adolescence without it having been previously identified and diagnosed. Although it is plausible that many clinicians are overdiagnosing or haphazardly diagnosing ADHD in children and adolescents, the finding that most clinicians also considered a mood disorder as a potential diagnosis is a promising indication that this may not be the case.

Contrary to the hypothesis, clinicians were no more likely to consider an adolescent female than an adolescent male to have a mood disorder. However, they were more likely to consider adolescents than school-age children and females than males to have a mood disorder. As with the findings regarding potential biases in the assessment of depression, it is plausible that clinicians are biased toward adolescents and females in their considerations of a mood disorder diagnosis. Given that the typical age of onset of depression is in adolescence, it is logical that clinicians may be more inclined to consider a mood disorder for this age group than younger children. However, if the result is that depression in younger children is being overlooked or perhaps misdiagnosed, there are serious implications for the provision of appropriate treatment. Thus, although clinicians in this sample report that they are generally likely to consider a mood disorder as a potential diagnosis, it is important that clinicians be aware of possible biases in the assessment and diagnosis of mood disorders in young

children and males. It is important to note that because the child in the case scenario is a hypothetical client, it is unclear the extent to which clinicians' responses are an accurate representation of their actual assessment practices and diagnostic considerations.

Another finding related to the diagnostic considerations of clinicians was that clinical child psychologists were more likely than school psychologists to consider both ADHD and a mood disorder as potential diagnoses. These differences may be a result of discrepancies in the educational and training experiences of child-oriented psychologists. While most school psychology training programs typically focus on assessment and behavioral intervention, an emphasis of clinical child psychology programs is in the area of differential diagnosis. Although school psychology programs are beginning to move away from a heavy focus on assessment, most programs are still very assessment-oriented. However, in this particular study, the vast majority (91%) of school psychologists reported having completed a child/developmental psychopathology course. Nevertheless, it is plausible that there is some variability in the content of courses fitting this general description. Likewise, it is conceivable that respondents interpreted this description rather broadly to include other courses (e.g., child development) that would not cover differential diagnosis. Finally, it is plausible that school psychologists have either not had clinical experience or have had significantly less clinical experience with children than clinical child psychologists, making it less likely that they would have knowledge of *DSM-IV* disorders.

Effects of Training and Educational Background on Diagnostic Practices

With regard to the effects of training, educational background, and years in practice on clinicians' diagnostic considerations, the degree that a clinician had earned as well as completion of child-related coursework were found to be significant predictors of diagnostic considerations. Results indicated that clinicians who had earned a doctoral degree were more likely to consider a mood disorder and ADHD as potential diagnoses than clinicians who had earned a master's degree. One possible explanation for this difference relates back to the quantity and content of clinicians' training. Clinicians who complete a master's level program receive less training, in general, and they are particularly less likely to receive training specific to differential diagnosis. Therefore, they may not be aware of *DSM-IV* diagnoses and maybe less likely than clinicians who earned doctoral degrees to recognize all potential disorders. Future research endeavors might consider delineating further those variables that contribute to differences in diagnostic considerations based on clinicians' levels of degree.

Clinicians' completion of a child-oriented psychopathology course significantly affected their endorsed considerations of an ADHD diagnosis, but not a mood disorder diagnosis. One possible explanation for the differences in clinicians' considerations of ADHD is that clinicians who have completed a child psychopathology course are more aware of the high prevalence rates of ADHD and, as a result, they are more influenced than those who have not completed such a course to consider it a plausible diagnosis.

Clinicians' completion of a child-oriented social-emotional assessment course had no effect on their endorsed considerations of either an ADHD or a mood disorder diagnosis. Although it is uncertain why these different findings emerged among clinicians' diagnostic considerations based on the completion or lack of completion of child-oriented courses, it is likely that a combination of training- and experience-related factors (e.g., clinical experience, quantity of coursework, quality of coursework) contribute to the diagnostic considerations reported by clinicians. Clinicians' training and clinical experience, as a whole, are likely to have a greater influence on their diagnostic considerations than the completion of certain courses.

Finally, neither the number of years in which clinicians had been in practice or the number of years they had worked in their current position had an effect on their diagnostic considerations. This is an interesting finding, as one might expect more experienced clinicians to be more adept at assessing and diagnosing childhood difficulties, and perhaps consider different diagnoses, than clinicians who have less experience in the field. On the other hand, clinicians who have just recently completed their training are also quite likely to be conversant in children's mental health issues and aware of the current research literature in this area. Thus, one possible explanation for the lack of differences related to experience is that clinicians who have been in the field are experienced and are continuing to educate themselves (e.g., by attending conferences, staying abreast of current research) in children's issues even after they have completed their training and received their degrees, while those who are new to the field have recently acquired knowledge and expertise in childhood disorders.

Limitations and Future Directions

There are a number of limitations to take into account when interpreting the findings of this study. First, although participants in the study were obtained from a national sampling of child-oriented clinicians, they may not be representative of this population as a whole. For instance, all respondents were willing to complete the survey and return it to the researchers in a timely manner. Thus, the results of this study apply to this particular sample of clinicians and may not be generalizable to the population of clinical child and school psychologists as a whole.

Second, the nature of the study was such that the clinicians' actual assessment practices and diagnostic considerations may not have been accurately measured. Specifically, the child client that was presented to them was based on a hypothetical case scenario, rather than an actual client that presented in their offices. Therefore, participants were allowed to take as much time as necessary in making decisions regarding which assessment measures to use in their evaluation and which diagnoses to consider. Participants were allowed to choose as many assessment measures as they would like in conducting their evaluations. Thus, without the constraints of time and availability of assessment instruments, the clinicians may have been more inclusive in their "evaluation" than they would have been if this were an actual client. In other words, clinicians may be reporting what they perceive to be "ideal" assessment practices. Although this indicates that clinicians know what they should do in terms of assessment, it is difficult to determine from this study what they actually do in their own practice. It is suggested that future research utilizing fictitious client paradigms to

investigate psychologists' assessment and diagnostic practices prescribe a time limit (e.g., 60 to 90 minutes) for the completion of the evaluation.

Third, with regard to the findings regarding diagnostic considerations, because the diagnostic categories were left somewhat open to clinician interpretation, it is difficult to ascertain whether clinicians were actually considering a depressive disorder when contemplating likely diagnoses. Although the "mood disorder" category was intended to be interpreted as a depressive disorder, it is possible that clinicians interpreted this category as including bipolar disorder.

Finally, because this study was conducted via a self-report questionnaire, it was difficult to determine whether clinicians were attempting to make a differential diagnosis of the disorders they considered to be applicable to the client. However, clinicians' responses to the question regarding key information in the diagnostic process indicate that at least some clinicians were attempting to do so (e.g., evaluating family history of ADHD and depression, "...attend to symptoms that point to attentional issues and highly suspect ADHD, but...also wonder about a mood disorder such as depression"). Overall, the findings do provide evidence that clinicians were generally likely to consider both a mood disorder and ADHD as plausible diagnoses, indicating that they are at least aware of the overlap in symptoms. Future research in this area is necessary to examine clinicians' assessment and diagnostic practices as they actually occur within the clinic setting.

Conclusions

This study is the first to examine child-oriented psychologists' assessment practices and diagnostic considerations based on a case scenario of a child exhibiting overlapping symptoms of ADHD and depression. The results of this study provide evidence that, in general, clinicians are conducting comprehensive evaluations in which they incorporate various assessment instruments from multiple sources, regardless of the child's age and gender. Nevertheless, fewer clinicians reported that they would administer a self-report measure specific to depression to males and young children than to females and adolescents. In addition, clinicians were more likely to consider adolescents than school-age children and females than males to have a mood disorder. Thus, it is imperative that clinicians be aware of possible age and gender biases within their assessment and diagnostic practices. Clinicians should conduct comprehensive evaluations and consider various potential diagnoses with all children, regardless of age and gender.

REFERENCES

Achenbach, T. M. (1991a). *Manual for the Child Behavior Checklist and 1991 profile.* Burlington: University of Vermont.

Achenbach, T. M. (1991b). *Manual for the Teacher's Report Form and 1991 profile.* Burlington: University of Vermont.

Achenbach, T. M., McConaughy, S. H., & Howell, C. T. (1987). Child/adolescent behavioral and emotional problems: Implications of cross-informant correlations for situational specificity. *Psychological Bulletin, 101,* 213-232.

American Academy of Child and Adolescent Psychiatry. (1997). Practice parameters for the assessment and treatment of children, adolescents, and adults with Attention-Deficit/Hyperactivity Disorder. *Journal of the American Academy of Child and Adolescent Psychiatry, 36*(Suppl. 10), 85-121.

American Psychiatric Association. (1994). *Diagnostic and statistical manual of mental disorders* (4th ed.). Washington, DC: Author.

American Psychological Association. (2002). *Archival description of clinical child psychology* [On-line]. Available online: http://www.apa.org/crsppp/childclinic.html

Anderson, T. K., Cancelli, A. A., & Kratochwill, T. R. (1984). Self-reported assessment practices of school psychologists: Implications for training and practice. *Journal of School Psychology, 22*(1), 17-29.

Anderson, J. C., Williams, S., McGee, R., & Silva, P. A. (1987). The prevalence of DSM-III disorders in pre-adolescent children: Prevalence in a large sample from the general population. *Archives of General Psychiatry, 44,* 69-76.

Angold, A., & Rutter, M. (1992). Effects of age and pubertal status on depression in a large clinical sample. *Development and Psychopathology, 4,* 5-28.

Barkley, R. A. (1981). *Hyperactive children: A handbook for diagnosis and treatment.* New York: Guilford.

Barkley, R. A. (1996). Attention-deficit/hyperactivity disorder. In E. J. Mash & R. A. Barkley (Eds.), *Child psychopathology* (pp. 63-112). New York: Guilford.

Barkley, R. A. (1998). *Attention-deficit hyperactivity disorder: A handbook for diagnosis and treatment* (2nd ed.). New York: Guilford.

Barkley, R. A., Fischer, M., Edelbrock, C. S., & Smallish, L. (1990). The adolescent outcome of hyperactive children diagnosed by research criteria: I. An 8-year prospective follow-up study. *Journal of the American Academy of Child and Adolescent Psychiatry, 29,* 546-557.

Befera, M., & Barkley, R. A. (1984). Hyperactive and normal girls and boys: Mother-child interactions, parent psychiatric status, and child psychopathology. *Journal of Child Psychology and Psychiatry, 26,* 439-452.

Biederman, J., Faraone, S. V., Milberger, S., Curtis, S., Chen, L., Marrs, A., Oullette, C., Moore, P., & Spencer, T. (1996). Predictors of persistence and remission of ADHD into adolescence: Results from a 4-year prospective follow-up study. *Journal of American Academy of Child and Adolescent Psychiatry, 35,* 343-351.

Biederman, J., Mick, E., & Faraone, S. V. (1997). Depression in attention deficit hyperactivity disorder (ADHD) children: "True" depression or demoralization? *Journal of Affective Disorders, 47,* 113-122.

Biederman, J., Newcorn, J., & Sprich, S. (1991). Comorbidity of attention deficit hyperactivity disorder with conduct, depressive, anxiety, and other disorders. *American Journal of Psychiatry, 148*(5), 564-577.

Breen, M. J., & Barkley, R. A. (1988). Parenting stress with ADHD girls and boys. *Journal of Pediatric Psychology, 13,* 265-280.

Breggin, P. R. (1999). Psychostimulants in the treatment of children diagnosed with ADHD: Part II - Adverse effects on brain and behavior. *Ethical Human Sciences and Services, 1*(3), 213-241.

Brown, T. E. (1996). *Brown Attention-Deficit Disorder Scales manual.* San Antonio, TX: Psychological Corporation.

Burke, K. C., Burke, J. D., Regier, D. A., & Rae, D. S. (1990). Age at onset of selected mental disorders in five community populations. *Archives of General Psychiatry, 47,* 511-518.

Carlson, G., & Kashani, J. (1988). Phenomenology of major depression from childhood through adulthood: Analysis of three studies. *American Journal of Psychiatry, 145,* 1222-1225.

Claude, D., & Firestone, P. (1995). The development of ADHD boys: A 12-year follow-up. *Canadian Journal of Behavioral Science, 27,* 226-249.

Cohen, J. (1988). *Statistical power analysis for the behavioral sciences* (2nd ed.). Hillsdale, NJ: Erlbaum.

Conners, C. K. (1990). *Conners Rating Scale manual.* Toronto: Multi-Health Systems.

Conners, C. K. (1997). *Conners Rating Scales-Revised technical manual.* Toronto: Multi-Health Systems.

Costello, E. J., Costello, A. J., Edelbrock, C., Burns, B. J., Dulcan, M. K., Brent, D., & Janiszewski, S. (1988). Psychiatric disorders in pediatric primary care. *Archives of General Psychiatry, 45*, 1107-1116.

Curry, J. F., & Craighead, W. E. (1993). Depression. In T. H. Ollendick & M. Hersen (Eds.), *Handbook of child and adolescent assessment* (pp. 251-268). Needham Heights, MA: Allyn & Bacon.

Detweiler, R. E., Hicks, A. P., & Hicks, M. R. (1995). The multi-modal diagnosis and treatment of Attention Deficit Hyperactivity Disorder. *Therapeutic Care and Education, 4*(2), 4-9.

Dunne, J. E. (1999). Attention-Deficit/Hyperactivity Disorder and associated childhood disorders. *Primary Care, 26*(2), 349-372.

DuPaul, G. J. (1992). How to assess attention-deficit hyperactivity disorder within school settings. *School Psychology Quarterly, 7,* 61-74.

DuPaul, G. J., Power, T. J., Anastopoulos, A. D., & Reid, R. (1998). *ADHD Rating Scale-IV: Checklists, norms, and clinical interpretation.* New York: Guilford.

DuPaul, G. J., & Stoner, G. (1994). *ADHD in the schools: Assessment and intervention strategies.* New York: Guilford.

Fisher, P., Wicks, J., Shaffer, D., Piacentini, J., & Lapkin, J. (1992). *National Institute of Mental Health Diagnostic Interview Schedule for Children users' manual.* New York: New York State Psychiatric Institute Division of Child and Adolescent Psychiatry.

Fleming, J. E., Offord, D. R., & Boyle, M. H. (1989). Prevalence of childhood and adolescent depression in the community: Ontario child health study. *British Journal of Psychiatry, 155*, 647-654.

Forehand, R. L., & McMahon, R. J. (1981). *Helping the noncompliant child: A clinician's guide to parent training.* New York: Guilford.

Goldstein, S. (1995). *Understanding and managing children's classroom behavior.* New York: Wiley.

Goodyer, I. M., & Cooper, P. (1993). A community study of depression in adolescent girls: II. The clinical features of identified disorders. *British Journal of Psychiatry, 163,* 374-380.

Hechtman, L., Weiss, G., & Perlman, T. (1984). Hyperactives as young adults: past and current antisocial behaviour (stealing, drug abuse) and moral development. *American Journal of Orthopsychiatry, 54,* 415-425.

Hodges, K. (1990). Depression and anxiety in children: A comparison of self-report questionnaires to clinical interview. *Psychological Assessment: A Journal of Consulting and Clinical Psychology, 2,* 376-381.

Hodges, K., Gordon, Y., & Lennon, M. (1990). Parent-child agreement on symptoms assessed via a clinical research interview for children: The Child Assessment Schedule (CAS). *Journal of Child Psychology and Psychiatry, 31,* 427-436.

Hosp, J. L., & Reschly, D. J. (2002). Regional differences in school psychology practice. *School Psychology Review, 31*(1), 11-29.

Kashani, J. H., & Carlson, G. A. (1987). Seriously depressed preschoolers. *American Journal of Psychiatry, 144,* 348-350.

Kashani, J., Rosenberg, T., & Reid, J. (1989). Developmental perspectives in child and adolescent depressive symptoms in a community sample. *American Journal of Psychiatry, 146,* 871-875.

Kazdin, A. E., & Marciano, P. L. (1998). Childhood and adolescent depression. In E. J. Mash & R. A. Barkley (Eds.), *Treatment of childhood disorders* (2nd ed.). New York: Guilford.

Kennedy, M. F., Faust, D., Willis, W. G., & Piotrowski, C. (1994). Social-emotional assessment practices in school psychology. *Journal of Psychoeducational Assessment, 12*(3), 228-240.

Kovacs, M. (1992). *Children's Depression Inventory (CDI) manual.* New York: Multi-Health Systems.

Kovacs, M., Feinberg, T. L, Crouse-Novak, M. A., Paulauskas, S. L., & Finkelstein, R. (1984). Depressive disorders in childhood I: A longitudinal prospective study of characteristics and recovery. *Archives of General Psychiatry, 41,* 229-237.

Kutcher, S. (1997). Practitioner review: The pharmacotherapy of adolescent depression. *Journal of Child Psychology and Psychiatry, 38*, 755-767.

LaGreca, A. M., & Hughes, J. N. (1999). United we stand, divided we fall: The education and training needs of clinical child psychologists. *Journal of Clinical Child Psychology, 28*, 435-447.

Lewinsohn, P. M., Hops, H., Roberts, R. E., Seeley, J. R., & Andrews, J. A. (1993). Adolescent psychopathology: I. Prevalence and incidence of depression and other DSM-III-R disorders in high school students. *Journal of Abnormal Psychology, 102,* 133-144.

Lewinsohn, P. M., Rohde, P., & Seeley, J. R. (1998). Major depressive disorder in older adolescents: Prevalence, risk factors, and clinical implications. *Clinical Psychology Review, 18*, 765-794.

Lomas, B., & Gartside, P. (1999). ADHD in adult psychiatric outpatients. *Psychiatric Services, 50*, 705.

Mannuzza, S., Klein, R. G., Bessler, A., Malloy, P., & LaPadula, M. (1993). Adult outcome of hyperactive boys: Educational achievement, occupational rank, and psychiatric status. *Archives of General Psychiatry, 50,* 565-576.

Mannuzza, S., Klein, R. G., Bonagura, N., Malloy, P., Giampino, T. L., & Addalli, K. A. (1991). Hyperactive boys almost grown up: V. Replication of psychiatric status. *Archives of General Psychiatry, 48,* 77-83.

McCarney, S. B. (1989a). *Attention Deficit Disorders Evaluation Scale – home version.* Columbia, MO: Hawthorne Educational Services.

McCarney, S. B. (1989b). *Attention Deficit Disorders Evaluation Scale – school version.* Columbia, MO: Hawthorne Educational Services.

McCarney, S. B. (1995a). *The Behavior Dimensions Scale: Home version technical manual.* Columbia, MO: Hawthorne Educational Services.

McCarney, S. B. (1995b). *The Behavior Dimensions Scale: School version technical manual.* Columbia, MO: Hawthorne Educational Services.

McGee, R., Feehan, M., Williams, S., & Anderson, J. (1992). DSM-III disorders from age eleven to fifteen years. *Journal of the American Academy of Child and Adolescent Psychiatry, 31,* 50-59.

Merrell, K. W. (1999). *Behavioral, social, and emotional assessment of children and adolescents.* Mahwah, NJ: Erlbaum.

Milberger, S., Biederman, J., Faraone, S. V., Murphy, J., & Tsuang, M. T. (1995). Attention deficit hyperactivity disorder and comorbid disorders: Issues of overlapping symptoms. *American Journal of Psychiatry, 152*, 1793-1799.

Murphy, K. (1996). Adults with attention deficit hyperactivity disorder: assessment and treatment considerations. *Seminars in Speech and Language, 17*, 245-253.

National Association of School Psychologists. (2000). *Standards for training and field placement programs in school psychology.* Bethesda, MD: Author.

Pekkanen, J. (2000, January). Making sense of Ritalin. *Reader's Digest,* 153-158.

Petersen, A. C., Sarigiani, P. A., & Kennedy, R. E. (1991). Adolescent depression: Why more girls? *Journal of Youth and Adolescence, 20,* 247-271.

Prout, H. J. (1983). School psychologists and social-emotional assessment techniques: Patterns in training and use. *School Psychology Review, 12*, 377-383.

Puig-Antich, J., & Chambers, W. (1978). *The Schedule for Affective Disorders and Schizophrenia for School-Age Children.* New York: New York State Psychiatric Association.

Quay, H. C., & Peterson, D. R. (1987). *Manual for the Revised Behavior Problem Checklist.* Coral Gables, FL: Author.

Quay, H. C., & Peterson, D. R. (1996). *Manual for the Revised Behavior Problem Checklist – PAR version.* Odessa, FL: Psychological Assessment Resources.

Reinherz, H. Z., Giaconia, R. M., Lefkowitz, E. S., Pakiz, B., & Frost, A. K. (1993). Prevalence of psychiatric disorders in a community population of older adolescents. *Journal of the American Academy of Child and Adolescent Psychiatry, 32,* 369-377.

Reschly, D. J. (1997). Diagnostic and treatment utility of intelligence tests. In D. P. Flanagan & J. L. Genshaft (Eds.), *Contemporary intellectual assessment: Theories, tests, and issues* (pp. 437-456). New York: Guilford.

Reynolds, C. R., & Kamphaus, R. W. (1992). *Behavior Assessment System for Children.* Circle Pines, MN: American Guidance.

Reynolds, W. M. (1989). *Reynolds Child Depression Scale.* Odessa, FL: Psychological Assessment Resources.

Reynolds, W. M. (1993). Self-report methodology. In T. H. Ollendick & M. Hersen (Eds.), *Handbook of child and adolescent assessment* (pp. 98-123). Needham Heights, MA: Allyn & Bacon.

Richters, J. E., Arnold, L. E., Jensen, P. S., Abikoff, H., Conners, C. K., Greenhill, L. L., Hechtman, L., Hinshaw, S. P., Pelham, W. E., & Swanson, J. M. (1995). NIMH collaborative multisite multimodal treatment study of children with ADHD: I. Background and rationale. *Journal of the American Academy of Child and Adolescent Psychiatry, 34,* 987-1000.

Robison, L. M., Sclar, D. A., Skaer, T. L., & Galin, R. S. (1999). National trends in the prevalence of Attention-Deficit/Hyperactivity Disorder and the prescribing of methylphenidate among school-age children: 1990-1995. *Clinical Pediatrics, 38,* 209-217.

Rutter, M. R. (1986). The developmental psychopathology of depression: Issues and perspectives. In M. Rutter, C. E. Izard, & P. B. Read (Eds.), *Depression in young people: Developmental and clinical perspectives* (pp. 3-30). New York: Guilford.

Ryan, N. D., Puig-Antich, J., Ambrosini, P., Rabinovich, H., Robinson, D., Nelson, B., Iyengar, S., & Twomey, J. (1987). The clinical picture of Major Depression in children and adolescents. *Archives of General Psychiatry, 44,* 854-861.

Safer, D. J. (2000). Are stimulants overprescribed for youths with ADHD? *Annals of Clinical Psychiatry, 12*(1), 55-62.

Shute, N. (2000, October 2). Pushing pills on kids? *U.S. News and World Report,* 60.

Slap-Shelton, L. (1994). Attention deficit disorder. In L. Slap-Shelton (Ed.), *Child therapy today, Volume I of The child therapy news* (pp. 215-279). Indiana, PA: The Center for Applied Psychology.

Smelter, R. W., Rasch, B. W., & Fleming, J. (1996, February). Is attention deficit disorder becoming a desired diagnosis? *Phi Delta Kappan, 77,* 429-432.

Weinberg, W. A., & Emslie, G. J. (1991). Attention deficit hyperactivity disorder: The differential diagnosis. *Journal of Child Neurology, 6* (Suppl.), 23-36.

Weiss, G., & Hechtman, L. (1993). *Hyperactive children grown up* (2nd ed.). New York: Guilford.

West, S. A., McElroy, S. L., Strakowski, S. M., Keck, P. E. Jr., & McConnville, B. J. (1995). The co-occurrence of attention-deficit hyperactivity disorder in adolescent mania. *American Journal of Psychiatry, 152,* 271-273.

Whitaker, A., Johnson, J., Shaffer, D., Rapoport, J. L., Kalikow, K., Walsh, B. T., Davies, M., Braiman, S., & Dolinsky, A. (1990). Uncommon troubles in young people: Prevalence estimates of selected psychiatric disorders in a nonreferred adolescent population. *Archives of General Psychiatry, 47,* 487-496.

Willcutt, E. G., Pennington, B. F., Chhabildas, N. A., Friedman, M. C., & Alexander, J. (1999). Psychiatric comorbidity associated with DSM-IV ADHD in a nonreferred sample of twins. *Journal of the American Academy of Child and Adolescent Psychiatry, 38*, 1355-1362.

Wilson, M. S., & Reschly, D. J. (1996). Assessment in school psychology training and practice. *School Psychology Review, 25*(1), 9-23.

Woody, R. H., & Davenport, J. (1998). The Blueprint I revisited: Training and practice in school psychology. *Psychology in the Schools, 35*(1), 49-55.

Zeman, J., Nangle, D. W., & Sim, L. (1999). Incorporating a developmental perspective in doctoral training: Survey of clinical psychology training programs and introduction to the special section. *Journal of Clinical Child Psychology, 28* (4), 426-434.

APPENDICES

Appendix A

Cover Letter and Questionnaire

Utah State University
Department of Psychology
Logan, Utah 84322-2810
Telephone: (435) 797-1460
Fax: (435) 797-1448

Dear Psychologist:

As a psychologist who works with children and/or adolescents, you are well aware of the importance of providing appropriate interventions to youth who have behavioral and emotional problems. We are writing to request your participation in a research study we are conducting to examine the assessment and diagnostic practices employed by child-oriented clinicians. Information obtained from this research study will be used to help better educate future clinicians and researchers regarding diagnostic practices.

You have been selected from a random national sampling of NASP and APA members to take part in this study. If you wish to participate in this study, please complete the attached questionnaire and return it in the enclosed, postage-paid envelope. The questionnaire involves reading a short case description of a fictional child and answering a few brief questions based on this description. The time required to complete the survey is approximately 5-10 minutes.

The Institutional Review Board for Human Subjects at Utah State University has reviewed and approved this study. Participation in the study is voluntary, and you may refuse to participate without consequence. There is minimal risk associated with participating in this study. The surveys have been coded to ensure that all information you provide will be confidential. All identifying information will be kept in a locked file cabinet and will be destroyed after data analyses are completed. You should not put your name or any other identifying information on the survey or return envelope. By returning this survey, you give your consent for the information you provide to be combined with information from other participants for data analysis. Because the findings of this study will have important implications for the training and education of future child-oriented psychologists, if you do not return the survey within one month of receiving it, another survey will be mailed to you to remind and encourage you to respond. Upon receipt of your survey, your name will be removed from the mailing list and you will not be contacted again.

If you would like a copy of the results of this study, please enclose a request with your name and address. If you have any questions regarding this study, please contact one of us at the above address or at the phone numbers below.

Thank you in advance for your cooperation and participation in this important research study.

Sincerely,

Hollie K. Berglof, B.S.
Graduate Student
(435) 753-3806

Gretchen A. Gimpel, Ph.D.
Associate Professor
(435) 797-0721

Please complete the following questions about yourself:

Age: ____

Gender: ____ M ____F

Ethnicity: ____ Caucasian ____ African-American ____ Latino
____ Native-American ____Asian ____ Other (Please specify):_____

Degree: ____ Master's or Ed.S. _____ Doctorate

Area of Degree: ____ Clinical ____ Counseling ____ School
____ Combined Program ____ Other (Please specify):_____

Did you have a class in:
Child/Developmental Psychopathology? ____ Yes ____ No
Child/Adolescent Social-Emotional Assessment? ____ Yes ____ No

---

Please complete the following questions regarding your current employment:

Which one of the following best describes your current primary work setting?
___ Private practice (psychological)
___ Hospital setting
___ Community mental health setting
___ School setting (K-12)
___ College or University (Practitioner ___ or Faculty ___)
___ Corrections setting
___ Other setting (please specify): _____

Number of years in current position: _____
Number of years in practice: _____
Age range of population currently served: _____
Average number of clinical hours per week: _____
Average number of formal child social-emotional evaluations conducted each month: _____

Of the child social-emotional evaluations you conduct each month, estimate what percent of children receive the following diagnoses:
_____ Anxiety Disorders
_____ Attention Deficit Hyperactivity Disorder
_____ Autism
_____ Mood Disorders
_____ Oppositional Defiant Disorder or Conduct Disorder
_____ Other (Please specify): _____
_____ No diagnosis

Please read the following case scenario and answer the questions below.

Mark (Miranda) is an 8-year-old (15-year-old) male (female) in the third (tenth) grade. In school, he tries to pay attention, but his mind drifts and he becomes easily distracted. He has difficulty getting started with work and often feels overwhelmed. When Mark does engage in work, his effort fades quickly. His teacher reports that he does not work to his potential, although he has been assessed for a learning disability and found to not have one. He is highly sensitive to criticism and becomes irritated or frustrated easily. At home, Mark has trouble sleeping and difficulty getting out of bed in the morning. He also has problems getting ready for school in the morning, and as a result, he is often late for school. When given a task at home, Mark has difficulty following through and completing the task. His parents report that he has trouble getting along with family members and peers.

Assume that this child is a new client of yours and is coming in for an assessment. This is the primary symptomatology presented to you prior to your first session with this child. Please answer the following questions concerning assessment and diagnostic procedures. (We realize you would gather additional information prior to making decisions regarding many of these items, however please do your best to answer the questions based on the information provided.)

1) **Please rate how likely you would be to consider each of the following diagnoses by circling 1, 2, 3, 4, or 5 according to the scale below.**

   1 = really likely to consider, 2 = likely to consider, 3 = somewhat likely to consider but not sure, 4 = possibility but only somewhat likely, 5 = possibility but not all that likely

Anxiety Disorders	1	2	3	4	5
Attention Deficit Hyperactivity Disorder	1	2	3	4	5
Autism	1	2	3	4	5
Mood Disorders	1	2	3	4	5
Oppositional Defiant Disorder or Conduct Disorder	1	2	3	4	5
Other (Please specify): _____	1	2	3	4	5

2) **What assessment measures/instruments or techniques are you most likely to use? Please check those that you would *typically* use in your practice for a case such as this one.**

Interviews

____ Structured	____ Semi-structured	____ Unstructured
____ Child	____ Child	____ Child
____ Parent	____ Parent	____ Parent
____ Teacher	____ Teacher	____ Teacher

Observations

____ Classroom Observation ____ Clinic-based Observation

Self-Report/Personality Measures

____ Behavior Assessment System for Children – Self-Report Form
____ Children's Depression Inventory
____ Multidimensional Anxiety Scale for Children
____ Multidimensional Self-Concept Scale
____ Revised Children's Manifest Anxiety Scale
____ Reynolds Child Depression Scale
____ State-Trait Anxiety Inventory for Children
____ Social Skills Rating System
____ Youth Self-Report (Achenbach)

Parent Completed Measures

____ Attention Deficit Disorder Evaluation Scale
____ ADHD Rating Scale-IV
____ Behavior Assessment System for Children
____ Child Behavior Checklist (Achenbach)
____ Conners Parent Rating Scales
____ Devereux Scales of Mental Disorders
____ Revised Behavior Problem Checklist
____ Social Skills Rating System

Teacher Completed Measures

____ Attention Deficit Disorder Evaluation Scale
____ ADHD Rating Scale-IV
____ Behavior Assessment System for Children
____ Teacher's Report Form (Achenbach)
____ Conners Teacher Rating Scales
____ Devereux Scales of Mental Disorders
____ Revised Behavior Problem Checklist
____ Social Skills Rating System
____ Walker-McConnell Scale of Social Competence and School Adjustment

Please list any other measures you would use that are not listed above:

_____ _____

_____ _____

3) What key information would you attend to in making a diagnosis for this client?

Thank you for your time in completing this survey.

Appendix B

Frequency Counts

Table B-1

Frequencies and Percentages of Assessment Instruments Most Likely to Be Used to Evaluate an Eight-Year-old Male (n = 101)

Instrument/Measure	Frequency	Percentage
Structured interview		
Child	23	23.0
Parent	34	33.7
Teacher	29	28.7
Semistructured interview		
Child	64	63.4
Parent	59	58.4
Teacher	34	33.7
Unstructured interview		
Child	29	28.7
Parent	24	23.8
Teacher	23	23.0
Classroom observation	65	64.4
Clinic-based observation	56	55.4
Self-report/Personality measures		
Behavior Assessment System for Children	43	42.6
Children's Depression Inventory	41	40.6
Multidimensional Anxiety Scale for Children	7	6.9
Multidimensional Self-Concept Scale	6	5.9
Revised Children's Manifest Anxiety Scale	21	20.8
Reynolds Child Depression Scale	14	13.9
State-Trait Anxiety Inventory for Children	1	1.0
Social Skills Rating System	12	11.9
Youth Self-Report	27	26.7
Parent-completed measures		
Attention Deficit Disorder Evaluation Scale	25	24.8
ADHD Rating Scale-IV	17	16.8
Behavior Assessment System for Children	41	40.6
Child Behavior Checklist	51	50.5
Conners Parent Rating Scales	51	50.5
Devereux Scales of Mental Disorders	5	5.0
Revised Behavior Problem Checklist	6	5.9
Social Skills Rating System	11	10.9

(*table continues*)

Instrument/Measure	Frequency	Percentage
Teacher-completed measures		
Attention Deficit Disorder Evaluation Scale	24	23.8
ADHD Rating Scale-IV	16	15.8
Behavior Assessment System for Children	36	35.6
Teacher's Report Form	48	47.5
Conners Teacher Rating Scales	51	50.5
Devereux Scales of Mental Disorders	5	5.0
Revised Behavior Problem Checklist	3	3.0
Social Skills Rating System	9	8.9
Walker-McConnell Scale of Social Competence/School Adjustment	0	0.0
Projective Measures		
Sentence Completion	11	10.9
Rorschach	10	9.9
Projective drawings	14	13.9
Thematic-based test	13	12.9
Other	2	2.0
Cognitive	18	17.8
Achievement	7	6.9
Continuous Performance Test	16	15.8
Neurological/Memory	4	4.0
Visual-Motor	7	6.9
Self-concept	2	2.0
Other Personality/Self-Report	4	4.0
Other Behavior Rating Scale	13	12.9
Social/Developmental History	5	5.0
Medical History/Examination	4	4.0
Other	7	6.9

Table B-2

Frequencies and Percentages of Assessment Instruments Most Likely to Be Used to Evaluate an Eight-Year-old Female (n = 98)

Instrument/Measure	Frequency	Percentage
Structured interview		
Child	29	9.6
Parent	40	40.8
Teacher	31	31.6
Semistructured interview		
Child	59	60.2
Parent	58	59.2
Teacher	41	41.8
Unstructured interview		
Child	35	35.7
Parent	17	17.3
Teacher	18	18.4
Classroom observation	68	69.4
Clinic-based observation	55	56.1
Self-report/Personality measures		
Behavior Assessment System for Children	44	44.9
Children's Depression Inventory	55	56.1
Multidimensional Anxiety Scale for Children	10	10.2
Multidimensional Self-Concept Scale	8	8.2
Revised Children's Manifest Anxiety Scale	35	35.7
Reynolds Child Depression Scale	24	24.5
State-Trait Anxiety Inventory for Children	4	4.1
Social Skills Rating System	14	14.3
Youth Self-Report	24	24.5
Parent-completed measures		
Attention Deficit Disorder Evaluation Scale	21	21.4
ADHD Rating Scale-IV	16	16.3
Behavior Assessment System for Children	45	45.9
Child Behavior Checklist	47	48.0
Conners Parent Rating Scales	55	56.1
Devereux Scales of Mental Disorders	6	6.1
Revised Behavior Problem Checklist	6	6.1
Social Skills Rating System	19	19.4
Teacher-completed measures		
Attention Deficit Disorder Evaluation Scale	21	21.4
ADHD Rating Scale-IV	17	17.3
Behavior Assessment System for Children	45	45.9
Teacher's Report Form	41	41.8

(*table continues*)

Instrument/Measure	Frequency	Percentage
Conners Teacher Rating Scales	59	60.2
Devereux Scales of Mental Disorders	6	6.1
Revised Behavior Problem Checklist	2	2.0
Social Skills Rating System	20	20.4
Walker-McConnell Scale of Social Competence/School Adjustment	4	4.1
Projective Measures		
Sentence Completion	22	22.4
Rorschach	12	12.2
Projective drawings	21	21.4
Thematic-based test	19	19.4
Other	1	1.0
Cognitive	13	13.3
Achievement	9	9.2
Continuous Performance Test	8	8.2
Neurological/Memory	5	5.1
Visual-Motor	3	3.1
Self-concept	5	5.1
Other Personality/Self-Report	8	8.2
Other Behavior Rating Scale	17	17.3
Social/Developmental History	6	6.1
Medical History/Examination	2	2.0
Other	9	9.2

Table B-3

Frequencies and Percentages of Assessment Instruments Most Likely to Be Used to Evaluate a Fifteen-Year-old Male (n = 81)

Instrument/Measure	Frequency	Percentage
Structured interview		
Child	27	33.3
Parent	26	32.1
Teacher	19	23.5
Semistructured interview		
Child	49	60.5
Parent	46	56.8
Teacher	40	49.4
Unstructured interview		
Child	30	37.0
Parent	21	25.9
Teacher	19	23.5
Classroom observation	51	63.0
Clinic-based observation	41	50.6
Self-report/Personality measures		
Behavior Assessment System for Children	32	39.5
Children's Depression Inventory	37	45.7
Conners-Wells' Adolescent Self-Report Scales	14	17.3
Minnesota Multiphasic Personality Inventory – Adolescent	12	14.8
Multidimensional Anxiety Scale for Children	7	8.6
Multidimensional Self-Concept Scale	4	4.9
Revised Children's Manifest Anxiety Scale	19	23.5
Reynolds Child Depression Scale	28	34.6
State-Trait Anxiety Inventory for Children	2	2.5
Social Skills Rating System	9	11.1
Youth Self-Report	27	33.3
Parent-completed measures		
Attention Deficit Disorder Evaluation Scale	17	21.0
ADHD Rating Scale-IV	12	14.8
Behavior Assessment System for Children	33	40.7
Child Behavior Checklist	36	44.4
Conners Parent Rating Scales	45	55.6
Devereux Scales of Mental Disorders	3	3.7
Revised Behavior Problem Checklist	4	4.9
Social Skills Rating System	5	6.2
Teacher-completed measures		
Attention Deficit Disorder Evaluation Scale	20	24.7
ADHD Rating Scale-IV	11	13.6

(*table continues*)

Instrument/Measure	Frequency	Percentage
Behavior Assessment System for Children	32	39.5
Teacher's Report Form	33	40.7
Conners Teacher Rating Scales	41	50.6
Devereux Scales of Mental Disorders	3	3.7
Revised Behavior Problem Checklist	2	2.5
Social Skills Rating System	5	6.2
Walker-McConnell Scale of Social Competence/School Adjustment	2	2.5
Projective Measures		
Sentence Completion	7	8.6
Rorschach	6	7.4
Projective drawings	10	12.3
Thematic-based test	14	17.3
Other	2	2.5
Cognitive	6	7.4
Achievement	3	3.7
Continuous Performance Test	5	6.2
Neurological/Memory	6	7.4
Visual-Motor	2	2.5
Self-concept	2	2.5
Other Personality/Self-Report	4	4.9
Other Behavior Rating Scale	6	7.4
Social/Developmental History	2	2.5
Medical History/Examination	2	2.5
Other	9	11.1

Table B-4

Frequencies and Percentages of Assessment Instruments Most Likely to Be Used to Evaluate a Fifteen-Year-old Female (n = 98)

Instrument/Measure	Frequency	Percentage
Structured interview		
Child	26	26.5
Parent	30	30.6
Teacher	21	21.6
Semistructured interview		
Child	61	62.2
Parent	56	57.1
Teacher	38	38.8
Unstructured interview		
Child	28	28.6
Parent	20	20.4
Teacher	17	17.3
Classroom observation	46	46.9
Clinic-based observation	53	54.1
Self-report/Personality measures		
Behavior Assessment System for Children	49	50.0
Children's Depression Inventory	43	43.9
Conners-Wells' Adolescent Self-Report Scales	17	17.3
Minnesota Multiphasic Personality Inventory – Adolescent	26	26.5
Multidimensional Anxiety Scale for Children	8	8.2
Multidimensional Self-Concept Scale	3	3.1
Revised Children's Manifest Anxiety Scale	28	28.6
Reynolds Child Depression Scale	34	34.7
State-Trait Anxiety Inventory for Children	1	1.0
Social Skills Rating System	8	8.2
Youth Self-Report	41	41.8
Parent-completed measures		
Attention Deficit Disorder Evaluation Scale	14	14.3
ADHD Rating Scale-IV	13	13.3
Behavior Assessment System for Children	44	44.9
Child Behavior Checklist	52	53.1
Conners Parent Rating Scales	51	52.0
Devereux Scales of Mental Disorders	8	8.2
Revised Behavior Problem Checklist	4	4.1
Social Skills Rating System	9	9.2
Teacher-completed measures		
Attention Deficit Disorder Evaluation Scale	13	13.3
ADHD Rating Scale-IV	12	12.2

(*table continues*)

Instrument/Measure	Frequency	Percentage
Behavior Assessment System for Children	40	40.8
Teacher's Report Form	45	45.9
Conners Teacher Rating Scales	51	52.0
Devereux Scales of Mental Disorders	6	6.1
Revised Behavior Problem Checklist	5	5.1
Social Skills Rating System	10	10.2
Walker-McConnell Scale of Social Competence/School Adjustment	1	1.0
Projective Measures		
Sentence Completion	12	12.2
Rorschach	7	7.1
Projective drawings	12	12.2
Thematic-based test	10	10.2
Other	2	2.0
Cognitive	10	10.2
Achievement	6	6.1
Continuous Performance Test	16	16.3
Neurological/Memory	6	6.1
Visual-Motor	5	5.1
Self-concept	4	4.1
Other Personality/Self-Report	15	15.3
Other Behavior Rating Scale	11	11.2
Social/Developmental History	1	1.0
Medical History/Examination	3	3.1
Other	11	11.2