A COMPARATIVE EVALUATION OF THE PREDICTIVE POWER OF THE DSM-IV DISRUPTIVE BEHAVIOR DISORDERS IN A PRESCHOOL POPULATION

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Abstract

Examination of the relative validity of the DSM-IV Disruptive Behavior Disorders (DBD) criteria with preschoolers was the purpose of the present study. The participants (N = 60) consisted of a community sample of mothers of preschool-aged children. Two matched groups (clinic and controls) were formed based on an external criterion (i.e., clinically-significant scores on the Child Behavior Checklist). Diagnostic efficiency indices were obtained to determine the utility of DBD categories for classification of preschool-aged children. Measures included the NIMH Diagnostic Interview Schedule for Children (DISC 2.3), Revised Behavior Problem Checklist, and the Eyberg Child Behavior Inventory. It was hypothesized that the DSM-IV Disruptive Behavior Disorders categories (i.e., Attention-Deficit/Hyperactivity Disorder, Oppositional Defiant Disorder, and Conduct Disorder) would be overidentified in the sample and that the DBD categorical system would be less diagnostically accurate as compared to dimensional rating scales in identifying true clinically-significant behavior as determined by an external criterion. Results revealed that the DBD categories were comparable to normed rating scales in their positive predict power (PPP)--ability to detect caseness--as well as in their negative predictive power (NPP)--ability to screen out cases. Furthermore, the DBD criteria demonstrated varying utility for diagnostic purposes with children in this age range.

CHAPTER I

INTRODUCTION

Behavior problems have been well-documented in research on child behavior and psychopathology (Hinshaw, 1994; Moffitt, 1990). Achenbach and Edelbrock (1978) conducted an early extensive review of research in the area of child behavior and psychopathology and found substantial empirical evidence for the presence of behavior problems in children. The evidence of significant child problem behavior has continued to grow (Campbell, 1990; Richman, Stevenson, & Graham, 1982). Among the behaviors frequently identified in both preschoolers and older children are aggression, impulsivity, and defiance (Achenbach, 1991; Achenbach & Edelbrock, 1981; Campbell, 1990; Crowther, Bond, & Rolf, 1981). Other specific behaviors that have since been documented include stealing, temper tantrums, firesetting and vandalism (Achenbach, Howell, Quay, & Conners, 1991; Eyberg & Ross, 1978; McGuire & Richman, 1986; Olweus, 1979; Werry & Quay, 1971). It is now widely recognized that significant problem behavior can be identified as early as age 3 and, if untreated, can persist into school age and beyond (Barkley, 1996; Campbell, 1990; Loeber, Lahey, Christ, & Frick, 1991).

The persistence of behavior problems in hard-to-manage preschool-aged children points to the need for early identification and treatment in order to help prevent exacerbation of the behaviors. While classification systems have been commonly employed with children above age 6, only recently has there been attention on accurate assessment of behavioral difficulties during the preschool years. The purpose of the

present study was to examine the utility of classification in a preschool-aged sample using a categorical system (i.e., DSM) to determine the prevalence of behavior problems. Specifically, the validity of classification for children under the age of 6 was a centeral question to be addressed. The following sections of this introduction will review 1) the prevalence of behavior problems and their effects, 2) the ways in which behavior problems are classified in children (i.e., categorical and dimensional approaches), 3) developmental issues in the classification of young children and, 4) methods to analyze diagnostic efficiency of a classification tool (i.e., Bayesian analyses).

Behavior Problems and Their Effects

While all children show some misbehavior, studies indicate that between 12 and 17 percent of the youth of America suffer from clinically-significant emotional and behavioral problems (Kazdin, 1991). Moreover, in epidemiologic studies from around the world, approximately 18 to 22% of children and adolescents exhibit significant psychopathology. In preschool samples, approximately 10 to 15% of preschoolers have mild to moderate behavior problems (Richman et al., 1982).

The effects of acting-out problems on a child's daily functioning can be stable and quite severe. Levels of hyperactivity and aggression at preschool-age have been found to be most commonly associated with persistence of problems at school-age. In a study by Egeland and colleagues (1990), a sample of children were followed from infancy to third grade. Children classified as showing clinically significant problems in preschool were still rated at this level in the first, second, and third grades. Previous studies have also found that children who display acting-out behaviors are rejected by their peers and retain

this status over time (Campbell, 1994a; Hubbard & Newcomb, 1991; Milich & Loney, 1979; Miller & Scarr, 1989). Olsen and Brodfeld (1991) examined the longitudinal stability of measures of negative peer status in preschool boys. Not only were teacher and peer reports in high agreement for identifying those children with behavior problems, but these classifications remained stable throughout the year. In addition, fifty percent of the boys with rejection status also maintained this status at year's end. This pattern is similar for preschool-aged children as well (Eisenstadt, Eyberg, McNeil, Newcomb, & Funderburk, 1991). Campbell and Ewing (1990) found high stability of behavior problems from preschool to elementary school over 3- to 7-year follow-up. In fact, Campbell (1994a) states that the probability of a hard-to-manage preschooler continuing to have the difficulty through elementary and even early adolescence is about .50. This indicates that a child who displays behavior problems also risks his/her opportunity for progressive social development.

Behavior problems have also been shown to be predictive of later academic, social and interpersonal difficulties (Campbell, Ewing, Breaux & Szumowski, 1986; Loeber, 1982; Moffitt, 1990; Tremblay Gagnon, Charlebois, Larivee, & LeBlanc, 1991) In follow-up studies, children identified as exhibiting problem behaviors during their preschool years were reported to continue to have adjustment difficulties at home, school, and with peers. For example, Campbell (1994a) reported findings from a longitudinal study of school-aged boys labelled hard-to-manage as preschoolers. Results indicated that these children continued to display problem behaviors and poor social functioning, as reported by the children's parents, teachers, and the children themselves. Furthermore, in

a study by Tremblay et al. (1991), boys in kindergarten who were labelled as "stable high fighters" by their teachers and peers were followed several years later and found to still be perceived by these informants, as well as the boys themselves, as more disruptive and antisocial than occasional fighters. Parent-referred three-year-olds with early signs of hyperactivity and other acting-out problems were followed up at age six and found to continue to have adjustment difficulties (Campbell et al., 1986).

One of the most deleterious effects of acting-out problems on a child's functioning involves the likelihood of later involvement in illegal activity. Children with high levels of behavior problems (e.g., hyperactivity, aggression, delinquent acts) and antisocial behaviors are at a higher risk than nonproblematic counterparts for participating in illegal behaviors in their adolescent years---many also risk becoming chronic offenders (Loeber, & Baicker-McKee, 1989; van Kammen, Loeber, & Stouthamer-Loeber, 1991). Moffitt (1990) examined the existence of juvenile delinquency among children with clinically-significant attention deficit problems as well as high levels of antisocial behavior. Over half of these children participated in delinquent acts during their teen years -- those with higher rates of behavior problems showed higher rates of antisocial behavior and delinquency. Van Kammen and colleagues (1991) also found that children who displayed many behavior problems when young were more likely to be substance abusers, as well as be involved in more severe delinquent acts (e.g., truancy, shoplifting). Finally, several other researchers have found that measures of aggressiveness of children during the preschool and middle years predicted later criminal involvement (e.g., property crimes) by ages 30 and 40 (Huesmann, Eron, Lefkowitz, & Walder, 1984;

McCord, 1983). In fact, ratings of problematic behaviors at ages 3 and 5 were the best predictors of antisocial behavior later in development (Campbell, 1994; Moffitt, 1990). Therefore, problems identified early do persist.

The persistence of these behaviors across the life span, coupled with their adverse effects, points to a need for early identification and preventive intervention (Campbell, 1990; Eyberg, 1992; Miller & Scarr, 1989). In fact, preventive intervention was one of the areas of focus discussed at a special conference of the National Institute of Mental Health in 1990 (Jensen et al., 1993). In particular, interventions that begin in the preschool or early school years were described as the ideal by participants of the 1990 NIMH conference (Jensen et al., 1993). Yet, only recently have researchers begun to assess the significance of behavior problems in children below the age of six as possible indicators of long-term problems.

In a review of recent research of behavior problems in preschoolers, Campbell (1994) examined empirical work on the prevalence, course, and correlates of problematic behavior in preschool-aged children. Campbell also addressed the developmental issues involved when considering if levels of problematic behavior are significant. While eating, sleeping, and toileting problems are major concerns of parents of toddlers, concern shifts to discipline in the preschool years, peaking at the age of 3 years (Jenkins, Bax, & Hart, 1980). Due to the nature of changes from toddlerhood to preschool-age, it may be difficult to ascertain transient versus long-standing adjustment problems. Acting-out behaviors such as tantrums, attentional problems, overactivity, and aggression with peers decrease somewhat in nonclinical samples (Crowther et al., 1981).

Furthermore, while gender differences have been found for levels and base rates of behavior problems in children over the age of six (American Psychiatric Association, 1994; Barkely, 1990; Faraone, Biederman, Keenan, & Tsuang, 1991; Pelham, Wheeler, & Chronis, 1996 with behavior disorders being more common in boys at a ratio of 4 to 9:1, the research has been inconsistent regarding gender differences in preschool-aged children (Crowther et al., 1981; Stallard, 1993) but the majority of research suggests that these differences are minimal.

The presence of a few problematic behaviors rarely represents psychopathology. In order to identify children in need of intervention, classification of acting-out behaviors that are beyond age-appropriate levels is needed (Werry, 1992). However, not all classification systems incorporate these developmental issues. The next sections will discuss two common methods of classification, categorical and dimensional. The pros and cons of each approach will be discussed, as well as examples of each. Discussion will then turn to how developmental issues have been addressed by these approaches, specifically in regards to young children. Finally, predictive power will be reviewed as a means to assess the diagnostic accuracy of a measure.

CHAPTER II

REVIEW OF THE LITERATURE

Classification

One of the primary goals of classification is to aid in the development of effective prevention and intervention strategies (Cantwell & Baker, 1988; Kazdin, 1991). Classification contributes to the study of normal and abnormal functioning through the identification of groups of individuals who are relatively homogenous with respect to certain pertinent variables (e.g., manifest symptomatology, etiology). It also provides a framework for understanding developmental processes, both normal and abnormal (Garber, 1984). In order to develop a good system and method of classification of childhood disorders, both the general criteria of good classification (e.g., reliability, validity, feasibility, coverage, and utility) and developmental issues should be addressed (Cantwell & Baker, 1988; Frick et al., 1994; Garber, 1984).

Whether childhood psychopathological disorders are referred to as deviations from age-appropriate norms, exaggerations of normal developmental trends, or interferences in the normal progression of development, it is clear that some notion of normality in the context of developmental processes is essential (Ammerman, Last, & Hersen, 1993; Garber, 1984; Rutter, 1972). In order to evaluate, classify, and understand deviation, we first must have a sense of what is expected of the child at each age level. It is necessary to catalogue the typical time course of behaviors and their expected base rates at various points in development. Definitions are dependent on current, and hence changing, expectations for each particular age group. Two primary classification

methods for assessing externalizing behavior problems in children are: 1) dimensional and, 2) categorical approaches. However, controversy continues regarding the relative utility and superiority of one classification approach over the other (i.e., dimensional approaches vs. categorical) (Cantwell & Baker, 1988; Fergusson & Horwood, 1995; Jensen, Koretz, et al., 1993; Mash & Terdal, 1988).

Dimensional Approaches

A common method for assessing externalizing behaviors is the dimensional approach which is a psychometrically-based paradigm. Behavioral dimensions are classified into groups by statistical procedures such as factor and cluster analysis. In this system, general dimensions of overcontrolled and undercontrolled child behavior are considered to occur to some degree for all children (Mash & Terdal, 1988). Therefore, psychopathology is viewed as a measurable deviation from normal and not a clinical entity in itself. Externalizing syndromes, also referred to as undercontrolled or acting-out behaviors include such behaviors as aggression, defiance, attentional problems, and excessive motor activity.

Behavior rating scales. Behavior checklists, an example of the dimensional paradigm, are supported because of this empirically-derived base (Achenbach & Edelbrock, 1978, 1981, 1987, 1991; Cantwell & Baker, 1988). The groupings produced by this approach are, therefore, reliable and homogenous since statistical procedures measure the tendency of certain behaviors to occur together, thus eliminating interobserver unreliability (Cantwell & Baker, 1988). In a six-year follow-up study of children aged 9 through 18 years, ratings of overall impairment were found to be strongly

associated with data obtained using empirically-based syndromes regarding behavioral excesses (Achenbach, Howell, McConaughy, & Stanger, 1995). In fact, those whose syndrome scores were in the clinical range were more likely to show the signs of disturbance outlined in the study than those with all syndrome scores in the normal range.

Rating scales determine the degree to which a particular child fits the dimension's descriptors compared to normative information regarding the rates of these behaviors. A few examples of rating scales are the Child Behavior Checklist, Revised Behavior Problem Checklist, and the Eyberg Child Behavior Inventory. Each of these provides the clinician with normative information against which to compare. An advantage of rating scales is the incorporation of developmental norms in the computation of the child's level of problematic behavior. Another advantage of using these scales is that they also include information for preschool-aged children. Therefore, these developmentally-sensitive measures for preschoolers make early intervention possible.

Problems with the dimensional approach, however, involve the description when an individual fits more than one class and whether all or some statistically significant dimensions are clinically meaningful (Cantwell & Baker, 1988). In addition, facilitation of professional communication regarding the dimensional categories is difficult due to the lengthy definitions that one must remember.

Categorical Approaches

The categorical approach is a medically-based paradigm in which psychopathology is classified into distinct syndromes (Biederman et al., (1993). Each syndrome, or disorder, requires that certain criteria be satisfied in order for a diagnosis to

be rendered. An advantage of this approach is that it is more convenient in clinical settings. In addition, it allows clinicians to communicate more easily regarding cases. One of the disadvantages of this approach is that it is unclear how valid some diagnoses are for particular groups (e.g, children, adolescents). Further, one child with a particular diagnosis may present a very different clinical picture than another child with the same diagnosis.

DSM Nomenclature. In the field of child psychiatry/psychology, one of the more highly developed classification systems for categorizing disorders is the Diagnostic and Statistical Manual of Mental Disorders (American Psychiatric Association, 1952, 1968, 1980, 1987, 1994). This system, which was first developed in 1952 in order to develop a uniform nomenclature, has undergone several revisions since its inception; however, these have not been unanimously supported (Cantwell & Baker, 1988; Rey, 1988; Zimmerman, 1988). The behavior disorders included within the current version, DSM-IV, include Attention-deficit/Hyperactivity Disorder (ADHD), Oppositional Defiant Disorder (ODD), and Conduct Disorder (CD) (American Psychiatric Association, 1994). Children with ADHD are characterized by hyperactivity, impulsivity and/or inattention. Children with ODD are characterized by a general noncompliance and stubbornness, while more severe delinquent behavior (e.g., firesetting, vandalism) falls into the category of CD. Children with these disorders account for a significant percentage of the referrals to school and mental health practitioners (Kazdin, 1991; Mash & Terdal, 1988).

Since the development of the criteria for the disorders that comprise the DBDs, disagreements about the nature and classification of these disorders have surfaced

(Achenbach, 1980; Hinshaw, 1987; Rey, 1988; Spitzer, Davies, & Barkley, (1990). Before the development of DSM-III, one of the most crucial criticisms was the lack of empirical support for the categories proposed in the first and second editions (Widiger, Frances, Pincus, Davis, & First (1991). Empirical validation for the first two editions was, instead, limited to opinion surveys. This realization generated increased efforts for scientific grounding of the present syndromes through field trials.

Advisory committees were formed for the development of DSM-III under the guidance of the Task Force on Nomenclature and Statistics (Widiger, et al., 1991). Each committee was comprised of researchers and other experts in the field and clinicians were invited to participate and submit relevant data regarding clinical populations. Because of the limited research available, many decisions for DSM-III continued to be based on best clinical judgment and experience.

In developing the DSM-III-R criteria, the DSM-III-R Advisory Committee made use of previously validated item pools from behavior rating scales (Spitzer et al., 1990). A number of informative surveys were also conducted for DSM-III-R in which clinicians provided data on their patients. Therefore, the proposed set of criteria included both items from behavior rating scales and items that clinicians supported as useful. Although the DSM-III-R committee tried to obtain concurrent and descriptive validity data, they were limited by lack of sufficient time, support, and review to maximize the internal and external validity of the research designs. For example, most of the field trials relied on the single external validator of clinicians' diagnoses to evaluate proposed criteria and the studies were unable to compare the impact of proposed revisions across divergent

populations (Spitzer et al., 1990). The results, then, may be biased by sampling methods, differential response rates and phrasing of questions (Zimmerman, 1988). Cantwell and Baker (1988) argued that this criticism is even more valid since fewer people were involved in the construction of DSM-III and its field testing was quite limited. Furthermore, there was a question whether the participants were sufficiently aware of the issues, literature, or data to offer an informed opinion about a proposed diagnosis. With respect to Conduct Disorder, for example, Cantwell and Baker (1988) contend that the changes in subgrouping from four subtypes in DSM-III to three subtypes in DSM-III-R were not clearly supported in the literature. They argue that the socialized/unsocialized and aggressive/unaggressive subtypes may all have some predictive validity, particularly when age and sex differences are considered.

Disagreement about the utility of the behavior disorders also centered around how many items from a final list of discriminating items for each externalizing disorder should be required in DSM-III-R. Again, clinicians' diagnoses were the only criteria used to validate the number of items required to maximize sensitivity and specificity (Spitzer & Williams, 1987). Symptom items that were included in the interview or questionnaire reflect, in part, the theoretical bias of the clinician conducting the interview or the researcher constructing the test (Zimmerman, 1988). Although rating scale items were included as proposed items, focus was swayed more toward clinicians' personal preferences for item selection and endorsement. In addition, no consistency across field trial sites was established for how this decision would be reached (Spitzer et al., 1990). For DSM-III-R, then, there was great reliance on clinical judgment rather than a more

objective standard in the choice of a criterion to judge the validity of the criteria.

Preparation of the fourth edition of the DSM (i.e., DSM-IV) was heightened toward examining, refining and improving the psychometric properties of the DSM-III-R system (Frances, Widiger, & Pincus, 1989; Frick et al., 1994; Shaffer et al., 1989). The Committee for the DSM-IV also employed field trials in the process of developing this edition (Frances et al., 1989; Frick et al., 1994; Shaffer et al., 1989). Specifically, the field trials were designed to provide a systematic framework for providing information regarding utility of existing criteria as well as documentation of empirical support for proposed changes (Frances et al., 1989; Shaffer et al., 1989; Widiger et al., 1991). Several strategies were utilized that represent improvements over the former field trial process. For example, reviews of quality empirical work on the DSM-III-R DBDs were conducted to guide criteria selection. Several concerns of the field trial committee about the DBDs involved the absence of a subset of required criteria for diagnosis. They feared that without this subset, the clinical picture of the diagnostic group could vary widely thus increasing the heterogeneity of the clinical sample. Reanalyses of appropriate data sets were also conducted in order to provide justification for reinclusion of existing criteria and/or inclusion of proposed changes (Frick et al., 1994). Field trial data were then used to investigate whether these sets represented improvement over the previous criteria sets.

Overlap of categorical and dimensional approaches

Measures based on categorical approaches (e.g., DSM) have included similar items as those included in dimensional measures (e.g., rating scales). This action has put

into place a partial link between the two types of measures. Past research has also demonstrated associations between information yielded by the dimensional approach (i.e., syndromes) and that yielded by the categorical approach (i.e., diagnoses). In a review of literature pertaining to the externalizing disorders (i.e., the DBDs), Hinshaw (1987) examined the extent to which factors in the domains of interest have been validated. He, too, identified two major models of behavioral classification: (a) the empirical/dimensional approach, in which key features are assumed to be distributed continuously and, (b) the categorical approach, in which cases are held to constitute discrete types or classes. Hinshaw (1987) focused, in particular, on the independence and validity of two dimensions typically associated with the externalizing domain--hyperactivity/attention deficits and conduct problems/aggression. Other reviews, he states, have shown convergence in these two major dimensions of child psychopathology (Achenbach & Edelbrock, 1978; Quay, 1979). In fact, forty-one of the sixty journals reviewed by Hinshaw revealed factor analyses which yielded distinct factors of conduct problems/aggressiveness and attention deficits/hyperactivity. Thus, replication of the hyperactivity and aggressive features across age groups and gender that are evident in dimensional measures have occurred in the research.

Results of a meta-analytic review of factor analyses identified two dimensions of behavior: an overt/covert dimension and a destructive/ nondestructive dimension. These two dimensions yielded subareas that correspond well with diagnostic categories. For example, strong associations have been found between the diagnoses of ADHD (and ADD) and scores on the Hyperactive scale of the Child Behavior Checklist (CBCL). The

CBCL is one of most highly researched examples of the psychometric, or dimensional, approach. Shekim et al. (1986) found significantly higher mean scores on the Hyperactive scale in children with ADD than in controls. Similar results have been found by other researchers as well (Chen, Faraone, Biederman, & Tsuang, 1994; Edelbrock & Costello, 1988; Rey, Morris-Yates, & Stainslaw, 1992). Biederman et al. (1993) found excellent agreement between CBCL scales of Attention Problems and Delinquent Behavior and the diagnoses of ADHD and CD, respectively. The scales were the best predictors of the presence of ADHD and comorbid disorders.

Recently, Fergusson & Horwood (1995) set out to study the predictive validity of categorical and dimensional approaches for categorizing behavior disorders. They assessed a birth cohort of 935 children at age 15 on DBD criteria and dimensional variables. They found evidence of a linear and continuous function between symptom severity and outcome risks (e.g., law violations). Dichotomizing symptom information (i.e., categorical, DSM) did not incorporate this continuous aspect. Jensen (1995) argued that, when information is dichotomized, precision of measurement is lost. Therefore, dimensional variables were found to be better predictors of outcome than diagnostic classification. However, if dimensional properties are incorporated into the DBDs, such as severity level, predictive value may be enhanced. For example, diagnosis usually requires age of onset and level of impairment in the usual structured interview. This information adds a more continuous aspect to diagnosis.

In summary, each approach can solve a set a problems but sometimes create others. Biederman et al. (1995) proposed the continued combination of paradigms in

research in order to further elucidate the strengths and weaknesses of each as well as to discover and validate shared constructs. These researchers, along with others, contend that discovery of adequate convergence between categorical and dimensional paradigms would support the use of dimensional measures (e.g., rating scales) as inexpensive and practical screening measures (Biederman et al., 1995; Fergusson & Horwood, 1995; Werry, 1992).

Developmental Issues and Preschoolers

It is generally accepted that the advantages of using a classification system outweigh the disadvantages (Garber, 1984; Mash & Terdal, 1988; Weiner, 1982). However, problems disentangling behavior disorders become apparent in younger children. In particular, clinically-relevant symptoms, such as temper tantrums, noncompliance, and poor impulse control, may simply be exaggerations of age-appropriate behaviors. For example, attainment of independence and struggles for autonomy between parent and child reflect salient developmental tasks characteristic of two-year-olds (Sroufe, 1979). A particular behavior or pattern of behaviors may be diagnosed as emotional disturbance at one age and may fall easily within the range of normality at another. School refusal, for example, is considered to be more serious when it occurs during adolescence than when it occurs during a point early in childhood where separation anxiety is a common occurrence.

The presence of a few problematic behaviors rarely represents psychopathology. Campbell (1990) asserts that several components should be included when defining a disorder in young children. These include a pattern or group of symptoms that shows a

stable course, severity, occurrence across settings, and impedes the child's ability to successfully complete developmental tasks. In a meta-analytic review of over forty studies, Frick et al. (1994) found that the oppositional symptoms tended to emerge at a median age of 6 years followed by aggression symptoms at a median of 6.75 years. Property violations and status offenses emerged at later ages (i.e., 7 to 9 years). Thus, an inclusive, extensive, and sufficiently standardized catalogue of the norms of child behaviors at each age level and for each sex is a necessary first step in the classification of childhood psychopathology.

Validity of classification of young children

Spitzer and Forman (1979) found that clinicians viewed the format of a classification system to be a beneficial adjunct to the diagnostic evaluations that are traditionally performed. A reliable and valid set of criteria would facilitate clinical decision-making regarding whom to treat as well as whom to study in research endeavors (Kazdin, 1991; Werry, 1992).

Many children are oppositional in the preschool years (Campbell, 1990; Patterson, 1982). Using DSM-III disorders to classify preschoolers, 95% of the referred children met criteria for a diagnosis (Kashani, Horwitz, Ray, & Reid, 1986). In addition, almost half of the children assessed at preschool-age who exhibited acting-out behaviors were given acting-out diagnoses at age nine, while less than 20% of controls met diagnosis. Loeber et al. (1991) showed that nonreferred children are less likely to have persistent behavior problems than referred children. However, not all researchers agree in the use of diagnostic categories for preschoolers. Loeber et al. (1991) recommended that

intensity, frequency, cross-setting consistency, and persistence serve as the major indicators for classifying deviant behavior in preschool-aged children. Campbell (1990, 1994) asserted that there is a high overlap between criteria that are included in behavior disorders and age-appropriate behaviors.

Rating scales. Factor-analytic studies of preschool children have consistently yielded a factor composed of oppositional and mildly aggressive behaviors. Problems with aggression, attention, and noncompliance tend to occur together. Conduct problems may have a single dimension of oppositional defiant behaviors during the preschool years but at least one other dimension of more serious antisocial behavior during the elementary school years.

The normative information inherent in measures that were developed following a dimensional approach allows for consideration of developmental trends, such as stages during early childhood when acting-out behaviors are more prevalent (Achenbach, 1980, 1991, 1992; Eyberg & Ross, 1978; Goyette, Conners, & Ulrich, 1978). Rating scales are a valid instrument for classifying children of all ages because of this normative base to refer to. Therefore, rating scales are sensitive to developmental issues and are valid for classifying preschool-aged children.

DSM Disruptive Behavior Disorders. The work by the DSM-III-R committee was hampered by the lack of adequate information regarding the ages of onset, thresholds, and age appropriateness for different symptoms of the DBDs (Loeber, Lahey, & Thomas, 1991). Although field trials were conducted to select final criteria for the DBDs, the mean age of the children in field trial samples was 8.5 and preschoolers were

underrepresented (Spitzer et al., 1990; Widiger et al., 1991). Underrepresentation of preschool-aged children in the field trial sample makes it difficult to generalize results to this age group.

Other researchers have tracked the developmental course of the DBDs. For example, in a study by Walker, Lahey, Hynd, and Frame (1987), 14 child outpatients (aged 6 to 13 years) diagnosed with DSM-III CD but no ADD/H were compared with 21 children with both CD and ADD/H. The CD plus ADD/H group were younger at the time of referral, exhibited a greater variety and severity of antisocial behavior, and more physical aggression than children with CD alone. These results suggest that the co-occurrence of CD and ADD/H is associated with a more serious form of conduct problem, despite younger age at time of referral. In another study, Loeber, Green, Lahey, Christ, and Frick (1990) asked mothers of 10- to 13-year-old clinic-referred boys (N=87) to recall the earliest manifestation of particular problem behavior in their sons. As reported by the mothers, the onset of ODD symptoms was at its highest at age eight.

Additional research on ODD and CD has turned toward examining the developmental trajectories of ODD symptoms to later emergence of CD. Comparisons between individual ODD and CD symptoms showed that less serious problem behaviors tended to emerge first and more serious problem behaviors later (Loeber et al., 1990, 1995). Similarly, in the findings with a community sample of over 500 13-year-old boys where parental report was used to assess onset of behavior problems, boys referred at a younger age tended to develop ODD and CD symptoms in closer temporal proximity (Loeber et al., 1991). Schachar and Wachsmuth (1990) compared children diagnosed

with Oppositional and Conduct disorder to normal controls. Their sample included boys aged 7 to 11 years (n = 43). The data indicated that boys with Oppositional disorder exhibit high rates of attentional, emotional, and learning problems and also had high rates of social problems. It was suggested that Oppositional disorder was a variant of Conduct Disorder rather than of normality and that, in general, the seriousness of disruptive behaviors tends to increase with age. In addition, suggestions have been made for the revision of symptoms to incorporate developmental factors in diagnosis (Russo, Loeber, Lahey, & Keenan, 1994).

In Keller et al. (1992) comorbidity, time to recovery, rate of chronicity, and probability of recurrence following recovery were studied in 51 children diagnosed with ADHD, CD, and/or ODD. Retrospective data indicated that mean durations of ADHD, ODD, and CD were 8, 4.5, and 3 years, respectively. Life-table estimates showed that 14% of the children would not have recovered 15 years after the onset of their disorder and comorbidity was found to be high. The majority of children in the sample, however, were at-risk children (i.e., parents had some type of affective disorder).

Certain general guidelines, however, were still given in DSM-III-R regarding age-specific factors. For example, to diagnose ADHD in preschoolers, the manual suggests that the clinician look for "signs of gross motor overactivity, such as excessive running or climbing...and impulsiveness...likely shown by frequent shifting from one activity to another" (p.50). While age of onset for almost half of the cases identified as ADHD was before age four, accurate diagnosis of preschoolers continued to be a difficult task. Shaffer et al. (1989) estimated that less than fifty percent of the criteria for ADHD, for

example, are applicable to adolescents and many preschool-aged children exhibit many of the symptoms as age-appropriate phenomena. In fact, the disorder is usually not found until the child enters school, yet onset is required before age 7 for this diagnosis. For ODD, DSM-III-R refers to precursors that may appear in early childhood. Research has also found that the interrater reliability of DSM-III-R DBDs in preschoolers was substantial (i.e., kappa = .64) (Lavigne et al., 1994). While DSM-III-R does provide several cautionary statements regarding diagnosis of DBDs in young children, it lacks in specific guidelines for diagnosis (APA, 1987). Given the higher probability of greater levels of behavior problems in referred children, future field trials were urged to include younger children as part of the sample.

The majority of the children in the field trial samples for DSM-IV fell within the ages of six and nine (Frick et al., 1994). However, preschoolers were again underrepresented within the total sample. Despite this, the DSM-IV does provide some information to the clinician regarding special consideration of age in the diagnostic decision-making process in the newly added section entitled, "Specific culture, age, and gender features" for each of the DBDs (APA, 1994).

In the DSM-IV DBD section regarding developmental considerations in diagnosis, the authors note that for the diagnoses of ADHD and ODD, caution should be exercised in making these diagnoses for a preschool-aged child (APA, 1994). Reasons given specify that transient forms of the types of behaviors that comprise these disorders are commonly seen in children below the age of six. For example, in the description of diagnostic features of ADHD, the clinician is advised that a "diagnosis should be made

cautiously in young children" (p. 79). Additional descriptors are given to aid the clinician in assessing "toddlers and preschoolers with these disorders from normally active young children" such as "being constantly on the go and into everything...dart back and forth....run through the house...difficulty participating in sedentary group activities in preschool classes" (p. 79) and other guidelines such as "in males....more prevalent among those who, in the preschool years, have problematic temperaments...or high motor activity" (p. 92.). In regards to the diagnosis of CD, guidelines in the classification of this disorder in DSM-IV reflect a developmental framework (APA, 1994). Developmental considerations are described where symptoms vary with age and typically increase in the severity of the behaviors (p. 88). Details provided in the DSM-IV of either the strategy or results of the field trials that pertain to diagnosis of preschool-aged children would be helpful to the clinician who can then make his or her own judgments about the validity of the diagnosis.

Since higher rates of certain problematic behaviors occur as developmentally-appropriate phenomena, the need for accurate identification of clinical levels of these behaviors is crucial (Loeber et al., 1991). Although some guidelines for diagnosis of a preschool-aged child with elevated levels of problematic behaviors are provided in DSM-IV, a level of ambiguity and opportunity for interpretation errors regarding normative and clinically-significant rates continue to exist. Further, by neglecting to incorporate a greater representation of preschoolers in the field trial sample or adequate information on normative rates of acting-out or externalizing behaviors in younger children, the suggested cut-off criteria may lead to misdiagnosis of preschoolers. In fact, a pattern of

overdiagnosis of ADHD in preschoolers using DSM-IV criteria has been demonstrated (Ott, Eisenstadt, Eugrin, & Frick, 1994). At present, then, the DSM-IV lacks a strong empirical basis for justifying diagnoses for children under age six. Because the DSM system is so widely used by clinicians and encouraged by societal factions (e.g., insurance, Department of Mental Health guidelines), it is imperative that these criteria be highly powerful lest they lead to inaccurate diagnoses and/or treatment.

Predictive Power

Several factors influence the diagnostic utility of a measure for identifying clinical levels of problematic behavior, including sensitivity, specificity and rate of Type I and Type II errors. Sensitivity of the test is the probability of a true-positive diagnostic decision. It can also be described in terms of the conditional probability of having the index given that the external criterion is positive. Specificity of the test relates to the probability of a true-negative diagnostic decision or the conditional probability of not having the index given that the external criterion yields a negative result.

The rates of false diagnostic decisions (i.e., Type I and II errors) are influenced by both the sensitivity and specificity of a measure. Type I errors occur when false positive diagnoses are made, as when children with normal levels of behavior are mistakenly identified as displaying clinical levels of behavior. Type II errors occur when false negative diagnostic decisions are made. In this case, children displaying clinically elevated levels of behavior are not diagnosed, but instead are misclassified as displaying normal levels of behavior. In evaluating the `performance' of a measure, each of these factors is used to derive the rates of true positive, true negative, false positive, and false

negative decisions. A measure that possesses both high sensitivity and specificity has low false-negative and false-positive rates; thus, the performance of such a measure, or symptom, would be viewed as quite good.

While these indices are helpful as an initial step for describing the diagnostic utility of the measure, they are not the most relevant information for the diagnostician. For example, sensitivity and specificity values can change drastically as the base rate or prevalence varies (Finn, 1982). To account for these shortcomings, predictive power statistics were developed from Bayes' theorem of practical evaluation of conditional probabilities (Baldessarini, Finklestein, & Arana, 1983; Lee, 1989). Predictive power incorporates not only sensitivity and specificity, but also the base rate of a given occurrence in the population. This index, then, is a more rigorous test of the performance of a given measure (Faraone, Biederman, Sprich-Buckminster, Chen, & Tsuang, 1993).

The predictive power is a measure of the power or accuracy of a test (Baldessarini et al., 1983; Lee, 1989; (Widiger, Hurt, Frances, Clarkin, & Gilmore, 1984). There are two indices of predictive power: positive predictive power (PPP) and negative predictive power (NPP) (See Table 1). The PPP is the percentage of individuals classified correctly by the test as positive, while the NPP is the percentage of individuals classified as nonmembers of a class who truly are nonmembers (Kessel & Zimmerman, 1993).

Table 1

Computation of Positive Predictive Power (PPP) and Negative Predictive Power (NPP)

$$PPP = \frac{\text{prevalence x sensitivity}}{\text{(prev. x sens.) + (well rate x false +)}}$$

$$NPP = \frac{\text{well rate x specificity}}{\text{(well rate x spec.) + (prev. x false -)}}$$

Membership to a given class is determined by some external criterion or standard by which to calculate the accuracy of the decisions made by the test. For example, a PPP of .75 indicates a 75% probability that the predicted presence of clinically-elevated levels of acting-out behaviors is accurate. An NPP of .75 indicates that there is a 75% probability that the predicted absence of high levels of externalizing behaviors is accurate. Because base rates are considered in their calculation, Bayesian analyses provide a statistic that is a more accurate judgment of the utility of a measure.

Once the predictive power of the measure is obtained, the diagnostician's work is not completed. The utility of this information will depend on the setting in which the measure is used. For example, as the prevalence of the index decreases, the PPP of the test decreases while the NPP increases. Therefore, there is a potential loss of PPP when comparing the performance of the measure in settings with a relatively low prevalence rate (e.g., a general school population) to settings where the prevalence is high (e.g., specialized clinic for behavior disorders). In a setting where it is more important to

identify cases, a clinician may be more willing to render diagnoses with less confidence in an accurate decision (i.e., higher number of false positive cases). In light of the consequences of early presence of behavioral excesses, in order to intervene early with young children the PPP is helpful to the clinician who must affirm the presence of the disorder for early intervention. Conversely, a high NPP would support the measure's use as a screening tool in settings where the prevalence is low, such as a school. In this way, cases that are determined to be within normal limits will more likely be accurately identified as such. On the other hand, the clinician may want to consider the cost of an inaccurate positive diagnosis to the client. The analysis of the costs and benefits, then, becomes the next stage in the decision-making process.

Predictive power can also be calculated at the symptom level. The PPP and NPP at the symptom level yields information regarding the ability to predict the presence/absence of a disorder given the presence/absence of a symptom (Widiger et al., 1984). The corrected predictive power was developed by Frick et al. (1994) in order to account for varying base rates of symptoms as compared to base rates of diagnoses. This is expressed as a ratio of the maximum possible number of agreements that exceed chance given the base rate of the symptom and diagnosis. Therefore, the corrected PPP and NPP will yield the number of agreements beyond the expected number of agreements by chance ranging from -1 to 1, with predictive power at chance level equal to zero.

Analysis at the symptom level becomes important when trying to examine the inclusionary and exclusionary aspect of a symptom to improve screening. For example, a measure can yield high sensitivity and specificity but still have some criteria that are

more often in error than accurate for predicting a diagnosis. The information yielded by Bayesian analyses at the symptom level is also more clinically useful (Landau, Milich, & Widiger, 1991b). Sensitivity and specificity, when interpreted as conditional probabilities, only inform the clinician of the likelihood of the presence/absence of a symptom given the presence/absence of a disorder. The more clinically useful question in diagnostic decision-making is whether the presence/absence of a symptom is a good indicator of the presence/absence of a disorder. PPP will help the diagnostician know how likely it is that a person has a given disorder given a symptom. Likewise, the NPP will inform the diagnostician how likely it is that a person does not have a given disorder given the absence of a symptom.

The base rate of a symptom will also influence the utility of a measure. A high base rate may call for a decrease in the number of symptoms needed for a diagnosis so that there is less of a chance for false-negatives and more for true-positives. Interpretations at this level must be made cautiously, however, because they are based on diagnoses which are made up of the same criteria that serve as the criterion. Therefore, the predictive power of symptoms is more a measure of the internal consistency and predictive quality of the symptoms rather than validation of the diagnostic category. Use of an external criterion (e.g., referral status) serves as a better index of the validity of the measure.

Research with Predictive Power and Disruptive Behavior Disorders

The predictive power of criteria for adult disorders has received a great deal of empirical attention over the past decades (Millon, Bockian, Tringone, Antoni, & Green,

1989). However, there are only a handful of empirical investigations that have examined the predictive power, a form of discriminant validity, of the DBD criteria. Predictive power statistics were employed, however, due to their greater relevance to the diagnostic process where diagnoses are based on the presence or absence of symptoms (Frick et al., 1994). For example, Milich, Widiger, and Landau (1987) examined the predictive power of DSM-III criteria for ADD and CD based on interview data from mothers of 76 clinic-referred boys. Their results indicated the utility of some criteria as inclusionary and others as exclusionary in the differential diagnosis of ADD and CD. Later, these researchers examined the predictive power of ADD criteria based on child interview data (Landau, Milich, & Widiger, 1991a).

Other studies of diagnostic efficiency assessed the symptoms of DBDs as rated by teachers. Waldman and Lilienfeld (1991) assessed the predictive power for DSM-III-R symptoms of ODD and ADHD in 102 boys aged 8 to 12 years. Again, results support the use of this statistic to determine utility of symptoms for diagnostic decisions. Likewise, results of two other studies using teacher ratings indicated that several symptoms of ADHD yielded poor predictive power and variable utility in a sample of boys in regular and special education classrooms (Pelham, Evans, Gnagy, & Greenslade; 1992; Pelham, Gnagy, Greenslade, & Milich, 1992). As noted by Kessel and Zimmerman (1993), investigations using Bayesian analyses to assess the predictive power of diagnostic tests support this method. While these have generally supported use of the DBD criteria with school-aged children, none of these studies has used this rigorous statistical procedure with respect to a preschool population. Currently, the author is aware of only three

studies that have addressed this need. In one study, Rey and colleagues (1994) found good support for the DSM-III-R DBDs in a small sample of preschool-aged children. In this study, the predictive power of the DBDs, as a single index, was assessed using referral status as the external criterion. In addition, the predictive power of two rating scales (i.e., CBCL and ECBI) were also computed. It was hypothesized that the DSM behavior disorders would be overdiagnosed in the preschool sample. In fact, the DSM fared well in its own right in accurate identification and did also well in comparison to normatively-based rating scales in predicting presence (PPP) and absence (NPP) of a disorder based on referral status. However, the structured interview used to classify membership into a diagnostic category incorporated a developmental framework in its format (i.e., asked parents to compare to same-aged peer). Therefore, it is unclear to what extent this factor may have enhanced the performance of the DBD measure.

Ott et al. (1994) examined the predictive power of the DSM-III-R and DSM-IV ADHD symptoms in a community sample of preschoolers. They found that prevalence of ADHD in preschoolers was substantially higher than typical prevalence data reported in DSM-III-R (i.e., 15% vs. 3%). There was also a high rate of individual symptoms endorsed. These results support their hypothesis that overdiagnosis of ADHD would occur in young children. Ott and colleagues also found that the PPP was only adequate while NPP was high. Therefore, the presence of the symptom was not very effective in the accurate identification of preschoolers with ADHD. The DSM-IV ADHD category of Combined Type most effectively identified preschoolers at-risk, although average rates of PPP reached only modest levels.

Recently, Frick and colleagues (1994) provided data from the DSM-IV field trials regarding the symptom utility rates (i.e., predictive power) of the DBD criteria. In fact, the committee responsible for analyzing the data obtained in the field trials relied heavily on predictive power statistics in order to determine the utility of the provisional criteria for the DBDs (Frick et al., 1994). Results revealed that CD symptoms had a relatively low NPP but high PPP which is typical for symptoms with low base rates. All symptoms for ODD had high positive and negative predictive power across ages and genders. The predictive power for the ADHD inattentive symptoms were quite good across age and gender. One exception was the symptom of "avoiding tasks that require sustained mental effort." This symptom yielded the highest PPP of all inattention symptoms in the younger children but lowest in the older children. The predictive power of the ADHD hyperactivity-impulsivity symptoms were also strong with little variation across age and gender. As the authors note, however, their analyses were based on a sample that had limited representation of preschool-aged children and lacked refined analyses of smaller, developmentally-similar groups (Frick et al., 1994). Given the importance of early identification and treatment of children with behavior disorders, validation of the DBD criteria with a preschool population is essential.

Overall Summary

It is widely recognized that behavior problems occur in young children. Moreover, these problematic behaviors have been found to be stable and predict later problematic behavior (Campbell, 1990; Loeber et al., 1991). Given the immediate and long-term adverse effects of behavior problems in the lives of children, early identification is crucial. Two primary classification approaches (categorical and dimensional) have been used to identify preschool-aged children in need of intervention. The dimensional approaches (e.g., rating scales) are well-supported in their use as classification systems because of their normative base of data which allows comparison of young children to other same-aged peers (Achenbach, 1991, 1992). Categorical approaches (e.g., DSM DBDs) are also widely used and appropriate for most ages (Spitzer, 1990). However, while the DSM allows for diagnosis of preschoolers, it is unclear whether the DBD criteria within this nosology are valid for this age group.

Statistics of predictive power, the result of Bayesian analyses, have been supported as a means of examining the validity of a diagnostic measure to accurately identify cases. In fact, Bayesian analyses were used to analyze the diagnostic efficiency for the DSM-IV DBDs (Frick et al., 1994). Although Bayesian analyses have been used in research (e.g., field trial analyses), the samples of children have either included a wide range of ages that were combined or older children (Frick et al., 1994). Only one other work has utilized Bayesian analyses with DBDs in preschoolers, but the purpose was toward examining only ADHD (Ott et al., 1994). These authors found a pattern of overdiagnosis of ADHD when using DSM-IV with preschoolers which also argues for

further examination of the new DBDs with young children.

CHAPTER III

THE PRESENT STUDY

There were three central aims of the present study which would address limitations and oversights of past research of behavior disorders:

1. The present study examined the validity of classification of behavior problems in preschool-aged children. Unlike previous published research in this area, the sample was fully comprised of preschoolers (i.e., ages 3 to 5), thus resulting analyses yielded information that will be useful for those working with this age group. In particular, analyses were conducted to yield information regarding validity of classification of behavior problems in this population in general. Relevant to this goal, the overlap across measures was examined since the measures tap into similar dimensions. A closer inspection of differences in the pattern of behavioral problems observed for each gender at each age level was then conducted.
2. Unlike most of the research done in the area of classification, the present study utilized Bayesian analyses in order to derive robust indices regarding diagnostic efficiency and validity (i.e., predictive power indices). Because Bayesian analyses control for base rates of the index under study, they represent a more rigorous examination of the measure's power. Relatedly, predictive power indices were also derived for the DBD criteria in the present study, as was done by the DSM-IV Field Trial Committee, since these indices are currently viewed as a more meaningful index of diagnostic efficiency. The DBD diagnoses and symptoms were also examined for their sensitivity and specificity since these indices do provide information that

influences interpretation of predictive power indices.

3. Multiple behavioral rating scales, with normative data for preschool-aged children, were included in the present study to examine the relative utility of the DSM DBDs in comparison to the normed rating scales for accurate classification of behavior problems in preschool-aged children. Therefore, comparison of these systems would allow for assessment of the DBD sensitivity to developmental factors. Further, information regarding the predictive power of the rating scales in this population was used to compare dimensional scales to each other.

There are several hypotheses to be answered by this study. In relation to the first aim of the study, it was hypothesized that the measures would demonstrate a modest relationship thereby indicating that, while they tap into similar dimensions, they are not identical in terms of the constructs assessed. It was also hypothesized that the clinic and control groups (group membership determined by an external criterion) would be statistically different on levels of behavioral problems across measures. Further, while it was predicted that gender differences would not be found, it was hypothesized that there would be age differences in severity of behavior problems with younger preschoolers (i.e., age 3) exhibiting higher rates of problematic behaviors than older preschoolers (i.e., age 5). The DBDs, however, were predicted to yield poor `performance' in terms of low predictive power indices such that the DSM would likely overdiagnose DBDs with use of the DISC-2.3 in the control group due to the lack of a developmental framework in the DSM system for diagnostic decision-making. Likewise, it was hypothesized that the criteria for the DBDs will show some variability in their utility as inclusionary or

exclusionary symptoms. In other words, some symptoms would prove to be more useful than others for identifying the true presence/absence of clinically-significant levels of behavior problems in preschoolers. To address the final aim of the study, it was hypothesized that the predictive power indices across the measures would be poorest for the DSM DBDs since they lack a strong normative base regarding levels of acting-out behaviors in young children, unlike the behavioral checklists. This information will be useful to the diagnostician who may need to make a decision regarding age-appropriate or clinic level behavior.

Predictive Power of Measures

In order to assess the diagnostic efficiency of the measures, the positive and negative predictive power were calculated (i.e., PPP and NPP). The predictive power of the measure is the probability of agreement between the clinic status based on the external crterion and the measure's ability to predict the true presence or absence of clinically-elevated levels of behavior problems. To calculate predictive power, indices for 2x2 tables were devised using classification by the external criterion and by the result for each measure (See Table 2).

Table 2

2 x 2 Table for Calculation of Diagnostic Efficiency Indices

		Clinical Status (or Diagnosis)	
		Yes	No
Measure Cutoff (or symptom)			
	Yes	a	b
	No	c	d

Note. Sensitivity = a/ a+c. Specificity = d/ b+d.

In this case, each measure's predictive power was computed using the external criterion and the cutoff score or diagnosis decision as the index. Predictive power will yield information regarding the measure's ability to identify true 'caseness.'

For the DBDs, predictive power was calculated using the external criterion compared to the result of the DISC interview (i.e., diagnosis/no diagnosis of ADHD or its subtypes, ODD, and/or CD). Currently in the field, there is no procedure for evaluating statistical significance of this test result. However, .70 has been recommended as a cutoff indicating adequate performance (Baldessarini et al., 1983). If a diagnosis is found to have strong PPP and NPP levels, then one can be confident in accurate classification of preschoolers when using the DSM-IV DBD system.

Predictive Power of DSM-IV DBD Criteria. To assess the diagnostic efficiency

of the DBD criteria in preschool-aged children, the positive and negative predictive power of each criterion were calculated. The presence or absence of the diagnosis serves as the external standard against which to compare the result of symptom endorsement. The utility of each symptom of a disorder, however, may vary. For instance, some symptoms may be better discriminators of clinic and nonclinic cases than others. Knowing which symptoms are weak or more powerful or valid for preschoolers would be important for the clinician working with young children. Because the base rates of each criterion in the sample will likely vary, the PPP and NPP was corrected for chance agreement by subtracting the number of agreements expected by chance from the number of observed agreements (Frick et al., 1994). This correction ensures that the variation in symptom and diagnosis base rates is accounted for and it is expressed as a proportion of the maximum possible value. Therefore, the corrected PPP and NPP yields the number of agreements beyond the expected number of agreements by chance ranging from -1 to 1, with predictive power at chance level equal to zero.

Sensitivity and Specificity. The sensitivity and specificity rates were calculated for each measure by completing 2 x 2 tables for all measures and patterns of caseness between groups (See Note for Table 2). Sensitivity and specificity, although less useful for diagnostic decision-making as compared to predictive power, still provide useful information for interpretation of predictive power and classification of preschoolers. For instance, a symptom with high PPP but low sensitivity indicates that, even though a diagnosis can be confidently given in a preschool-aged child because of the presence of the symptom, not many children with the disorder will be identified. Further, the

sensitivity and specificity indices allow the clinician to determine the measure's ability to identify cases/noncases.

Assessing Overlap of Measures

The measures used in this study tap into some of the same dimensions of behavior, while also assessing very different aspects of behavioral dimensions. The extent to which the measures used in this study overlap will influence the interpretation of results. For example, if the measures are highly correlated, little unique variance is accounted for by one measure. In order to determine the extent to which the measures overlap, the Pearson product-moment correlation for dichotomous data (i.e., phi coefficient) will be calculated. The phi coefficient is the strength of association between measures. The percentage of variance in one variable that is explained by the other can be obtained by squaring phi. In order to calculate phi, the cutoff T-scores on the behavioral measures and diagnostic decision for each DBD (i.e., yes/no) will be used to determine membership.

CHAPTER IV

METHOD

Participants

Mothers of preschool-aged children (i.e., ages 3 to 5) in North Central Oklahoma and North Central Florida were solicited for participation in the present study via fliers posted in the community, newspaper advertisements, and fliers sent home with children enrolled in daycare and preschool centers. Parents were informed of the opportunity to receive feedback regarding the results of the study. Parents also received their choice of $5.00 or its equivalent in gift certificates for their participation.

Of the 151 parents who completed the project protocol, a total sample of 60 mothers of preschool-aged children were included for the current study. The Oklahoma sample was comprised of 22 participants while the Florida sample was comprised of 38 participants. The sample was comprised of two groups based on an external criterion, namely, the child's T-score on the Child Behavior Checklist (CBCL) Externalizing scale (>67), that was used to determine 'clinic' status. The external criterion measure was scored after each mother completed the protocol. When clinic status was determined (based on the external criterion cutoff), recruitment and subject running continued until a matched peer was found. Children in the clinic group were matched with a nonclinic peer based on the following factors: child's age, child's gender, child's ethnicity, and family socioeconomic level (i.e., mother's education and income indices). This process continued until all clinic children were successfully matched with well-matched counterpart with same state residence. In several cases, a well-matched peer's age was

within 6 months although this placed the child at a different year level.

The demographic characteristics for both groups are presented in Table 3. Children in the first group (n = 30) obtained clinically-significant scores on the external criterion, thus establishing their 'clinic' group membership. The clinic children ranged in age from 37 to 68 months with the majority (n = 20) in the five-year-old age range. Children in the second group (n = 30) did not exceed the clinical cutoff score and were designated to a 'control' group. The control children ranged in age from 39 to 70 months with a slightly larger number of cases in the five-year-old range as well (n =14). Overall, the majority of the sample consisted of Caucasian, married mothers earning less than $24,000 per year in total family income. Parent age ranged from 19 to 65 years across groups. Both groups were compared on all demographic variables shown in Table 3. Two-tailed independent samples t-tests indicated that there were no significant differences found on mother's age, $\underline{t}(58) = .65$, mother's education, $\underline{t}(58) = .69$, or child age, $\underline{t}(58) = -1.02$. In addition, chi-square analyses revealed no significant differences between groups on parental minority status, $\chi^2 = .42$, marital status, $\chi^2 = .64$, child gender, $\chi^2 = .00$, or child minority status, $\chi^2 = .09$. Finally, the groups were not significantly different on family income per month as determined by the Mann-Whitney U Test, $\underline{U} = -1.16$. The lack of significant differences across groups on any of the demographic variables confirms a well-matched sample.

Table 3

Demographic Characteristics of Total Sample

	Control (n = 30)	Clinic (n = 30)
Mother Data		
Mean Age (in years) (SD)	31.5 (9.7)	29.9 (9.5)
Race (% minority)	17	23
Marital Status (%)		
Single	17	3
Married	67	60
Divorced/Separated	16	26
Education (in years)	12.8 (2.0)	12.5 (2.2)
Family Income/month (%)		
<$800-1000	30	50
$1000-2000	46	27
$2000+	24	23
Child Mean Age (in years) (SD)	4.7 (.7)	4.9 (.8)
Child Gender (% male)	57	57
Child Race (% minority)	23	27

Note. Differences nonsignificant, $p > .05$, two-tailed.

Measures

Consent Forms. Parents completed an informed consent (See Appendix A) prior to the completion of project measures and completed a Release of Information consent form (See Appendix B) at the conclusion of their participation if the parent was interested in having results shared with professionals working with the project child and/or family.

Demographic Questionnaire. A questionnaire was used to gather basic demographic information, information about the child's developmental level, and any history of treatment for behavior problems (See Appendix C). Children with developmental delays were excluded from the present study as characteristics of this group may confound comparison to children without developmental delays.

Child Behavior Checklist/ 2-3 and 4-18 (CBCL). The CBCL is a standardized parent-report measure that assesses behavioral and emotional problems for children ages 2 through 18 years (See Appendix D) (Achenbach, 1991, 1992). Social competency is also assessed for children ages 4 through 18 years. It is a psychometrically sound instrument that discriminates between clinic and nonclinic children and also between diagnoses (Biederman et al., 1995). For children aged 4 through 18, the parent completes 113 items that assess various behavioral and emotional problems. For children aged 2 through 3 years, the parent completes 100 items regarding behavioral and emotional problems. Each behavior is scored by circling a 0, 1, or 2 if the item is not true, somewhat or sometimes true, or very true or often true for the child.

The CBCL yields information regarding two broadband syndromes of behavior (i.e., Internalizing and Externalizing). By computer scoring, a profile of the child is

obtained which reveals that child's functioning at each level as reported by the parent and in comparison to same-age, same-sex peers. This normative comparison allows the clinician to assess whether the current levels are clinically-significant. Consistent with the authors' recommendation (Achenbach & Edelbrock, 1991), a T-score of 67 (95th percentile) on the Externalizing factor was used as the cutoff point to classify subjects as clinic or nonclinic. Convergence has been found among several of the CBCL narrowband scales and the diagnostic categories (Biederman et al., 1993; Jensen et al., 1993).

Revised Behavior Problem Checklist (RBPC). The RBPC is an 89-item checklist which can be completed by a child's parent or teacher (Quay, 1983; Quay & Peterson, 1987). Each of the items is scored as a 0, 1 or 2, indicating no problem, mild, or severe problem, respectively (See Appendix E). This measure yields six factor-analytically derived scales: Conduct Disorder (CD), Socialized Aggression (SA), Attention Problems-Immaturity (AP), Anxiety-Withdrawal (AW), Psychotic Behavior (PB), and Motor Excess (ME). Extensive research conducted with the RPBC has shown this measure to be a reliable and valid measure of behavior problems for children aged five through eighteen years (Hinshaw, Morrison, Carte, & Cornsweet, 1987; Lahey & Piacentini, 1985; Quay & Peterson, 1987). Scores obtained on the RPBC are considered to be clinically-significant if they are two standard deviations above the mean where the normalized T-score has a mean of 50 and a standard deviation of 10. For the purposes of this study, only the CD, SA, AP, and ME scales were used based on their comparability to DBD categories and relatedness to other rating scales constructs.

Eyberg Child Behavior Inventory (ECBI). The ECBI is a parent-report measure of 36 common behavior problems that has been standardized for children ages 2 through 17 years (See Appendix F) (Eyberg & Ross, 1978; Robinson, Eyberg, & Ross, 1980). Although original standardization studies were geographically limited, restandardization efforts have yielded similar psychometric properties (Eyberg & Colvin, 1994). The ECBI yields scores for two dimensions of behaviors: frequency of occurrence (Intensity score) and identification of the behavior as a problem (Problem score). The ECBI has sound psychometric properties and has been shown to discriminate between conduct-problem and normal children (Burns & Patterson, 1990; Robinson et al., 1980). Scores range from 36-252 on the Intensity scale and 0-36 on the Problem scale. Recommended cutoff scores for clinically-significant levels of conduct problems are 132 and 14 for the Intensity and Problem scores, respectively (Eyberg & Colvin, 1999). These cutoffs have been shown to yield low rates of false positives and good specificity (Eyberg & Colvin, 1994; Eyberg & Colvin, 1999)

NIMH Diagnostic Interview Schedule for Children-Parent Form (DISC-2.3, Parent Form). The DISC-2.3 is a highly structured interview that contains the criteria for most of the commonly occurring mental disorders of children and adolescents (Shaffer, Fisher, Piacentini, Schwab-Stone, & Wicks, 1992; NIMH, 1991). Because of its highly structured format, the interview can be administered by either a lay interviewer or clinician In the present study, only the portion of the DISC-2.3 that assesses the DBDs (i.e., ADHD, ODD, and CD) will be administered (See Appendix G). Approval for use of the DBD portion of this measure was obtained from one of its developers who also

maintained that prior research had been conducted in this way and that the DISC was developed so that such procedures could be done (Prudence Fisher, personal communication). While the DISC was developed for use with children ages 6 through 18 years, other research has found this measure to be useful with children below age six (Ben Lahey, personal communication). The parent version of the DISC-2.3, modified slightly to include DSM-IV criteria, was used in the current study (Shaffer et al., 1992).

Questions on the DISC are highly structured and include "stem" questions to assess presence of the behaviors and "contingent" questions which assess intensity and are asked only if a stem has been answered positively. Parents evaluated each symptom using the scale of "yes," "no," and "sometimes" or "somewhat." Mothers are also asked to consider the presence and/or intensity of the behavior "relative to other same-age children." Because parents are asked to consider severity of problem behavior as compared to same-age peers, it is less likely that ratings will reflect developmentally-transient behavior. Satisfactory interrater and test-retest reliability (.60 to .68) and validity (.60 to .79) has been obtained with the DISC-2.3 across the DBDs in children aged 9 to 17 years (NIMH DISC-3 Editorial Board, preliminary report, May 24, 1993).

Procedure

Upon signing the Informed Consent, each parent was given the protocol measures in the following order: demographics form, CBCL, RBPC, and ECBI. Parents were asked to complete the rating scales on their own but to ask the interviewer about any items that were confusing to them. Each parent was given the measures in the same order in order to control for order effects. Once the rating scales were completed, each parent

was interviewed by the investigator using the DISC. A segment of the total sample completed the DISC-2.3 interview by phone (n = 18) however no significant differences were found for percentage in clinic group, $\chi^2 = 1.07$, $p > .10$, percentage meeting criteria for and DBD, $\chi^2 = .27$, $p > .10$, number of DBD diagnoses rendered, $t(58) = .22$, $p > .10$, or number of DBD symptoms endorsed, $t(58) = .21$, $p > .10$.

CHAPTER V

RESULTS

Preliminary Analyses: Patterns of Responses Across Categorical and Dimensional Measures of Child Behavior

To address the first aim of the present study, descriptive data are presented to examine the patterns of classification by the external criterion, DBD diagnoses and symptoms, and the rating scales across the two groups. In addition, analyses were conducted to determine whether the two groups differed significantly in these patterns as hypothesized.

External Criterion: CBCL Externalizing T-score

While the CBCL Externalizing T-score was utilized solely as the criterion to determine clinic status in the present study, results of the scores obtained from the CBCL Externalizing T-score are provided in order to highlight the degree of disparity evidenced between groups on this measure. The T-scores obtained for the Externalizing scale ranged from 30 to 62 for the control group and 67 to 82 for the clinic group. Analysis of Externalizing T-scores for the control group ($M = 49.00$, $SD = 8.36$) and the clinic group ($M = 70.23$, $SD = 5.13$) indicated that there were significant differences between the two groups, $t(58) = -11.87$, $p < .001$, with higher scores occurring in the clinic group. As described previously, chi-square analyses and independent samples t-tests confirmed no significant differences between the matched groups on key demographic variables (i.e., parent and child age, gender, race, family income, mother's education).

Descriptive Indices for the DSM-IV Disruptive Behavior Disorders Categorical Measure: DISC-2.3

Pattern of DISC-2.3 DBD Diagnoses. A detailed description of diagnostic patterns across groups are presented in Table 4 in order to highlight differential patterns in diagnostic classification for preschoolers. Each unique case of a diagnosis or diagnostic combination was counted to yield the total number of diagnoses. For those diagnoses that are typically subsumed under another DSM-IV DBD category as per the hierarchical rule in DSM-IV (i.e., ADD-IN plus ADD-HI yields diagnosis of ADHD; ODD plus CD yields diagnosis of CD), in the present study, the total number of diagnoses was reported in order to provide a measure of diagnostic severity. Results of the DISC-2.3 yielded a total of 55 DBD diagnoses across 34 subjects (57% of sample). The comorbidity rate in this sample was 35% with the greatest overlap occurring for ADHD and ODD diagnoses. Seventeen percent of those in the control group (n = 10) met clinical cutoffs for one or more DSM-IV DBD diagnosis.

Attention-Deficit/Hyperactivity Disorder Categories: Inattentive Type (ADD-IN), Hyperactive-Impulsive Type (ADD-HI) and Combined Type (ADHD). As Table 4 shows, a diagnosis of ADD-IN was never present alone but, instead, occurred in 13 cases where ADD-HI was the accompanying diagnosis, resulting in a diagnosis of ADHD. The diagnosis of ADD-IN, as part of the ADHD category, was also present in 9 other cases where ODD was present and in 1 case where all DBD diagnoses were met.

Oppositional Defiant Disorder (ODD). As seen in Table 4, a diagnosis of ODD was met in 20 cases in the clinic group and 5 cases in the control group. ODD as a single

diagnosis was present in 6 of these cases, half of whom were of clinic status. Comorbidity of ODD was highest with the diagnosis of ADHD, with ADD-HI being the second most common comorbid diagnosis.

Conduct Disorder (CD). A diagnosis of CD was met in 3 cases, two of these instances were clinic cases in which comorbidity of diagnoses was present (i.e., CD + ODD, CD+ ODD + ADHD) (Table 4).

Table 4

Case Frequency[a] of Diagnostic Categories[b]

	Control	Clinic	Total
Any Diagnosis	10	24	34
ADHD only	1	2	3
ADD-IN only	0	0	0
ADD-HI only	3	2	5
ODD only	3	3	6
CD only	1	0	1
ADHD + ODD	0	9	9
ADHD + CD	0	0	0
ADD-IN + ODD	0	0	0
ADD-HI + ODD	2	6	8
ODD + CD[a]	0	1	1
ADHD + ODD + CD	0	1	1

Note. ADHD = Attention-Deficit/Hyperactivity Disorder, Combined Type; ADD-IN = Attention-Deficit/Hyperactivity Disorder, Inattentive Type; ADD-HI = Attention-Deficit/Hyperactivity Disorder, Hyperactive-Impulsive Type; ODD = Oppositional Defiant Disorder, CD = Conduct Disorder. [a]Frequency of cases across each pattern of DBDs. [b]DSM hierarchical rule not applied.

Overall Analyses of DBD Differences. Analyses of the diagnostic patterns observed were conducted in order to assess whether differences were evident across sample groups (See Table 4). A significant difference in the proportion of children who met DSM-IV DBD diagnoses across groups was found, $\chi^2 = 21.99$, $p < .001$, such that significantly more children in the clinic group (87%; $n = 26$) met criteria for a DBD diagnosis compared to children in the control group (27%; $n = 8$). In addition, chi-square analyses of each type of DBD revealed significant differences between groups for the percentage of children meeting each of the diagnoses, with the clinic group meeting criteria for more diagnoses in each category as compared to the control group: any ADD diagnosis, $\chi^2 = 19.46$, $p < .001$; ODD, $\chi^2 = 15.43$, $p < .001$; and CD, $\chi^2 = .35$, $p < .001$. Thus, the hypothesis that children in the clinic group would meet criteria for more diagnoses than the control children was supported.

The number of DBD symptoms endorsed by group, which provides an index of the severity of problem behavior, was examined. Means and standard deviations for number of DBD symptoms endorsed by group are presented in Table 5. The range for DBD symptoms endorsed by the total sample was 1 to 54 symptoms. A significant difference was found across groups for the number of DBD symptoms endorsed by mothers, $t(58) = -6.77$, $p < .001$, with children in the clinic group demonstrating significantly higher numbers of DBD symptoms compared to their nonclinic counterparts. These findings also provide support for the hypothesis that significant differences between groups would be found in the total number of DSM-IV DBD symptomatology.

Table 5

Means and Standard Deviations for Study Measures by Group[a]

	Control		Clinic	
	M	SD	M	SD
DBD Diagnoses	.40	.67	1.87	1.11
DBD Symptoms	15.00	10.37	34.43	13.22
ECBI(I)	91.40	30.69	154.17	30.85
ECBI(P)	6.27	6.23	17.20	6.64
R(CD)	6.50	4.38	22.63	6.65
R(SA)	.93	2.38	2.83	3.28
R(AP)	2.90	2.93	12.03	4.44
R(ME)	1.30	1.53	4.87	2.06

Note. DBD = DSM-IV Disruptive Behavior Disorder, Diagnosis or Symptom; ECBI(I) = Eyberg Child Behavior Inventory Intensity score; ECBI (Problem) = Eyberg Child Behavior Inventory Problem score; R(CD), R(SA), R(AP), and R(ME) = Revised Behavior Problem Checklist Subscales Conduct Disorder, Socialized Aggression, Attention Problem, and Motor Excess scores. [a]All tests for differences significant at $p < .001$.

Normed Rating Scales

As with the DBDs, descriptive data as well as results of analyses that test for group differences as hypothesized in the patterns obtained by group are presented below for the normed rating scales. These results highlight differences between the groups as well as indicate the degree of impairment assessed by group as compared to the DBD classification system.

Evberg Child Behavior Inventory. Means and standard deviations for the Intensity and Problem scales of the ECBI are shown by group in Table 4. The Intensity scores ranged from 38 to 215 and 0 to 28 for the Problem scale for the total sample. Independent samples t-tests revealed a significant difference between groups on the ECBI Intensity score, $t(58) = -7.9$, $p < .001$, with higher scores evidenced in the clinic group. Similarly, differences across the groups in the number of items endorsed as problematic by mothers were also significant, $t(58) = -6.58$, $p < .001$, with mothers of children in the clinic group reporting higher problem scores. Therefore, as hypothesized, significant differences on both the Intensity and Problem scores of the ECBI between clinic and control groups were found.

Revised Behavior Problem Checklist. Table 4 contains the means and standard deviations for the RBPC scales. The scores on the RBPC across groups ranged from 0 to 41 for the CD scale, 0 to 17 for the SA scale, 0 to 22 for the AP scale, and 0 to 9 for the ME scale. Independent samples t-tests revealed significant differences across groups for the CD scale, $t(58) = -11.10$, $p < .001$, SA scale, $t(58) = -2.57$, $p < .001$, AP scale, $t(58) = -9.4$, $p < .001$, and ME scale, $t(58) = -7.6$, $p < .001$. Significantly higher scores were

found in the clinic group as compared to the control group, thus supporting the hypotheses that children of clinic status would demonstrate higher levels of problematic behavior.

Age and Gender Effects Across Categorical and Dimensional Measures

Due to small sample sizes, statistical analyses to determine age and/or gender effects could not be conducted. However, inspection of group means on patterns of DSM-IV DBD diagnoses, symptoms, and rating scale scores revealed a trend that girls obtained higher ratings on several scales while boys obtained higher scores on others (See Table 5). In terms of age differences, older preschoolers appeared to have higher impairment results based on the DISC-2.3, while results on the normed rating scales demonstrated variability across age and gender for impairment.

Table 6

Means and Standard Deviations for Study Measures by Age and Gender

	Control[a]		Clinic[b]	
	Boys	Girls	Boys	Girls
Measure Age	M (SD)	M (SD)	M (SD)	M (SD)
DBD Sx				
3	7.00 (6.98)	19.00 (9.90)	37.67 (.58)	17.00 (11.31)
4	14.33 (17.9)	19.86 (10.96)	33.50 (12.50)	33.00 (-)[c]
5	16.20 (9.57)	10.00 (6.27)	40.70 (12.24)	31.20 (14.82)
DBD Dx				
3	.25 (.5)	.50 (.71)	2.0 (0)	1.50 (.71)
4	.33 (.58)	.43 (.79)	1.75(1.50)	2.0 (-)
5	.60 (.84)	.00 (0)	2.20(1.03)	1.60 (1.35)
ECBI (I)				
3	93.25 (21.36)	112.5 (27.58)	153 (10)	157 (22.63)
4	66 (33.15)	98.14 (35.22)	154.5 (23.61)	195 (-)
5	93.10 (36.48)	82 (2.74)	153.10 (34.19)	150.8 (37.83)

(table continues)

Means and Standard Deviations on Study Measures by Age and Gender

	Control		Clinic	
	Boys	Girls	Boys	Girls
Measure Age	M (SD)	M (SD)	M (SD)	M (SD)
ECBI (P)				
3	6.75 (2.87)	3.0 (4.24)	18.33 (3.79)	9.50 (.71)
4	0.0 (0)	9.43 (8.72)	17.5 (5.20)	26.0 (-)
5	7.20 (6.14)	4.25 (4.19)	16.4 (6.65)	18.25 (7.84)
RBPC (CD)				
3	6.50 (5.74)	5.00 (2.83)	23.0 (6.08)	22.50 (.71)
4	3 (3.46)	7.43 (2.51)	20.0 (3.27)	27.00 (-)
5	8.10 (5.63)	4.25 (1.71)	21.80 (7.16)	24.0 (8.43)
RBPC (SA)				
3	1.25 (2.5)	0.0 (0)	.33 (.58)	2.0 (0)
4	0.0 (0)	2.0 (4)	1.75 (.96)	3.0 (-)
5	.80 (1.93)	.25 (.5)	3.40 (2.27)	3.60 (5.04)

(table continues)

Means and Standard Deviations Study Measures by Age and Gender

	Control		Clinic	
	Boys	Girls	Boys	Girls
Measure Age	M (SD)	M (SD)	M (SD)	M (SD)
RBPC (AP)				
3	5.50 (2.65)	3.0 (0)	9.0 (3.61)	10.0 (4.24)
4	1.33 (1.53)	3.71 (3.86)	16.0 (4.08)	12.0 (-)
5	2.50 (2.72)	1.0 (2)	12.80 (5.31)	11.0 (3.50)
RBPC (ME)				
3	1.25 (1.50)	1.0 (0)	5.33 (.58)	2.50 (.71)
4	.33 (.58)	2.0 (1.63)	4.75 (3.40)	7.0 (-)
5	1.60 (1.90)	.25 (.50)	5.90 (1.79)	4.0 (1.63)

[a]Control group: 3-year-olds (n = 6), 4-year-olds (n = 10), and 5-year-olds (n = 14).

[b]Clinic group: 3-year-olds (n = 5), 4-year-olds (n = 5), and 5-year-olds (n = 20). [c]1 case.

Association between Categorical and Dimensional Measures

Phi coefficients were calculated in order to examine the interrelationship between dimensional and categorical measures of externalizing behavior (See Table 7). For all measures, positive and significant correlations were observed (all $p < .01$). An exception was observed such that the SA scale of the RBPC was not significantly correlated to any other measure. Another overall finding indicated that the average association for dimensional measures and the categorical DBDs ($\underline{r} = .46$) was slightly stronger than the relationship among the dimensional measures to each other ($\underline{r} = .37$). As hypothesized, overlap across the measures was observed, however, the significant correlations indicate a stronger association than had been predicted.

Table 7

Pearson-Product Moment Correlations (ϕ) for DBD Diagnoses and Rating Scales

Variables	1	2	3	4	5	6	7	8
1. Any DBD	--							
2. CBCL Ext	.63**		--					
3. ECBI(I)	.64**	.70**	--					
4. ECBI(P)	.53**	.55**	.65**	--				
5. R(CD)	.39**	.45**	.46**	.59**	--			
6. R(SA)	.24	.22	.23	.18	.37**	--		
7. R(AP)	.39**	.45**	.46**	.50**	.52**	.25	--	
8. R(ME)	.40**	.39**	.41**	.23	-.04	.04	.18	--

Note. Any DBD = At least one of the Disruptive Behavior Disorder diagnoses met; CBCL Ext = Child Behavior Checklist Externalizing T-score cutoff > 64; ECBI(I) = Eyberg Child Behavior Inventory Intensity cutoff score > 135; ECBI(P) = Eyberg Child Behavior Inventory Problem cutoff score > 14; R(CD), R(SA), R(AP), R(ME) = Revised Behavior Problem Checklist Subscales Conduct Disorder, Socialized Aggression, Attention Problem, and Motor Excess, 2 SD above mean. **$p < .01$.

Primary Analyses: Diagnostic Efficiency Indices for Categorical and Dimensional Measures of Child Behavior

In order to address the second aim of the study, indices of diagnostic efficiency were calculated, including sensitivity, specificity, and Type I and II error rates (i.e., false negative and false positive rates) for each measure. In order to account for prevalence and well rates in the sample and thereby obtain a more robust measure of the diagnostic power of each measure, Bayesian analyses were performed as proposed to obtain the indices of positive predictive power (PPP) and negative predictive power (NPP). The predictive power of the measure is the probability of agreement between the referral status of the subject and the measure's ability to predict the true presence (PPP) or absence (NPP) of clinically-elevated levels of behavior problems. Specifically, the PPP is the percentage of individuals classified correctly by the measure as positive, while the NPP is the percentage of individuals classified as nonmembers of a class who truly are nonmembers. In short, predictive power will yield information regarding the measure's ability to identify true 'caseness.'

Results of Bayesian analyses and diagnostic efficiency indices are presented first for an overall DBD category, then separately for each of the DBDs, and finally for each normed rating scale (See Table 7). The relative performance of the DBD categorical system was then examined in comparison to the indices for the rating scales.

DSM-IV DBD Categorical Diagnostic System

The diagnostic efficiency indices for discriminative power of the behavior disorders are presented in Table 8. The indices are presented by each DBD diagnosis as

Table 8

Indices of Discriminative Power of the DBDs, ECBI, and RBPC

	DBD	ADD-IN	ADD-HI	ADHD	ODD	CD	ECBI(I)	ECBI(P)	R(CD)	R(SA)	R(AP)	R(ME)
Sens.	.87	.40	.73	.43	.67	.03	.83	.63	.33	.27	.33	.40
Spec.	.73	.97	.83	.97	.83	.97	.87	.90	1.00	.90	1.00	.93
False +	.27	.03	.17	.03	.17	.03	.13	.10	.00	.10	.00	.07
False -	.13	.60	.27	.57	.33	.97	.17	.37	.67	.73	.67	.60
PPP[a]	.76	.92	.81	.93	.80	.50	.86	.87	1.00	.73	1.00	.86
NPP[b]	.85	.62	.76	.63	.71	.50	.84	.71	.60	.55	.60	.61

Note. DBD = At least one DBD diagnosis; ADD-IN = Attention-Deficit/Hyperactivity Disorder, Inattentive Type; ADD-HI = Attention-Deficit/Hyperactivity Disorder, Hyperactive-Impulsive Type; ADHD = Attention-Deficit/Hyperactivity Disorder, Combined Type; ODD = Oppositional Defiant Disorder, CD = Conduct Disorder; ECBI(I) = ECBI Intensity score; ECBI(P) = ECBI Problem Score; R(CD), R(SA), R(AP), R(ME) = Revised Behavior Problem Checklist Scales for Conduct Disorder, Socialized Aggression, Attention Problems, Motor Excess. Suggested cutoff = .70.

[a]$PPP = \frac{\text{prevalence x sensitivity}}{\text{(prev. x sens.) + (well rate x false +)}}$

[b]$NPP = \frac{\text{w ell rate x specificity}}{\text{(well x spec.) + (prev. x false -)}}$

well as a collapsed category indicating that at least one DBD diagnosis was obtained.

Diagnostic Efficiency of DBD Overall Category. As shown in Table 8, the sensitivity and specificity of the DBDs as a whole are moderate (i.e., .87 and .73, respectively). These rates indicate that 87% of the cases in the clinic sample met criteria for at least one DBD diagnosis. Conversely, 73% of the cases in the control group were accurately classified by the DISC-2.3 as noncases (i.e., no diagnosis). While these rates are acceptable, the specificity rate is just within acceptable levels and indicates that the DISC-2.3 was less accurate in determining noncaseness among those classified as 'normal' as determined by the external criterion. The strength of the DBD measure is also measured by the rates of false negatives and false positives. In this sample, the false positive rate for the overall DBD category is .27 and the false negative rate is .13. These rates indicate that 27% of the noncases (i.e., no diagnosis) and 13% of the positive cases (i.e., diagnosis present) were classified incorrectly by the DISC-2.3 DBD measure. The results for these indices show a similar pattern as that obtained by calculating sensitivity and specificity rates.

For the overall DBD category, results of Bayesian analyses which take into account prevalence and well rates in the sample as well as indices of sensitivity and specificity, revealed a different pattern of the test's diagnostic accuracy. The positive predictive power of the DBDs at .76 indicates that 76% of the cases classified by the DBD measure as meeting a diagnosis are indeed in the clinic group. The resulting NPP (i.e., .85) indicates that 85% of those classified as within the normal range by the DISC-2.3 are, in fact, in the control group. Therefore, the clinician can be slightly more

confident in a negative result (i.e., no DBD diagnosis on the DISC-2.3) than in a positive one.

Diagnostic Efficiency of ADD-Inattentive type (ADD-IN). As shown in Table 8, the sensitivity and specificity (i.e., .40 and .97, respectively) of the ADD-IN category of the DBDs indicate that 40% of the clinic group received an ADD-IN diagnosis and 97% of the control group did not meet this diagnosis. The corresponding false positive and false negative error rates of .03 and .60, respectively, also indicate a stronger probability of noncases being accurately classified by this DBD category as below criterion for diagnosis than accurate identification of true cases. The PPP for ADD-IN of .92, however, indicates that 92% of those who obtained this diagnosis were clinic subjects. Conversely, the NPP for ADD-IN of .62 indicates that only two-thirds of those who did not receive the diagnosis were in fact from the control group.

Diagnostic Efficiency of ADD-Hyperactive-Impulsive Type (ADD-HI). As shown in Table 8, the sensitivity and specificity of the ADD-HI category of the DBDs were moderate to good (i.e., .73 and .83, respectively). These rates indicate that 73% of the cases in the clinic sample met criteria for this diagnosis while 83% of the control group cases did not receive this diagnosis. Corresponding false positive and false negative rates were .17 and .27, respectively, which indicate a higher probability for no diagnosis for clinic group members than inaccurate classification of control subjects. The PPP and NPP of the ADD-HI diagnosis were .81 and .76, respectively, which indicates that 81% of those diagnosed as ADD-HI were from the clinic group and 76% not diagnosed as ADD-HI were indeed from the control group.

Diagnostic Efficiency of ADHD, Combined Type (ADHD). As shown in Table 8, the sensitivity and specificity of the ADHD diagnostic category of the DBDs were .43 and .97, respectively. These rates indicate that 43% of the cases in the clinic sample met criteria for ADHD while almost all of the subjects in the control group were not given this diagnosis. The corresponding rates of false positives and false negatives in this sample (i.e., 03 and .57, respectively) indicate that the presence an ADHD diagnosis was strongly linked to clinic membership. However, the absence of this diagnosis was inconsistent with clinic status in just over half of the control group. The results of Bayesian analyses, revealed a different pattern of the test's diagnostic accuracy. The positive predictive power of ADHD at .93 indicates that 93% of the cases classified as ADHD are clinic group group members. The resulting NPP (i.e., .63) indicates that 63% of those classified below criteria cutoffs for ADHD were in the control group. Therefore, the clinician can be more confident in a positive result (i.e., ADHD diagnosis on the DISC-2.3) than in a negative one considering clinic status as based on the external criterion (i.e., CBCL Externalizing T-score).

Diagnostic Efficiency of ODD. As shown in Table 8, the sensitivity and specificity of ODD are moderate (i.e., .67 and .83, respectively). These rates indicate that 67% of the cases in the clinic sample met criteria for ODD. Conversely, 83% of the cases in the control group were classified by the DISC-2.3 as noncases of ODD (i.e., no ODD diagnosis). The lower sensitivity rate indicates that there was less of a match between clinic group membership and subsequent diagnosis of ODD. The corresponding false positive and false negative rates for ODD were .17 and .33, respectively. The

predictive power indices for the DBD category of ODD were adequate with PPP equal to.80 and NPP equal to .71. The positive predictive power of ODD indicates that 80% of the cases classified by the DISC-2.3 as meeting this diagnosis were from the clinic group while 85% of those classified as below cutoffs for an ODD diagnosis were in the normal range as determined by the external criterion as well.

Diagnostic Efficiency of Conduct Disorder (CD). Table 8 shows the sensitivity and specificity rates for a diagnosis CD in this sample. These rates of .03 and .97 indicate that only 3% of the cases in the clinic sample met criteria for CD. Conversely, 97% of the cases in the control group also did not reach clinic status on the DISC-2.3 for a diagnosis of CD. The corresponding rates of false positives and false negatives (.03 and .97, respectively) are consistent with these results and indicate high agreement between the external criterion and the test result (i.e., diagnosis of CD via the DISC-2.3). The results of Bayesian analyses, which take into account prevalence and well rates in the sample as well as indices of sensitivity and specificity, reveal a different pattern of the DISC-2.3's diagnostic accuracy with respect to a CD diagnosis. Both the positive and negative predictive power for CD were .50 which indicates that half of the cases classified as meeting this diagnosis were in the clinic group. Given the low hit rate for CD in this sample (n = 2 cases), only one misclassification significantly impacted predictive power indices.

Dimensional Rating Scales

Eyberg Child Behavior Inventory (ECBI). The discriminative power indices of the ECBI are presented in Table 8. The sensitivity indices of .83 for the Intensity scale

and .63 for the Problem scale indicate that 83% of the clinic children were correctly classified by the ECBI Intensity score as clinically-significant cases and 63% were correctly classified by the Problem scale score. The specificity indices of .87 for the Intensity and .90 for the Problem scale indicate the proportion of children in the normal status group that were correctly described by the Intensity and Problem scales scores of the ECBI as within normal limits. The false positive rate, or Type II error, for the ECBI Intensity scale was .13 and .10 for the Problem scale. The false negative rate, or Type I error, was .17 and .37 for the Intensity and Problem scales, respectively. These indices, when taken together, indicate that the ECBI's performance in identifying true cases is strong, particularly better for identifying nonclinical cases.

The predictive power obtained using Bayesian analyses revealed a similar pattern. The ECBI was reasonably accurate in identifying clinic status (PPP=.86 and .87 for Intensity and Problem scale score measures, respectively) . In other words, 86% of those classified as obtaining clinically-significant scores on the Intensity scale of the ECBI were in fact members of the clinic group as determined by the external criterion. Similarly, 87% of those classified beyond clinical cutoffs for the Problem scale of the ECBI were clinic group members. The indices obtained for NPP indicate that the ECBI is slightly less accurate in identifying normal status over clinic status (NPP=.84 and .71 for the Intensity and Problem scale score measures, respectively) .

Revised Behavior Problem Checklist (RBPC). The discriminative power indices of the RBPC scales are presented in Table 8. The sensitivity for RBPC scales ranged from .27 (SA scale) to .40 (ME scale) indicating the proportion of clinic cases exceeding

cutoffs for the scales of the RBPC. Specificity indices were high across all scales and ranged from .90 (SA) to 1.00 (CD and AP) indicating that almost all control cases were rated as within normal limits on the RBPC scales. The false positive rate for the RBPC scales ranged from .00 to .10 while the false negative rate was higher and ranging from .23 to .73. These error rates indicate that more clinic cases were classified as within normal limits by the RBPC but very few control cases exceeded clinical cutoffs on the RBPC.

Results of Bayesian analyses on the RBPC produced similar overall results. The CD and AP scales were highly accurate in identifying clinic status (PPP = 1.00). In other words, all of the cases identified as exceeding clinic cutoffs were clinic cases as determined the by external criterion. The PPPs for the ME and SA scales were adequate (.86 and .73, respectively) indicating the percentage of those classified as in the clinic range on the ME and SA scales who are members of the clinic group. The indices obtained for NPP indicate that all RBPC scales (i.e., CD, SA, AP, and ME) demonstrated poor performance in this respect with only slightly over half of the sample with scores within normal limits being part of the control group (NPP = .58, .55, .60, and .61, respectively).

Relative Accuracy of the Measures

Discussion of relative accuracy among the measures used in this study was driven by the results of Bayesian analyses (i.e., PPP and NPP), calculated as a function of their agreement with the 'gold standard' or external criterion of the CBCL Externalizing T-score clinical cutoff. The PPP was highest for the RBPC scales of CD and AP (1.00) and

DBD diagnoses of ADHD and ADD-IN (.93 and .92, respectively) indicating that these were the most accurate in identifying children who are displaying elevated levels of externalizing behaviors as determined by the external criterion. The ECBI Intensity and Problem scales were strong with PPPs in the .80s. All PPPs for the measures, scales and diagnoses were adequate or better for identifying true clinic status except for the DBD CD category, however the low rate of CD misclassification ($\underline{n}$ = 1) largely affected the resulting PPP. Therefore, the hypothesis that the predictive power of the DBDs (i.e., their diagnostic accuracy) would be weaker than that for the normed rating scales was not supported. Interestingly, there were different patterns observed across the normed rating scales in terms of their ability to accurately identify caseness and the DBDs fared well as compared to one of the rating scales in terms of PPP but not as well as the alternate rating scale. For all measures except the DBD CD category however, the indices were within acceptable levels.

The NPP indices were also different across measures but were not as high as the PPP rates. The overall category of DBD and the ECBI Intensity scales were the most powerful in accurate exclusion of control group cases (NPP = .85 and .84, respectively). Other adequate categories for identifying noncaseness were ADD-HI, ODD, and the ECBI Problem scale. Several scales demonstrated poor performance for accurate exclusion or screening with predictive power rates below .70. These were the scales of the RBPC (i.e., CD, SA, AP, and ME), Conduct Disorder, ADD-IN, and ADHD. Thus, the DBD performance in terms of diagnostic efficiency demonstrated significant variability across diagnoses. Contrary to the hypothesis, then, the DBD did not perform

more poorly across the board than the rating scales and, in fact, fared well as an overall category.

Diagnostic Efficiency of DBD Criteria: Symptom Utility

Symptom Utility Rates for ADD-IN Criteria. The base rates of the ADD-IN symptoms and their predictive utility are presented in Table 9. The corrected predictive power, which takes into account the chance agreement between symptom and diagnosis is also provided. Resulting base rates indicate that "Easily distracted" and "Fails to finish" occurred at the highest rates in the total sample. Diagnostic efficiency indices for ADD-IN symptoms ranged from .09 to .81 for cPPP and .23 to .98 for cNPP. As hypothesized, variability in the utility of criteria for a DBD diagnosis was found.

Most symptoms had low cPPP (M = .45) and high cNPP (M = .74) values indicating a low probability for the disorder given the presence of the symptom but a high probability that the diagnosis is not present given the absence of the symptom. The symptom providing the strongest evidence for the likely presence of ADD-IN is "Difficulty organizing" (cPPP =.81) indicating the usefulness of this symptom as an inclusionary item for diagnosing ADD-IN. Notably, the ADD-IN symptom "Easily distracted" demonstrated the weakest utility as an inclusionary item for diagnosing ADD-IN (cPPP = .17) yet among the highest utility rates for predicting the likely absence of ADD-IN (cNPP = .98) when this symptom is absent. The symptom "Loses things" was the poorest item for use as an exclusionary item (cNPP = .23). In summary, most of the items were not useful as inclusionary items for diagnosing ADD-IN but were powerful as exclusionary items whereby their absence was indicative of the absence of ADD-IN.

Table 9

Base rates and Indices of Symptom Utility for ADD-IN

Criteria	BR	cPPP[a]	cNPP[b]
Easily distracted	.60	.17	.98
Fails to finish	.53	.09	.73
Poor attention	.43	.32	89
Doesn't listen	.42	.23	.88
Loses things	.10	.54	.23
Careless	.25	.43	.91
Difficulty organizing	.25	.81	.89
Avoids mental effort	.27	.73	.88
Forgets	.12	.70	.31

Note. BR = base rate; cPPP = corrected positive predictive power; cNPP = corrected negative predictive power. Suggested clinical utility cutoff = .70.

[a] $cPPP = \frac{[(A - SA^{c}) / (A + B)]}{1 - [SA/ (A + B)]}$

[b] $cNPP = \frac{[(D - SD^{d}) / (C + D)]}{1 - [SD/ (C + D)]}$

[c] $SA = [(A + C)] \times (A + B)] / N$

[d] $SD = [(B+D)] \times (C + D)] / N$

Symptom Utility Rates for ADD-HI Criteria. Table 10 shows the base rates and corrected predictive power indices of ADD-HI . Base rates across the symptoms for the total sample indicate that "Fidgets" and "Can't wait turn" (BR = .72) occurred at the highest rate. Diagnostic efficiency indices for ADD-HI symptoms ranged from .12 to .72 for cPPP and .39 to 1.00 for cNPP. Overall, most symptoms had low cPPP (M = .35) and cNPP (M = .61) diagnostic efficiency values indicating the symptoms' low power as inclusionary items and only slightly better utility for predicting absence of ADD-HI when the symptom was absent. The symptom providing the strongest evidence for the likely presence of ADD-HI is "Runs, climbs" (cPPP =.72) with "Can't wait turn" demonstrating the weakest link to ADD-HI (cPPP = .12). The absence of the symptom "Fidgets" was highly indicative of the absence of ADD-HI (cNPP = 1.00). Again, the variability across symptom utility rates supported the hypothesis regarding differential patterns in symptom utility.

Table 10

Base rates and Indices of Symptom Utility for ADD-HI

Criteria	BR	cPPP[a]	cNPP[b]
Fidgets	.72	.32	1.00
Remaining seated	.55	.50	.75
Can't play quietly	.58	.53	.93
Talks excessively	.45	.39	.39
Runs, climbs	.47	.72	.74
On the go	.63	.36	.74
Blurts out	.72	.12	.42
Can't wait turn	.43	.44	.66
Interrupts	.63	.14	.30

Note. BR = base rate; cPPP = corrected positive predictive power; cNPP = corrected negative predictive power. Suggested clinical utility cutoff = .70.

$$^{a}\text{cPPP} = \frac{[(A - SA^{c}) / (A + B)]}{1 - [SA / (A + B)]} \qquad ^{c}SA = [(A + C)] \times (A + B)] / N$$

$$^{b}\text{cNPP} = \frac{[(D - SD^{d}) / (C + D)]}{1 - [SD / (C + D)]} \qquad ^{d}SD = [(B+D)] \times (C + D)] / N$$

Symptom Utility Rates for ADHD (Combined Type). Diagnostic efficiency indices for ADHD are presented in Table 11. Resulting base rates indicate that "Fidgets," "Can't wait turn," "On the go," and "Easily distracted" occurred at the highest rates in the total sample. Diagnostic efficiency indices for ADHD symptoms were calculated based on the presence or absence of the symptoms for ADD-IN and ADD-HI and whether or not an ADHD diagnosis was given. Diagnostic efficiency indices ranged from .07 to .75 for cPPP and .23 to 1.00 for cNPP. Most symptoms had low cPPP (M = .24) and high cNPPP (M = .73) values indicating a low probability for the disorder given the presence of the symptom but a high probability that the diagnosis is not present given the absence of the symptom. The presence and absence of the symptom "runs, climbs" demonstrated strong evidence for both the likely presence (cPPP =.75) and absence (cNPP = .90) of ADHD. One other symptom (i.e., "Talks excessively") demonstrated adequate utility as an inclusionary item (cPPP = .72) while "Can't wait turn" and "Can't play quietly" were also useful as exclusionary items (cNPP = .98 and .88, respectively). The diverse patterns in symptom utility rates represents supporting evidence for the hypothesis regarding the presence of these patterns in the DBD criteria for preschool-aged children.

Table 11

Base rates and Indices of Symptom Utility for ADHD

Criteria	BR	cPPP[a]	cNPP[b]
Easily distracted	.60	.12	1.00
Fails to finish	.53	.19	.83
Poor attention	.43	.19	1.00
Doesn't listen	.42	.24	.72
Loses things	.10	.32	1.00
Careless	.25	.14	.80
Difficulty organizing	.25	.17	1.00
Avoids mental effort	.27	.09	.74
Forgets	.12	.30	.86
Fidgets	.72	.25	.60
Remaining seated	.55	.60	.23
Can't play quietly	.58	.41	.88
Talks excessively	.45	.72	.80
Runs, climbs	.47	.75	.90
On the go	.63	.60	.30

(table continues)

Base rates and Indices of Symptom Utility for ADHD

Criteria	BR	cPPP[a]	cNPP[b]
Blurts out	.72	.12	.98
Can't wait turn	.43	.25	.67
Interrupts	.63	.07	.41

Note. BR = base rate; cPPP = corrected positive predictive power; cNPP = corrected negative predictive power. Suggested clinical utility cutoff = .70.

$$^{a}cPPP = \frac{[(A - SA^{c}) / (A + B)]}{1 - [SA/ (A + B)]}$$

$$^{c}SA = [(A + C)] \times (A + B)] / N$$

$$^{b}cNPP = \frac{[(D - SD^{d}) / (C + D)]}{1 - [SD/ (C + D)]}$$

$$^{d}SD = [(B+D)] \times (C + D)] / N$$

Symptom Utility Rates for ODD Criteria. Diagnostic efficiency rates of the ODD symptoms are presented in Table 12. Base rates indicate that "Argues/Talks Back" and "Loses Temper occurred at the highest rates in the total sample (base rates of .65 and .62, respectively). Consistent with other DBD criteria, the items for ODD also demonstrated variability in the symptom utility rates, thus supporting the hypothesis. The predictive power for ODD symptoms demonstrated a wide range from .38 to 1.00 for cPPP and .19 to .97 for cNPP. The symptoms providing the strongest evidence for the likely presence of ODD (i.e., best inclusionary items) were "Gets others in trouble," "Angry/Resentful," "Grouchy," and "Gets even" with cPPPs ranging from .86 to 1.00.

On average, the cPPP for most symptoms were moderate (M = .70) while the average cNPP values were less than adequate (M = .55). These indices indicate that symptoms of ODD were only adequate as inclusionary items in predicting the presence of ODD given the presence of the symptom. Similarly, the absence of most symptoms of ODD were less than adequate as exclusionary items (i.e., predicting the absence of the diagnosis) except for "Breaks Rules, Refuses," "Loses Temper," and "Argues/Talks Back" where cNPP values were .97, .94. and .87, respectively.

Symptom Utility Rates for CD Criteria. Not completed due to too few number of cases.

Table 12

Base rates and Indices of Symptom Utility for ODD

Criteria	BR	cPPP[a]	cNPP[b]
Loses temper	.62	.46	.94
Argues/talks back	.65	.39	.87
Breaks rules/refuses	.57	.38	.97
Bothers others	.35	.68	.55
Blames others	.23	.77	.32
Grouchy	.28	.93	.46
Angry/resentful	.13	.94	.21
Gets even	.25	.86	.41
Gets others in trouble	.12	1.00	.19

Note. BR = base rate; cPPP = corrected positive predictive power; cNPP = corrected negative predictive power. Suggested clinical utility cutoff = .70.

[a]$cPPP = \frac{[(A - SA^{c}) / (A + B)]}{1 - [SA/ (A + B)]}$

[b]$cNPP = \frac{[(D - SD^{d}) / (C + D)]}{1 - [SD/ (C + D)]}$

[c]$SA = [(A + C)] \times (A + B)] / N$

[d]$SD = [(B+D)] \times (C + D)] / N$

CHAPTER VI

DISCUSSION

The purpose of the present study was to investigate the validity of the DSM-IV DBD classification system for accurate identification of clinically-significant behavior problems in preschool-aged children. In particular, the extent to which use of the DSM-IV DBDs would account for developmentally-related transient behavior problems was a central focus of the study. There were several findings of note in the present investigation.

Findings Related to Major Aims of Study

Classification of Preschool-Aged Children: Behavioral Patterns

The use of dimensional and categorical classification systems in the present study yielded prevalence rates of clinically-significant behavioral problems similar to that reported for clinically-referred school-aged youth (Achenbach & Howell, 1993; Jensen et al., 1996; Loeber et al., 1991). Specifically, 17 to 57% of the total sample exceeded clinical cutoffs on the DSM-IV DBD categorical measure, dimensional normed rating scales, or both. For the DSM-IV DBD categories, results of the DISC-2.3 yielded a comorbidity rate of 35% which is consistent with the rates typically found in samples of older children (Spitzer et al., 1990). These findings support previous research reporting that significant behavioral excesses are present in preschool-aged children. Results of the present study also indicate that children in the clinic group, as measured by a clinical cutoff on the Externalizing scale of the CBCL, demonstrated greater levels of clinically-significant behavior problems than controls. This finding was evident for both the

categorical measure (DISC-2.3) and dimensional rating scales (ECBI, RBPC). These findings suggest that the external criterion (i.e., CBCL Externalizing T-score) was highly discriminative of clinic-level behavioral patterns, supporting its use as a criterion to determine group membership (Biederman et al., 1996; Jensen et al., 1996).

Due to small sample sizes, statistical analyses to determine age and/or gender effects could not be conducted. However, inspection of the pattern of results obtained for the total sample yielded trends that suggested inconsistent results across categorical and dimensional measures in terms of differences in scores based on gender and age. The general lack of consistent gender differences has been evident in other empirical investigations with preschool-aged children (Brumfield & Roberts, 1998; Kashani et al., 1986; Silverthorn, Frick, Kuper & Ott, 1996). These investigators found that preschoolers demonstrated more similarities than differences in the number and types of behavior (i.e., excesses and compliance rates) across both clinic-referred and normal preschoolers. Gender differences in the levels and types of behavioral problems in older children, however, have been well-documented in the research literature (Barkley, 1990). These findings for preschool samples, then, suggest that the developmental pathways regarding behavioral excesses and compliance may be similar for boys and girls at these ages. The hypothesis that younger preschoolers (i.e., below 5 years) in the total sample would yield higher problem behavior rates than older preschoolers could not be adequately tested due to small sample size.

Diagnostic Efficiency Indices for the DBDs: The Use of Bayesian Analyses

Predictive Power of the DSM-IV DBD Diagnoses. A second aim of the study was to examine the diagnostic utility of the DSM-IV DBDs for preschoolers as assessed by the DISC-2.3. Bayesian analyses were used since they are more rigorous and relevant to the diagnostic process. Contrary to the a priori hypothesis, the predictive power of the DBD overall category was good. Specifically, the hypothesis that DBD categories would not be sensitive to developmental factors in preschool children and, instead, would overdiagnose at a higher level, was not supported. Instead, most children with one or more diagnoses were clinic group members while most children without diagnoses were in the control group. Interestingly, for the preschoolers who did meet DBD diagnostic criterion levels, there was considerable overlap in diagnoses. This comorbidity is consistent with findings for older children as well (Hinshaw, 1987).

The satisfactory performance of the DSM-IV DBD categories in the present study may highlight the result of the DSM-IV Field Trial Committee's greater awareness and effort toward refinement of DBD categories based on both clinical judgment and empirical findings. Unlike other editions of the DSM, the fourth edition provides a significant amount of information based on empirical findings regarding symptom presentation related to demographic factors (e.g., age, gender). The increased efforts by the DSM-IV Committee toward refining the nomenclature for DBDs in order to derive categories that were both more statistically and clinically meaningful may have aided in yielding results in the present study which demonstrate the utility of the DBD categories in accurate description of the behavioral excesses for preschool-aged children.

Predictive Power of the DSM-IV DBD Criteria. DBD criteria were also found to have adequate predictive power overall with a preschool sample, although symptom utility rates for the DSM-IV DBDs yielded information regarding differential performance rates for identifying true clinic status or noncaseness. Across all DSM-IV DBDs, ODD symptoms such as "Grouchy," "Angry/Resentful," and "Gets others in trouble" were most predictive (i.e., all cPPPs above .90) in identifying children in this age range who met diagnostic criteria. Symptoms with the highest predictive power for excluding cases (i.e., all cNPPs above .90) were "Fidgets," "Easily distracted," "Poor attention," "Loses things," "Blurts out," "Careless," "Difficulty organizing," "Can't play quietly," "Breaks rules/refuses," and "Loses temper." All but the latter two criteria are symptoms of one or more types of ADD indicating good performance in symptom utility for screening purposes among the ADD types. Of the two ODD symptoms listed with highest cNPP rates, "Losing temper," often a hallmark symptom for ODD, demonstrated better utility for screening out cases of ODD than for identifying cases.

The symptom utility rates yielded in the present sample are somewhat comparable to those obtained in the DSM-IV field trial sample of clinic-referred youth (Frick et al., 1994) and a community sample examining ADHD symptoms (Ott et al., 1994). For example, symptom utility rates for ODD are highly comparable between the present sample and that in the field trial sample of younger children (i.e., ages 4-12). In both the field trial and present study samples, the presence of the symptoms "Gets even or Spiteful," "Grouchy," and "Angry" obtained the highest cPPP, meaning they were highly indicative of the presence of an ODD diagnosis. Similarly, the symptoms "Loses

temper," "Argues," and "Defies/Refuses" obtained the highest cNPP values suggesting that the absence of the symptom was predictive of the absence of ODD. The cNPP values for these symptoms in the present sample, however, were much higher than those obtained in the field trial sample. This suggests that ODD symptoms assessed using the DISC-2.3 performed well in screening out cases even though the base rate of the disorder, which can make screening more difficult, was moderately high (i.e., 30%). Generally, the present study and field trial sample demonstrated a similar pattern of weak or strong predictive values.

Predictive power values were more variable across the three samples regarding the symptom utility rates for screening or classifying ADHD and its subtypes. For example, the samples examined by Ott and colleagues (1994) and Frick and colleagues (1994) both identified the presence of "Fidgets" as most indicative of ADD-HI, while "Loses things" and "Careless" obtained the highest predictive value rates for ADD-IN. In the present sample, however, these symptoms obtained very low cPPP values (i.e., < .45), except for "Loses things" which was also highly predictive of ADD-IN. Across the 3 samples, high cNPP values were obtained for the majority of the ADHD symptoms. In addition, few items identified usefulness as inclusionary symptoms. The differences found for ADHD symptoms and its subtypes are likely due, in part, to the different base and prevalence rates of the disorder across samples. Base rates of the symptom are important since higher prevalence rates often increase the likelihood that a child will be classified as meeting criteria. In the case of "Loses things," the base rate across all three samples was low (i.e., .10) which hinders the likelihood of a positive result (i.e., high

NPP more likely than high PPP). Because other factors can also affect the obtained predictive power values (i.e., error rates), it is important to view this interpretation as only one of the possible explanations. As noted by Baldessarini and colleagues (1983), symptom utility rates have implications for the use of these measures when the setting and population are varied.

Relative Diagnostic Utility of the Categorical System (DISC-2.3) versus Normed Rating Scales (ECBI, RBPC)

The third aim of the study was to compare the relative utility of DBDs to classify preschool behavior problems in comparison to normed rating scales. First, although it was hypothesized that the general relationship would be only modest, this was not supported. In fact, categorical and dimensional instruments demonstrated significant overlap, indicating that dimensional rating scales and categorical diagnostic nomenclature for child behavior disorders assess similar symptomatology for externalizing behaviors. Second, comparison of the relative utility of the DBDs indicated that the DBD fared well in its performance as a diagnostic tool when compared to the results of norm-based checklists. In fact, the predictive power of the DSM-IV DBD criteria did not differ markedly from that of the ECBI and RBPC. Therefore, our hypothesis that the performance of the DBD criteria would be poorer than that of measures developed from a normative sample which included preschoolers was not supported. On further reflection, interpretation of this finding highlights the fact that previous research has found convergence of several narrowband scales of the CBCL, which are incorporated into broadband scales (e.g., Externalizing scale) with some of the

DBD diagnoses (e.g., ADHD) (Biederman et al., 1993). Further, the pre-existing relationship between most rating scales and the DBDs resulted in an initial degree of overlap from the outset.

The relative performance of the rating scales is worth noting, since they provide information regarding their superiority in aiding the diagnostic and intervention selection process. The RBPC was comparable to the ECBI in terms of its power to detect true caseness (i.e., PPP), however NPP rates for the RBPC were below acceptable levels indicating that this measure demonstrated inadequate power for accurate exclusion of a case. The ECBI, on the other hand, was robust in both its PPP and NPP ability, suggesting that it is a strong measure for accurate classification of child behavior problems.

Utility of Bayesian Analyses

Another finding of note was the demonstrated utility of Bayesian analyses. The indices of discriminative power for the measures changed significantly when base rates were considered. In fact, for all measures except for the overall DSM-IV DBD category and ECBI, the sensitivity and specificity rates yielded patterns contrary to that observed in the predictive power values. For example, most sensitivity indices were low, indicating the measure's lack of agreement with clinic status. However, predictive power indices for the measures suggested moderate to high power for accurate identification of clinic level behavior. Similarly, the specificity for most measures was very high indicating a high percentage of correct decisions for screening out cases. The cNPP values, on the other hand, were largely below acceptable levels, thus indicating that base

rates influenced the ability for the test to accurately determine that behavior problem levels were within normal limits. These patterns are consistent with previous research demonstrating that sensitivity and specificity alone do not accurately depict the utility of a measure (Milich et al., 1987; Pelham, Evans et al., 1992). For example, as the prevalence of the index decreases, the PPP of the test decreases while the NPP increases Therefore, there is a potential loss of PPP when comparing the performance of the measure in settings with relatively low prevalence rates (e.g., a general school population) to settings where the prevalence is high (e.g., a specialized clinic for behavior disorders).

Implications

Practitioners working with preschool-aged children are often faced with the challenge of diagnostic decision-making and determining clinically-significant levels of behavior problems. When behavioral rating scale data, interview information, and subjective standards of the clinician are combined, the resulting decision can be fraught with methodological weaknesses. This situation is worsened given the ambiguity of many of the criteria for the DSM DBDs regarding intensity and normative comparison (e.g., "Often refuses to comply with adult requests"). Data regarding symptom utility rates for each criteria for preschool-aged children, however, highlight the issue of variations in symptom presentation for children at this age. Rather than an expected cluster of symptoms that describe the oppostional preschooler, for example, symptom utility rates for the present sample suggest that ODD criterion are differentially useful and can be expected to change in utility depending on clinical setting. Results of the

present study, then, are useful to the diagnostician and researcher alike where accurate decisions regarding identification and treatment effects are driven by the distinctions regarding age-appropriate versus clinic levels behavior.

There is strong empirical evidence which suggests that serious behavior problems in children are often apparent as early as age three (Campbell, 1991; Richman, Stevenson, & Graham, 1982). Further, early presence of serious problems with behavioral self-control is often associated with continued difficulties as the child reaches schoolage and beyond. Research has suggested that severe, chronic behavior problems, first observed in the child at the preschool-age level and untreated by school age are very likely to persist into adolescence and adulthood and evolve into increasingly severe problem behavior such as juvenile violence, delinquency, and substance abuse (Ewing & Campbell, 1995; Farrington, 1991; Loeber, 1988; O'Donnell, Hawkins, & Abbott, 1995). Therefore, early identification of child behavior problems is critical, in preventing exacerbation of these difficulties.

As suggested by the 1990 NIMH National Plan Workgroup, issues of comorbidity among the behavior disorders may highlight the "inelegance" of the DSM classification system for adequate specificity of diagnostic classes of behavioral excesses (Jensen et al., 1993). The implications of this study provide information that may assist researchers and practitioners when attempting to derive differential diagnosis and plan treatment for preschool-aged children. For example, the results presented here provide heuristic guidelines for the selection of measures, such as the DISC-2.3 and ECBI, as well as suggestions for the interpretation of individual DSM-IV DBD criteria. Specifically,

comparison of categorical and dimensional approaches using Bayesian analyses yielded differential utility rates for diagnosing preschool-aged children. By utilizing predictive power analyses, a more rigorous evaluation of diagnostic utility, the clinician obtains stronger support for diagnostic decision-making (Finn, 1982; Landau et al., 1991).

In terms of clinical utility, a high NPP is helpful to the clinician who must broadly screen cases while a high PPP is useful for confirming results after an initial screening has taken place. In the present sample, the high NPP of the DSM-IV DBDs, as assessed by the DISC-2.3, and the ECBI support their use in the preliminary stages of screening cases, even in settings where the prevalence is low, such as a community clinic or school. In this case, the accuracy of a negative test result will be higher than that of a positive test result (Baldessarini et al., 1983).

Finally, the results of this study provide implications regarding the use of the DISC-2.3 in clinical practices. The robustness of the DISC-2.3 and its demonstrated sensitivity to developmental factors provides support for the use of this measure with preschool-aged children. The findings obtained in the present study suggest that the real-world practice of diagnostic decision-making can be enhanced by the used of a highly structured interview such as the DISC-2.3. Coupled with good clinical judgment, decisions regarding clinically-significant behavioral excesses in preschool-aged children may be enhanced whereby the clinician is able to utilize clinical judgment regarding normal variations in behavioral patterns as well as more structured analysis of the history and current impairment caused by the acting-out behaviors.

Limitations and Strengths of Present Study

Limitations of the present investigation must be considered in evaluating our findings. First, the sample size in the present study was small which limited the extent of statistical analyses conducted. Specifically, larger samples would have permitted more finite analyses of age and gender differences. Since developmental considerations are paramount for this age group, analyses across these demographic factors is essential. Relatedly, the few cases of clinic-level 3-year-olds in general and 4-year-old girls limited the ability to examine more fully the patterns of behavioral difficulties for this age group. Second, the majority of the sample was comprised of low to lower-middle class families in terms of socioeconomic profile. Because low socioeconomic status has been associated with greater behavioral difficulties in children, this may account for the substantial base rates for significant behavioral problems across the measures in the sample. Therefore, even though differences between groups for behavioral problems by income were not found, the levels of behavior problems identified by mothers in the present study may be somewhat higher due to the influence of socioeconomic factors. The representativeness of the total sample in terms of geographic sampling may be another limitation to the present study. Both sites in the present study represent rural communities thus precluding generalizability regarding rates of behavioral excesses in urban or suburban preschool-aged children. Finally, use of a rating scale as the 'gold' standard by which to determine clinic group membership may be a limitation of the present study in that the index (i.e., CBCL), although statistically-driven and sound in terms of psychometric properties, contains inherent limitations for its use as well.

Relatedly, the present study was limited in its use of only 1 informant to provide information regarding the child's problem behavior rates. For real-world diagnostic purposes, multiple informants and assessment procedures are often used to arrive at a decision regarding clinic status.

The results of the present study highlight several important strengths of the study. First, because the sample was comprised of only preschool-aged children, the data obtained could highlight particular issues for this age group. This is in contrast to previous research (Frick et al., 1994) whereby preschoolers were not well-represented and, instead, the data regarding behavioral excesses were collapses for children across broad age ranges. In addition, information for families of lower socioeconomic status actually also represents a needed population for study in the research literature in this area.

Another strength of the present study was that Bayesian analyses were utilized to assess classification indices for diagnostic decision-making. Predictive power, a more rigorous evaluation statistic for diagnostic utility, has been viewed as a stronger support for diagnostic decision-making (Finn, 1982; Landau et al., 1991). The present study also yielded useful information regarding the differential utility of each DBD symptom for accurate classification of DBDs in preschool-aged children. The significant contrast in the indices of diagnostic efficiency for the measures when base rates are considered is compelling. For example, if one were to use the typical efficiency statistics (i.e., sensitivity and specificity) to interpret the diagnostic power of the DISC-2.3, one would conclude that the measure was quite powerful in determining positive status (sensitivity =

.87). However, when prevalence is considered, the DISC-2.3 was actually superior in identifying nonmembership (NPP = .85) and adequate in its ability to identify positive cases (PPP = .76). A third strength of the present study was the comparison to normed rating scales to determine relative utility of the DSM-IV DBD classification system as compared to developmentally-sensitive measures. In particular, the design of the present study allowed for comparison between a highly structured and reliable categorical measure (i.e., DISC-2.3) and dimensional assessments of behavior. Use of the DISC-2.3 provided information regarding the utility of this measure with this sample of children aged 3 to 5.

Future Directions

Given the paucity of research with DBDs in preschool samples using Bayesian analyses and the benefits of identifying preschool-aged children in need of early intervention, future research in this area is clearly warranted. Because researchers have called for a more developmentally-based diagnostic set with discriminative abilities to enhance accurate identification (Russo, Loeber, Lahey, & Keenan, 1994), future research involving the utility of the DSM-IV DBDs and the DISC-2.3 is necessary. For example, further evaluation of the exclusionary or inclusionary power of each DSM-IV DBD disorder and symptom in varying samples of preschool-aged children would be a useful next step. Research with the DSM-IV DBD criteria will also need to examine the effect of using the traditional yes-no format vs. the structured interview format used in the present study. In the structured interview (i.e., DISC-2.3), mothers were frequently prompted to consider symptom severity as compared to levels in other preschool-aged

children. Furthermore, information is obtained regarding duration of problem behavior and the criteria is coded as being met only if duration and symptom severity are outside normal limits. This information is lacking when traditional yes-no measures that assess DBD criteria are employed. Researchers and practitioners have joined in the development of a system to enhance interpretability of DBD criteria and diagnoses, and other disorders in children. The development of the Diagnostic and Statistical Manual for Primary Care (DSM-PC) came about due to concerns by pediatricians that the DSM system did not adequately address developmental issues and changes that occur across behaviors at different developmental stages (Walraich, 1997). The goal was to develop a system that was more user-friendly and help pediatricians identify and refer children in need of treatment for mental health problems. In particular, it was deemed important that the system reflect the way in which symptoms vary from normal variations to problems to mental disorders. One of the benefits, then, was that it provides a standardized nomenclature to describe developmental variations (e.g., how presentation of the symptom varies at different age levels). A useful follow-up investigation could examine the use of different categorical classification systems which have variations in the degree to which developmental considerations are incorporated (e.g., yes-no format vs DISC-2.3 vs DSM-PC). When interpreting these findings, it should be noted that the structured interview used in the present study was quite rigorous and this may have strengthened the measure's performance. However, certain aspects of the DISC-2.3 may have influenced this outcome. In the format of the DISC-2.3, parents are asked to consider their child's level of problem behavior as compared to same-aged peers. This stringent format, which

has been employed in several previous investigations, directly incorporates a developmental framework (Shaffer et al., 1992; Lahey et al., 1996). This structure may place a developmental framework of sorts for decision-making regarding problem behavior severity. The favorable outcomes as a result of using the DISC-2.3 supports the use of the DSM-IV nomenclature as measured by the DISC-2.3 for highly accurate identification of preschool-aged children in need of intervention. Use of a less rigorous format, however, may not yield comparable results.

In this way, information regarding ways to improve specificity of classification for this age group could be uncovered. High numbers of preschool-aged children in the present sample who demonstrated clinically-significant levels of behavior problems as measured by the CBCL and DISC-2.3 were not receiving services for these behavioral excesses. In fact, mothers of these children often reported that these behaviors had not been identified as problematic by other professionals who provided services to the child (e.g., pediatrician, preschool teacher). This may reflect a bias among parents, child care professionals, and medical personnel to view behavioral excesses among preschoolers as indicative of a transient phase rather than a risk factor for the further development of serious behavior problems. In prospective studies with preschoolers, however, Campbell (1994, 1995) has found that approximately half of the preschoolers identified with behavior problems continue to demonstrate problems in elementary school. For the other half of behavior problem preschoolers, these difficulties are experienced as no more than a short-lived phase. In a longitudinal study spanning 13 years, Achenbach & Howell (1993) observed a referred and nonreferred sample for level of behavior problems and

numbers of children scoring in the clinical range. Specifically, the number children judged to be impaired due to behavioral excesses increased from Time 1 to Time 2, yet a smaller percentage were receiving treatment for identified behavior problems.

Although research has demonstrated that behavior problems in children often persist, the findings in the present study highlight that many children do not receive the necessary intervention. In fact, only six of the 30 children in the clinic group had ever been referred for behavioral problems. Indeed then, early identification, classification, and treatment of significant problem child behavior can thwart the exacerbation of behavior problems into later years and, perhaps more importantly, serve as a mechanism for appropriate treatment selection to effectively guide the child and parent through an early problem phase where parent-child interaction is critical to successful outcomes.

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APPENDIX A

INFORMED CONSENT STATEMENT

Informed Consent Statement

Project Title: A Comparative Evaluation of the Predictive Power of the DSM-IV Disruptive Behavior Disorders in a Preschool Population

Experimenters: Maureen A. Sullivan, Ph.D., and Jannette Rey, M.S.

I, (print name) _____ agree to take part in this study. Maureen A. Sullivan, Ph.D., or her assistants, will be in charge of the study, which is described below.

A. Purpose: We are interested in investigating the accuracy of the criteria for the Disruptive Behavior Disorders for preschool-aged children.

B. Procedure: You will be asked to work with a graduate student and assistants to fill out several questionnaires. First, you will be asked to answer some questions about your child's date of birth, your age and type of job, etc. This will allow us to describe the people in our study. To measure misbehaviors, you will complete the "Diagnostic Interview Schedule for Children", the "Child Behavior Checklist", the "Revised Behavior Problem Checklist", and the "Eyberg Child Behavior Inventory". These questionnaires ask about common problem behaviors seen in young children.

C. Length of Study: The study will take about 60 minutes. Your participation is entirely voluntary; you can withdraw your consent at any time and discontinue participation without penalty.

D. Confidentiality: All forms will be coded by numbers, not names. In addition, the forms that have your names (that is, this form and the address form) will be filed separately from numbered materials and kept in a secure place. In this way, no one will be able to identify which forms were yours. Results from this experiment may be presented at professional meetings or in publications; however, no identifying information will be used. That is, neither you nor your child will be able to be recognized.

Confidentiality will be maintained except under specified conditions required by law. For example, current Oklahoma law requires that any ongoing abuse (including sexual abuse, physical abuse, and neglect) of a minor must be reported to state officials. In addition, if an individual reports that they intend to harm themselves or others, legal and professional standards require that the individual must be kept from harm, even if confidentiality must be broken. Finally, confidentiality must be broken if materials from this study were subpoenaed by a court of law.

E. Risks: The risks of this study to you are very low. Some mothers may start to worry about how their children are doing. If this happens, we will try to answer any questions that you may have. You will also be offered several phone numbers for agencies that work with children. You may use these in case you have any further questions.

F. Benefits: If you request it, we will send you the results of the study when it is finished. In addition, you will receive a monetary incentive for your participation.

****

I have been told all the details and been fully informed about this study. I am aware of what I will be asked to do and of the risks and benefits in this study. I also understand the following statements:

I am the parent or legal guardian of the child about whom I will be asked.

My participation today is part of a study called "A Comparative Evaluation of the Predictive Power of the DSM-IV Disruptive Behavior Disorders in a Preschool Population"

The purpose of the study is to investigate the accuracy of the criteria for the Disruptive Behavior Disorders for preschool-aged children.

I understand that my participation is voluntary and that there is no penalty for refusal to participate. I understand that I am free to leave at any time without penalty.

I understand that I may contact any of the experimenters at the following address and telephone number if I want to discuss my participation in this study and/or request information about the study's outcome: 215 North Murray Hall, Department of Psychology, Oklahoma State University, Stillwater, OK 74078-0250, (405) 744-6027. I may also contact Jennifer Moore, University Research Services, 005 Life Sciences East, Oklahoma State University, Stillwater, OK 74078 at telephone number (405) 744-9992.

I have read and fully understand this consent form. I sign it freely and voluntarily. A copy of this form has been given to me.

_____ _____

Signature of Parent/Legal Guardian Date

_____ AM PM

Time

_____ _____

Signature of Witness Date

APPENDIX B

RELEASE OF INFORMATION CONSENT FORM

Oklahoma State University

COLLEGE OF ARTS AND SCIENCES

Department of Psychology
215 North Murray
Stillwater, Oklahoma 74078-0250
405-744-6027

RELEASE OF INFORMATION CONSENT FORM

Project Leader _____ **Agency Name/Therapist Name** _____

I, _____, hereby authorize the exchange between the
(Name of parent/gaurdian)

agencies stated above of the results obtained with the measures I am completing today as part of a research project entitled "A Comparative Evaluation of the Predictive Power of the DSM-IV Disruptive Behavior Disorders in a Preschool Population." This project is supervised by Dr. Maureen A. Sullivan and is led by Jannette Rey, M.S., both of whom are from the Psychology Department of Oklahoma State University.

I understand that the information to be released will include data regarding my child's level of behaviors and information regarding diagnostic information.

I understand that I may revoke this consent at any time except where the information has already been given to the agency and/or therapist named above. In any event, this consent expires automatically as described below.

I further acknowledge that the information to be released was fully explained to me and this consent is given of my own free will. This consent expires on:

_____
(expiration date of consent to release information)

_____
Name of child

_____
Signature of parent/Guardian of child

_____
Date

_____
Witness (authorized project leader)

APPENDIX C

DEMOGRAPHIC QUESTIONNAIRE

Subject No. _____

Demographic Questionnaire

Please fill out this confidential questionnaire.

1) Your relationship to the child: Mother_____ Father_____

Stepmother_____ Stepfather_____ Other (please describe)_____

2) Your sex: M_____ F_____

3) Your age:_____

4) Your race: White_____ Black_____ Hispanic_____ Asian_____

Native American_____ Other (please describe) _____

5) Highest level of education completed (circle year):

1 2 3 4 5 6 7 8 (Grade School)

9 10 11 12 (High School)

13 14 15 16 (College)

17 and over (Graduate School)

6) Your occupation:_____

7) Marital Status: single_____ married_____ divorced_____

separated_____ other (please describe) _____

8) Total family income per month is:

( )Less than $800 ( )$1000-$1500 ( )$2000-$2500
( )$800-$1000 ( )$1500-$2000 ( )OVER $2500

9) If married, please provide the following information about your spouse:

a) Relationship to the child:_____

b) Age:_____

c) Race: White_____ Black_____ Hispanic_____ Asian_____

Native American_____ Other (please describe)_____

d) Highest level of education completed (circle year):

1 2 3 4 5 6 7 8 (Grade School)

9 10 11 12 (High School)

13 14 15 16 (College)

17 and over (Graduate School)

e) spouse's occupation _____

9) Please provide the following information about the child:

a) Date of birth:_____

b) Sex: M_____ F_____

c) Race: White_____ Black_____ Hispanic_____ Asian_____

Native American_____ Other (Please describe)_____

10) Development:

At what age did your child:

sit independently? _____

crawl?_____

walk independently?_____

Most common way of getting around?_____

Any difficulty rding trike or bike? Yes ( ) No ( )

Has this child ever been considered clumsy? Yes ( ) No ( )

Does your child enjoy playground equipment? Yes ( ) No ( )

Does your child seem fearful of space (i.e., going up/down stairs, riding a teeter-totter, etc.)? Yes ( ) No ( )

Does your child seem weaker or stronger than normal? Yes ( ) No ( )

Does your child have difficulty using tools (i.e., spoon or fork, pencil, scissors)? Yes ( ) No ( )

Does your child have difficulty with:

dressing? Yes ( ) No ( )

fastening clothes? Yes ( ) No ( )

tying shoes? Yes ( ) No ( )

Which hand does your child favor most often, left ( ) or right ( )?

Do you consider your child's attention span good? Yes ( ) No ( )

11) Is your child in any treatment at this time or in the past (e.g., behavior problems, emotional difficulties, speech therapy)? Yes ( ) No ( ) If so, please explain.

For how long did your child receive treatment?_____

How old was your child when these difficulties first began? _____

12) Family history

Is there a history of any ofthe following problems in your child's family (e.g, parents, grandparents, siblings, etc.)

	Yes	No	If yes, relation to child?
Mental retardation?	( )	( )	_____
Cerebral palsy?	( )	( )	_____
Muscle problems (dystrophy)?	( )	( )	_____
Eye/Hearing problems that run in families?	( )	( )	_____
Birth defects?	( )	( )	_____
Epilepsy?	( )	( )	_____

APPENDIX D

CHILD BEHAVIOR CHECKLIST/

AGES 2-3 AND 4-18

CHILD BEHAVIOR CHECKLIST FOR AGES 2-3

For office use only
ID #

CHILD'S NAME

SEX ☐ Boy ☐ Girl | AGE | ETHNIC GROUP OR RACE

TODAY'S DATE Mo. Date Yr.

CHILD'S BIRTHDATE Mo. Date Yr.

Please fill out this form to reflect *your* view of the child's behavior even if other people might not agree. Feel free to write additional comments beside each item and in the space provided on page 2.

PARENTS' USUAL TYPE OF WORK, even if not working now *(Please be specific—for example, auto mechanic, high school teacher, homemaker, laborer, lathe operator, shoe salesman, army sergeant.)*

FATHER'S TYPE OF WORK:

MOTHER'S TYPE OF WORK:

THIS FORM FILLED OUT BY:

☐ Mother (name):

☐ Father (name):

☐ Other (specify): (relationship to child)

Below is a list of items that describe children. For each item that describes the child now or within the past 2 months, please circle the 2 if the item is **very true** or **often true** of the child. Circle the 1 if the item is **somewhat** or **sometimes true** of the child. If the item is **not true** of the child, circle the 0. Please answer all items as well as you can, even if some do not seem to apply to the child.

0 = Not True (as far as you know) 1 = Somewhat or Sometimes True 2 = Very True or Often True

0	1	2	1.	Aches or pains (without medical cause)	0	1	2	33. Feelings are easily hurt
0	1	2	2.	Acts too young for age	0	1	2	34. Gets hurt a lot, accident-prone
0	1	2	3.	Afraid to try new things	0	1	2	35. Gets in many fights
0	1	2	4.	Avoids looking others in the eye	0	1	2	36. Gets into everything
0	1	2	5.	Can't concentrate, can't pay attention for long	0	1	2	37. Gets too upset when separated from parents
0	1	2	6.	Can't sit still or restless	0	1	2	38. Has trouble getting to sleep
0	1	2	7.	Can't stand having things out of place	0	1	2	39. Headaches (without medical cause)
0	1	2	8.	Can't stand waiting; wants everything now	0	1	2	40. Hits others
0	1	2	9.	Chews on things that aren't edible	0	1	2	41. Holds his/her breath
0	1	2	10.	Clings to adults or too dependent	0	1	2	42. Hurts animals or people without meaning to
0	1	2	11.	Constantly seeks help	0	1	2	43. Looks unhappy without good reason
0	1	2	12.	Constipated, doesn't move bowels	0	1	2	44. Angry moods
0	1	2	13.	Cries a lot	0	1	2	45. Nausea, feels sick (without medical cause)
0	1	2	14.	Cruel to animals	0	1	2	46. Nervous movements or twitching (describe):
0	1	2	15.	Defiant				
0	1	2	16.	Demands must be met immediately				
0	1	2	17.	Destroys his/her own things	0	1	2	47. Nervous, highstrung, or tense
0	1	2	18.	Destroys things belonging to his/her family or other children	0	1	2	48. Nightmares
					0	1	2	49. Overeating
0	1	2	19.	Diarrhea or loose bowels when not sick	0	1	2	50. Overtired
0	1	2	20.	Disobedient	0	1	2	51. Overweight
0	1	2	21.	Disturbed by any change in routine	0	1	2	52. Painful bowel movements
0	1	2	22.	Doesn't want to sleep alone	0	1	2	53. Physically attacks people
0	1	2	23.	Doesn't answer when people talk to him/her	0	1	2	54. Picks nose, skin, or other parts of body (describe):
0	1	2	24.	Doesn't eat well (describe):				
0	1	2	25.	Doesn't get along with other children	0	1	2	55. Plays with own sex parts too much
0	1	2	26.	Doesn't know how to have fun, acts like a little adult	0	1	2	56. Poorly coordinated or clumsy
					0	1	2	57. Problems with eyes without medical cause (describe):
0	1	2	27.	Doesn't seem to feel guilty after misbehaving				
0	1	2	28.	Doesn't want to go out of home				
0	1	2	29.	Easily frustrated	0	1	2	58. Punishment doesn't change his/her behavior
0	1	2	30.	Easily jealous	0	1	2	59. Quickly shifts from one activity to another
0	1	2	31.	Eats or drinks things that are not food—don't include sweets (describe):	0	1	2	60. Rashes or other skin problems (without medical cause)
					0	1	2	61. Refuses to eat
0	1	2	32.	Fears certain animals, situations, or places (describe):	0	1	2	62. Refuses to play active games
					0	1	2	63. Repeatedly rocks head or body
					0	1	2	64. Resists going to bed at night

Please see other side

0 = Not True (as far as you know) **1 = Somewhat or Sometimes True** **2 = Very True or Often True**

0	1	2	65.	Resists toilet training (describe): _____	0	1	2	82. Sudden changes in mood or feelings
				_____	0	1	2	83. Sulks a lot
0	1	2	66.	Screams a lot	0	1	2	84. Talks or cries out in sleep
0	1	2	67.	Seems unresponsive to affection	0	1	2	85. Temper tantrums or hot temper
0	1	2	68.	Self-conscious or easily embarrassed	0	1	2	86. Too concerned with neatness or cleanliness
0	1	2	69.	Selfish or won't share	0	1	2	87. Too fearful or anxious
0	1	2	70.	Shows little affection toward people	0	1	2	88. Uncooperative
0	1	2	71.	Shows little interest in things around him/her	0	1	2	89. Underactive, slow moving, or lacks energy
0	1	2	72.	Shows too little fear of getting hurt	0	1	2	90. Unhappy, sad, or depressed
0	1	2	73.	Shy or timid	0	1	2	91. Unusually loud
0	1	2	74.	Sleeps less than most children during day and/or night (describe): _____	0	1	2	92. Upset by new people or situations (describe): _____
				_____				_____
0	1	2	75.	Smears or plays with bowel movements	0	1	2	93. Vomiting, throwing up (without medical cause)
0	1	2	76.	Speech problem (describe): _____	0	1	2	94. Wakes up often at night
				_____	0	1	2	95. Wanders away from home
0	1	2	77.	Stares into space or seems preoccupied	0	1	2	96. Wants a lot of attention
0	1	2	78.	Stomachaches or cramps (without medical cause)	0	1	2	97. Whining
					0	1	2	98. Withdrawn, doesn't get involved with others
0	1	2	79.	Stores up things he/she doesn't need (describe): _____	0	1	2	99. Worrying
				_____				100. Please write in any problems your child has that were not listed above.
0	1	2	80.	Strange behavior (describe): _____	0	1	2	_____
				_____	0	1	2	_____
0	1	2	81.	Stubborn, sullen, or irritable	0	1	2	_____

PLEASE BE SURE YOU HAVE ANSWERED ALL ITEMS. UNDERLINE ANY YOU ARE CONCERNED ABOUT.

Does your child have any illness, physical disability, or mental handicap? ☐ No ☐ Yes – Please describe

What concerns you most about your child?

Please describe the best things about your child:

CHILD BEHAVIOR CHECKLIST FOR AGES 4-18

For office use only
ID #

CHILD'S NAME [redacted]

SEX ☐ Boy ☐ Girl

AGE

ETHNIC GROUP OR RACE

TODAY'S DATE Mo. _____ Date _____ Yr. _____

CHILD'S BIRTHDATE Mo. _____ Date _____ Yr. _____

GRADE IN SCHOOL _____

NOT ATTENDING SCHOOL ☐

Please fill out this form to reflect *your* view of the child's behavior even if other people might not agree. Feel free to write additional comments beside each item and in the spaces provided on page 2.

PARENTS' USUAL TYPE OF WORK, even if not working now. *(Please be specific—for example, auto mechanic, high school teacher, homemaker, laborer, lathe operator, shoe salesman, army sergeant.)*

FATHER'S TYPE OF WORK: _____

MOTHER'S TYPE OF WORK: _____

THIS FORM FILLED OUT BY:

☐ Mother [redacted]

☐ Father [redacted]

☐ Other [redacted] relationship to child: _____

I. Please list the sports your child most likes to take part in. For example: swimming, baseball, skating, skate boarding, bike riding, fishing, etc.

☐ None

	Compared to others of the same age, about how much time does he/she spend in each?				Compared to others of the same age, how well does he/she do each one?			
	Don't Know	Less Than Average	Average	More Than Average	Don't Know	Below Average	Average	Above Average
a. _____	☐	☐	☐	☐	☐	☐	☐	☐
b. _____	☐	☐	☐	☐	☐	☐	☐	☐
c. _____	☐	☐	☐	☐	☐	☐	☐	☐

II. Please list your child's favorite hobbies, activities, and games, other than sports. For example: stamps, dolls, books, piano, crafts, cars, singing, etc. (Do not include listening to radio or TV.)

☐ None

	Compared to others of the same age, about how much time does he/she spend in each?				Compared to others of the same age, how well does he/she do each one?			
	Don't Know	Less Than Average	Average	More Than Average	Don't Know	Below Average	Average	Above Average
a. _____	☐	☐	☐	☐	☐	☐	☐	☐
b. _____	☐	☐	☐	☐	☐	☐	☐	☐
c. _____	☐	☐	☐	☐	☐	☐	☐	☐

III. Please list any organizations, clubs, teams, or groups your child belongs to.

☐ None

	Compared to others of the same age, how active is he/she in each?			
	Don't Know	Less Active	Average	More Active
a. _____	☐	☐	☐	☐
b. _____	☐	☐	☐	☐
c. _____	☐	☐	☐	☐

IV. Please list any jobs or chores your child has. For example: paper route, babysitting, making bed, working in store, etc. (Include both paid and unpaid jobs and chores.)

☐ None

	Compared to others of the same age, how well does he/she carry them out?			
	Don't Know	Below Average	Average	Above Average
a. _____	☐	☐	☐	☐
b. _____	☐	☐	☐	☐
c. _____	☐	☐	☐	☐

1-91 Edition

V. 1. About how many close friends does your child have? (Do not include brothers & sisters) ☐ None ☐ 1 ☐ 2 or 3 ☐ 4 or more

2. About how many times a week does your child do things with any friends outside of regular school hours? (Do not include brothers & sisters) ☐ Less than 1 ☐ 1 or 2 ☐ 3 or more

VI. Compared to others of his/her age, how well does your child:

	Worse	About Average	Better	
a. Get along with his/her brothers & sisters?	☐	☐	☐	☐ Has no brothers or sisters
b. Get along with other kids?	☐	☐	☐	
c. Behave with his/her parents?	☐	☐	☐	
d. Play and work by himself/herself?	☐	☐	☐	

VII. 1. For ages 6 and older—performance in academic subjects. If child is not being taught, please give reason _____

	Failing	Below average	Average	Above average
a. Reading, English, or Language Arts	☐	☐	☐	☐
b. History or Social Studies	☐	☐	☐	☐
c. Arithmetic or Math	☐	☐	☐	☐
d. Science	☐	☐	☐	☐
Other academic subjects—for example: computer courses, foreign language, business. Do *not* include gym, shop, driver's ed., etc. e. _____	☐	☐	☐	☐
f. _____	☐	☐	☐	☐
g. _____	☐	☐	☐	☐

2. Is your child in a special class or special school? ☐ No ☐ Yes—what kind of class or school?

3. Has your child repeated a grade? ☐ No ☐ Yes—grade and reason

4. Has your child had any academic or other problems in school? ☐ No ☐ Yes—please describe

When did these problems start?

Have these problems ended? ☐ No ☐ Yes—when?

Does your child have any illness, physical disability, or mental handicap? ☐ No ☐ Yes—please describe

What concerns you most about your child?

Please describe the best things about your child:

Below is a list of items that describe children and youth. For each item that describes your child now or within the past 6 **months**, please circle the **2** if the item is **very true** or **often true** of your child. Circle the **1** if the item is **somewhat** or **sometimes true** of your child. If the item is **not true** of your child, circle the **0**. Please answer all items as well as you can, even if some do not seem to apply to your child.

0 = Not True (as far as you know) **1 = Somewhat or Sometimes True** **2 = Very True or Often True**

0 1 2 1. Acts too young for his/her age
0 1 2 2. Allergy (describe): _____
_____
0 1 2 3. Argues a lot
0 1 2 4. Asthma
0 1 2 5. Behaves like opposite sex
0 1 2 6. Bowel movements outside toilet
0 1 2 7. Bragging, boasting
0 1 2 8. Can't concentrate, can't pay attention for long
0 1 2 9. Can't get his/her mind off certain thoughts; obsessions (describe): _____
_____
0 1 2 10. Can't sit still, restless, or hyperactive
0 1 2 11. Clings to adults or too dependent
0 1 2 12. Complains of loneliness
0 1 2 13. Confused or seems to be in a fog
0 1 2 14. Cries a lot
0 1 2 15. Cruel to animals
0 1 2 16. Cruelty, bullying, or meanness to others
0 1 2 17. Day-dreams or gets lost in his/her thoughts
0 1 2 18. Deliberately harms self or attempts suicide
0 1 2 19. Demands a lot of attention
0 1 2 20. Destroys his/her own things
0 1 2 21. Destroys things belonging to his/her family or others
0 1 2 22. Disobedient at home
0 1 2 23. Disobedient at school
0 1 2 24. Doesn't eat well
0 1 2 25. Doesn't get along with other kids
0 1 2 26. Doesn't seem to feel guilty after misbehaving
0 1 2 27. Easily jealous
0 1 2 28. Eats or drinks things that are not food – *don't* include sweets (describe): _____
_____
0 1 2 29. Fears certain animals, situations, or places, other than school (describe): _____
_____
0 1 2 30. Fears going to school
0 1 2 31. Fears he/she might think or do something bad
0 1 2 32. Feels he/she has to be perfect
0 1 2 33. Feels or complains that no one loves him/her
0 1 2 34. Feels others are out to get him/her
0 1 2 35. Feels worthless or inferior
0 1 2 36. Gets hurt a lot, accident-prone
0 1 2 37. Gets in many fights
0 1 2 38. Gets teased a lot
0 1 2 39. Hangs around with others who get in trouble
0 1 2 40. Hears sounds or voices that aren't there (describe): _____
_____
0 1 2 41. Impulsive or acts without thinking
0 1 2 42. Would rather be alone than with others
0 1 2 43. Lying or cheating
0 1 2 44. Bites fingernails
0 1 2 45. Nervous, highstrung, or tense
0 1 2 46. Nervous movements or twitching (describe):
_____
_____
0 1 2 47. Nightmares
0 1 2 48. Not liked by other kids
0 1 2 49. Constipated, doesn't move bowels
0 1 2 50. Too fearful or anxious
0 1 2 51. Feels dizzy
0 1 2 52. Feels too guilty
0 1 2 53. Overeating
0 1 2 54. Overtired
0 1 2 55. Overweight
56. Physical problems without known medical cause:
0 1 2 a. Aches or pains (*not* headaches)
0 1 2 b. Headaches
0 1 2 c. Nausea, feels sick
0 1 2 d. Problems with eyes (describe): _____
_____
0 1 2 e. Rashes or other skin problems
0 1 2 f. Stomachaches or cramps
0 1 2 g. Vomiting, throwing up
0 1 2 h. Other (describe): _____
_____

Please see other side

0 = Not True (as far as you know) 1 = Somewhat or Sometimes True 2 = Very True or Often True

0 1 2 57. Physically attacks people
0 1 2 58. Picks nose, skin, or other parts of body (describe): _____
_____
0 1 2 59. Plays with own sex parts in public
0 1 2 60. Plays with own sex parts too much
0 1 2 61. Poor school work
0 1 2 62. Poorly coordinated or clumsy
0 1 2 63. Prefers being with older kids
0 1 2 64. Prefers being with younger kids
0 1 2 65. Refuses to talk
0 1 2 66. Repeats certain acts over and over; compulsions (describe): _____
_____
0 1 2 67. Runs away from home
0 1 2 68. Screams a lot
0 1 2 69. Secretive, keeps things to self
0 1 2 70. Sees things that aren't there (describe):
_____
_____
0 1 2 71. Self-conscious or easily embarrassed
0 1 2 72. Sets fires
0 1 2 73. Sexual problems (describe): _____
_____
_____
0 1 2 74. Showing off or clowning
0 1 2 75. Shy or timid
0 1 2 76. Sleeps less than most kids
0 1 2 77. Sleeps more than most kids during day and/or night (describe): _____
_____
0 1 2 78. Smears or plays with bowel movements
0 1 2 79. Speech problem (describe): _____
_____
0 1 2 80. Stares blankly
0 1 2 81. Steals at home
0 1 2 82. Steals outside the home
0 1 2 83. Stores up things he/she doesn't need (describe): _____
_____
0 1 2 84. Strange behavior (describe): _____
_____
0 1 2 85. Strange ideas (describe): _____
_____
0 1 2 86. Stubborn, sullen, or irritable
0 1 2 87. Sudden changes in mood or feelings
0 1 2 88. Sulks a lot
0 1 2 89. Suspicious
0 1 2 90. Swearing or obscene language
0 1 2 91. Talks about killing self
0 1 2 92. Talks or walks in sleep (describe): _____
_____
0 1 2 93. Talks too much
0 1 2 94. Teases a lot
0 1 2 95. Temper tantrums or hot temper
0 1 2 96. Thinks about sex too much
0 1 2 97. Threatens people
0 1 2 98. Thumb-sucking
0 1 2 99. Too concerned with neatness or cleanliness
0 1 2 100. Trouble sleeping (describe): _____
_____
0 1 2 101. Truancy, skips school
0 1 2 102. Underactive, slow moving, or lacks energy
0 1 2 103. Unhappy, sad, or depressed
0 1 2 104. Unusually loud
0 1 2 105. Uses alcohol or drugs for nonmedical purposes (describe): _____
_____
0 1 2 106. Vandalism
0 1 2 107. Wets self during the day
0 1 2 108. Wets the bed
0 1 2 109. Whining
0 1 2 110. Wishes to be of opposite sex
0 1 2 111. Withdrawn, doesn't get involved with others
0 1 2 112. Worries
113. Please write in any problems your child has that were not listed above:
0 1 2 _____
0 1 2 _____
0 1 2 _____

[illegible] UNDERLINE ANY YOU ARE CONCERNED ABOUT

0 = Not True (as far as you know) 1 = Somewhat or Sometimes True 2 = Very True or Often True

0 1 2	57.	Physically attacks people	0 1 2	84. Strange behavior (describe): _____
0 1 2	58.	Picks nose, skin, or other parts of body (describe): _____		_____
		_____	0 1 2	85. Strange ideas (describe): _____
0 1 2	59.	Plays with own sex parts in public		_____
0 1 2	60.	Plays with own sex parts too much	0 1 2	86. Stubborn, sullen, or irritable
0 1 2	61.	Poor school work	0 1 2	87. Sudden changes in mood or feelings
0 1 2	62.	Poorly coordinated or clumsy	0 1 2	88. Sulks a lot
0 1 2	63.	Prefers being with older kids	0 1 2	89. Suspicious
0 1 2	64.	Prefers being with younger kids	0 1 2	90. Swearing or obscene language
0 1 2	65.	Refuses to talk	0 1 2	91. Talks about killing self
0 1 2	66.	Repeats certain acts over and over; compulsions (describe): _____	0 1 2	92. Talks or walks in sleep (describe): _____
		_____		_____
			0 1 2	93. Talks too much
0 1 2	67.	Runs away from home	0 1 2	94. Teases a lot
0 1 2	68.	Screams a lot	0 1 2	95. Temper tantrums or hot temper
0 1 2	69.	Secretive, keeps things to self	0 1 2	96. Thinks about sex too much
0 1 2	70.	Sees things that aren't there (describe):	0 1 2	97. Threatens people
		_____	0 1 2	98. Thumb-sucking
		_____	0 1 2	99. Too concerned with neatness or cleanliness
			0 1 2	100. Trouble sleeping (describe): _____
0 1 2	71.	Self-conscious or easily embarrassed		
0 1 2	72.	Sets fires		_____
0 1 2	73.	Sexual problems (describe): _____	0 1 2	101. Truancy, skips school
		_____	0 1 2	102. Underactive, slow moving, or lacks energy
		_____	0 1 2	103. Unhappy, sad, or depressed
			0 1 2	104. Unusually loud
0 1 2	74.	Showing off or clowning	0 1 2	105. Uses alcohol or drugs for nonmedical purposes (describe): _____
0 1 2	75.	Shy or timid		_____
0 1 2	76.	Sleeps less than most kids	0 1 2	106. Vandalism
0 1 2	77.	Sleeps more than most kids during day and/or night (describe): _____	0 1 2	107. Wets self during the day
		_____	0 1 2	108. Wets the bed
0 1 2	78.	Smears or plays with bowel movements	0 1 2	109. Whining
			0 1 2	110. Wishes to be of opposite sex
0 1 2	79.	Speech problem (describe): _____	0 1 2	111. Withdrawn, doesn't get involved with others
		_____	0 1 2	112. Worries
0 1 2	80.	Stares blankly		113. Please write in any problems your child has that were not listed above:
0 1 2	81.	Steals at home		
0 1 2	82.	Steals outside the home	0 1 2	_____
0 1 2	83.	Stores up things he/she doesn't need (describe): _____	0 1 2	_____
		_____	0 1 2	_____

PLEASE BE SURE YOU HAVE ANSWERED ALL ITEMS. UNDERLINE ANY YOU ARE CONCERNED ABOUT.

APPENDIX E

REVISED BEHAVIOR PROBLEM CHECKLIST

REVISED BEHAVIOR PROBLEM CHECKLIST

Herbert C. Quay, Ph.D.
University of Miami

and

Donald R. Peterson, Ph.D.
Rutgers University

Please complete items 1 to 7 carefully.

1. Name (or identification number) of child

_____

2. Date of birth _____

3. Sex _____

4. Father's occupation _____

_____

5. Name of person completing this checklist

_____

6. Relationship to child (circle one)

a. Mother b. Father c. Teacher d. Other _____ (Specify)

7. Date checklist completed _____

Please indicate which of the following are problems, as far as this child is concerned. If an item does **not** constitute a problem or if you have had no opportunity to observe or have no knowledge about the item, circle the zero. If an item constitutes a **mild** problem, circle the one; if an item constitutes a **severe** problem, circle the two. Please complete every item.

REVISED BEHAVIOR PROBLEM CHECKLIST

1.	Restless; unable to sit still	0	1	2
2.	Seeks attention; "shows-off"	0	1	2
3.	Stays out late at night	0	1	2
4.	Self-conscious; easily embarrassed	0	1	2
5.	Disruptive; annoys and bothers others	0	1	2
6.	Feels inferior	0	1	2
7.	Steals in company with others	0	1	2
8.	Preoccupied; "in a world of his own;" stares into space	0	1	2
9.	Shy, bashful	0	1	2
10.	Withdraws; prefers solitary activities	0	1	2
11.	Belongs to a gang	0	1	2
12.	Repetitive speech; says same thing over and over	0	1	2
13.	Short attention span; poor concentration	0	1	2
14.	Lacks self-confidence	0	1	2
15.	Inattentive to what others say	0	1	2
16.	Incoherent speech, what is said doesn't make sense	0	1	2
17.	Fights	0	1	2
18.	Loyal to delinquent friends	0	1	2
19.	Has temper tantrums	0	1	2
20.	Truant from school, usually in company with others	0	1	2
21.	Hypersensitive; feelings are easily hurt	0	1	2
22.	Generally fearful; anxious	0	1	2
23.	Irresponsible, undependable	0	1	2
24.	Has "bad" companions, ones who are always in some kind of trouble	0	1	2
25.	Tense, unable to relax	0	1	2
26.	Disobedient; difficult to control	0	1	2
27.	Depressed; always sad	0	1	2
28.	Uncooperative in group situations	0	1	2
29.	Passive, suggestible; easily led by others	0	1	2
30.	Hyperactive; "always on the go"	0	1	2
31.	Distractible; easily diverted from the task at hand	0	1	2
32.	Destructive in regard to own and/or other's property	0	1	2
33.	Negative; tends to do the opposite of what is requested	0	1	2
34.	Impertinent; talks back	0	1	2
35.	Sluggish, slow moving, lethargic	0	1	2
36.	Drowsy; not "wide awake"	0	1	2
37.	Nervous, jittery, jumpy; easily startled	0	1	2
38.	Irritable, hot-tempered; easily angered	0	1	2
39.	Expresses strange, far-fetched ideas	0	1	2
40.	Argues; quarrels	0	1	2
41.	Sulks and pouts	0	1	2
42.	Persists and nags; can't take "no" for an answer	0	1	2
43.	Avoids looking others in the eye	0	1	2
44.	Answers without stopping to think	0	1	2
45.	Unable to work independently; needs constant help and attention	0	1	2
46.	Uses drugs in company with others	0	1	2
47.	Impulsive; starts before understanding what to do; doesn't stop and think	0	1	2
48.	Chews on inedible things	0	1	2
49.	Tries to dominate others; bullies, threatens	0	1	2
50.	Picks at other children as a way of getting their attention; seems to want to relate but doesn't know how	0	1	2
51.	Steals from people outside the home	0	1	2

(please go on to next page)

52.	Expresses beliefs that are clearly untrue (delusions)	0	1	2
53.	Says nobody loves him or her	0	1	2
54.	Freely admits disrespect for moral values and laws	0	1	2
55.	Brags and boasts	0	1	2
56.	Slow and not accurate in doing things	0	1	2
57.	Shows little interest in things around him or her	0	1	2
58.	Does not finish things; gives up easily; lacks perseverance	0	1	2
59.	Is part of a group that rejects school activities such as team sports, clubs, projects to help others	0	1	2
60.	Cheats	0	1	2
61.	Seeks company of older, "more experienced" companions	0	1	2
62.	Knows what's going on but is listless and uninterested	0	1	2
63.	Resists leaving mother's (or other caretaker's) side	0	1	2
64.	Difficulty in making choices; can't make up mind	0	1	2
65.	Teases others	0	1	2
66.	Absentminded; forgets simple things easily	0	1	2
67.	Acts like he or she were much younger; immature, "childish"	0	1	2
68.	Has trouble following directions	0	1	2
69.	Will lie to protect his friends	0	1	2
70.	Afraid to try new things for fear of failure	0	1	2
71.	Selfish; won't share; always takes the biggest piece	0	1	2
72.	Uses alcohol in company with others	0	1	2
73.	School work is messy, sloppy	0	1	2
74.	Does not respond to praise from adults	0	1	2
75.	Not liked by others; is a "loner" because of aggressive behavior	0	1	2
76.	Does not use language to communicate	0	1	2
77.	Cannot stand to wait; wants everything right now	0	1	2
78.	Refuses to take directions, won't do as told	0	1	2
79.	Blames others; denies own mistakes	0	1	2
80.	Admires and seeks to associate with "rougher" peers	0	1	2
81.	Punishment doesn't affect his or her behavior	0	1	2
82.	Squirms, fidgets	0	1	2
83.	Deliberately cruel to others	0	1	2
84.	Feels he or she can't succeed	0	1	2
85.	Tells imaginary things as though true; unable to tell real from imagined	0	1	2
86.	Does not hug and kiss members of family; affectionless	0	1	2
87.	Runs away; is truant from home	0	1	2
88.	Openly admires people who operate outside the law	0	1	2
89.	Repeats what is said to him or her; "parrots" others' speech	0	1	2

	CD	SA	AP	AW	PB	ME
Raw Score	_____	_____	_____	_____	_____	_____
T Score	_____	_____	_____	_____	_____	_____

APPENDIX F

EYBERG CHILD BEHAVIOR INVENTORY

D#_____

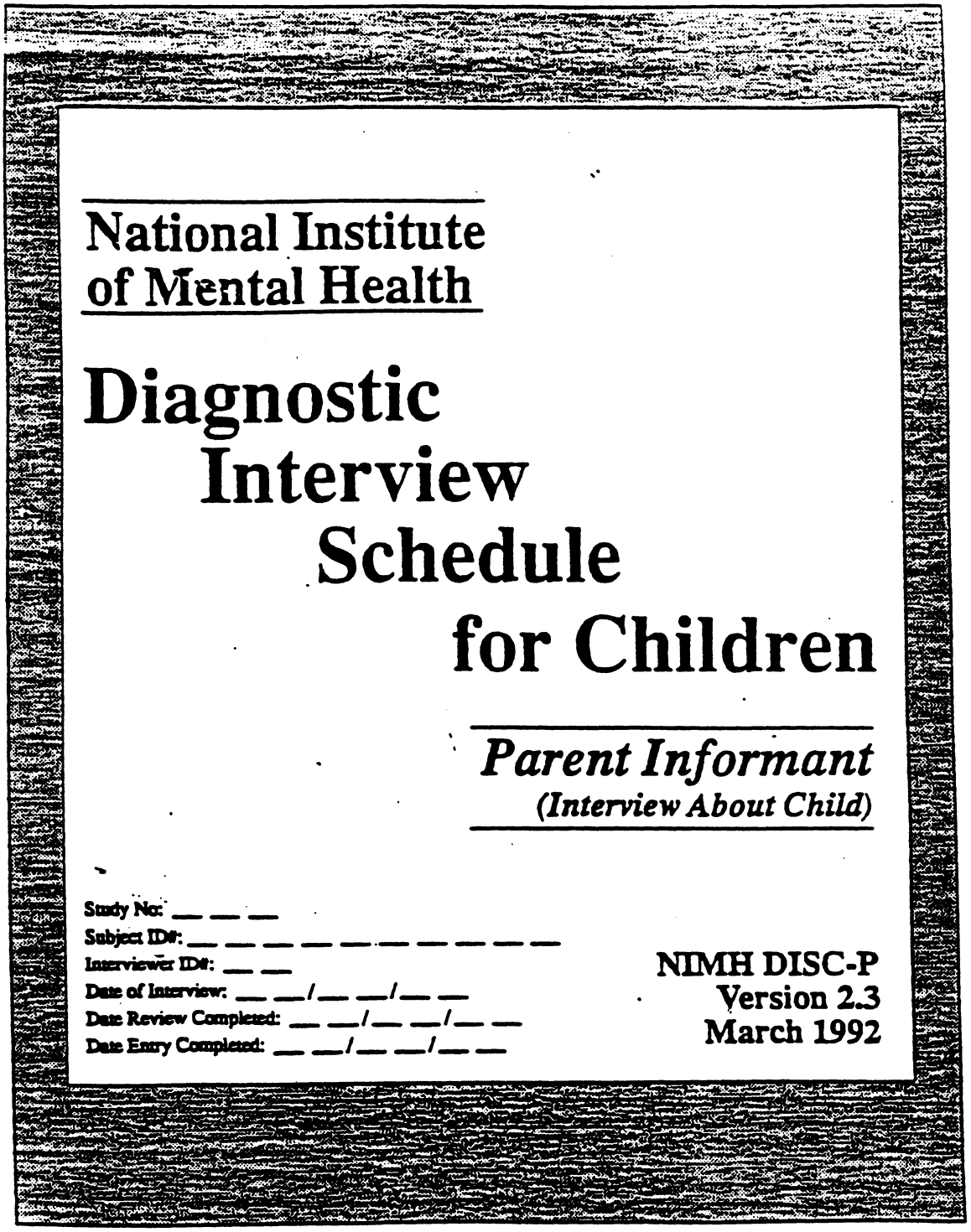
Instructions: Below are a series of phrases that describe children's behavior. Please (1) circle the number describing how often the behavior currently occurs with your child, and (2) circle "yes" or "no" to indicate whether the behavior is currently a problem for you.

	How often does this occur with your child?							Is this a problem for you	
	Never	Seldom		Sometimes	Often		Always		
1. Dawdles in getting dressed	1	2	3	4	5	6	7	Yes	No
2. Dawdles or lingers at mealtimes	1	2	3	4	5	6	7	Yes	No
3. Has poor table manners	1	2	3	4	5	6	7	Yes	No
4. Refuses to eat food presented	1	2	3	4	5	6	7	Yes	No
5. Refuses to do chores when asked	1	2	3	4	5	6	7	Yes	No
6. Slow in getting ready for bed	1	2	3	4	5	6	7	Yes	No
7. Refuses to go to bed on time	1	2	3	4	5	6	7	Yes	No
8. Does not obey house rules on own	1	2	3	4	5	6	7	Yes	No
9. Refuses to obey until threatened with punishment	1	2	3	4	5	6	7	Yes	No
10. Acts defiant when told to do something	1	2	3	4	5	6	7	Yes	No
11. Argues with parents about rules	1	2	3	4	5	6	7	Yes	No
12. Gets angry when doesn't get his/her own way	1	2	3	4	5	6	7	Yes	No
13. Has temper tantrums	1	2	3	4	5	6	7	Yes	No
14. Sasses adults	1	2	3	4	5	6	7	Yes	No
15. Whines	1	2	3	4	5	6	7	Yes	No
16. Cries easily	1	2	3	4	5	6	7	Yes	No
17. Yells or screams	1	2	3	4	5	6	7	Yes	No
18. Hits parents	1	2	3	4	5	6	7	Yes	No
19. Destroys toys and other objects	1	2	3	4	5	6	7	Yes	No
20. Is careless with toys and other objects	1	2	3	4	5	6	7	Yes	No
21. Steals	1	2	3	4	5	6	7	Yes	No

	How often does this occur with your child?						Is this a problem for yo	
	Never	Seldom	Sometimes	Often	Always			
22. Lies	1	2	3	4	5	6 7	Yes	No
23. Teases or provokes other children	1	2	3	4	5	6 7	Yes	No
24. Verbally fights with friends his/her own age	1	2	3	4	5	6 7	Yes	No
25. Verbally fights with sisters and brothers	1	2	3	4	5	6 7	Yes	No
26. Physically fights with friends his/her own age	1	2	3	4	5	6 7	Yes	No
27. Physically fights with sisters and brothers	1	2	3	4	5	6 7	Yes	No
28. Constantly seeks attention	1	2	3	4	5	6 7	Yes	No
29. Interrupts	1	2	3	4	5	6 7	Yes	No
30. Is easily distracted	1	2	3	4	5	6 7	Yes	No
31. Has short attention span	1	2	3	4	5	6 7	Yes	No
32. Fails to finish tasks or projects	1	2	3	4	5	6 7	Yes	No
33. Has difficulty entertaining himself/herself alone	1	2	3	4	5	6 7	Yes	No
34. Has difficulty concentrating on one thing	1	2	3	4	5	6 7	Yes	No
35. Is overactive or restless	1	2	3	4	5	6 7	Yes	No
36. Wets the bed	1	2	3	4	5	6 7	Yes	No

APPENDIX G

NATIONAL INSTITUTE OF MENTAL HEALTH DIAGNOSTIC INTERVIEW SCHEDULE FOR CHILDREN (DISC 2.3)



National Institute of Mental Health

Diagnostic Interview Schedule for Children

Parent Informant

(Interview About Child)

Study No: __ __ __
Subject ID#: __ __ __ __ __ __ __ __ __ __
Interviewer ID#: __ __
Date of Interview: __ __/__ __/__ __
Date Review Completed: __ __/__ __/__ __
Date Entry Completed: __ __/__ __/__ __

NIMH DISC-P
Version 2.3
March 1992

Prepared with support from NIMH Grant No.: MHCRC 30906; UO1MH46718; NIMH Contract No. 278-89-0001

The National Institute of Mental Health Diagnostic Interview Schedule for Children

Acknowledgement and History

The National Institute of Mental Health (NIMH) Diagnostic Interview Schedule for Children (DISC) is a highly structured psychiatric interview designed to be administered by trained, lay interviewers in epidemiologic surveys of children, ages 9-17. There are parallel versions for the child and parent or primary caretaker.

Work began on the instrument in October 1979, with the convening of an expert advisory panel by the NIMH Division of Biometry and Epidemiology (Darrel A. Regier, Director), to study the feasibility of a structured psychiatric interview for children. Included in this group were: Thomas Achenbach, C. Keith Conners, Rachel Gittelman-Klein, Barbara Herjanic, Maria Kovacs, Thomas S. Langner, Helen Orvaschel, Joaquim Puig-Antich, Lee N. Robins, Judith Rapoport, Michael Rutter, and Myrna Weissman. The first working draft interview was developed under contract (#80MO11248101D) to Barbara Herjanic, Joaquim Puig-Antich, and C. Keith Conners. This was the basis for a 1981 contract (#278-81-0027) awarded to Anthony Costello to refine and test it in a specialty mental health clinic. Assisting Dr. Costello in the development of this version, the DISC-C II, were Craig Edelbrock, Robert Kalas, Mina (Kessler) Dulcan, and Sheree A. Klaric. In developing these versions of the DISC, the authors drew from previous structured psychiatric instruments, especially the adult NIMH Diagnostic Interview Schedule (Lee Robins), the Diagnostic Interview Schedule for Children and Adolescents (Barbara Herjanic), the Kiddie-SADS (Joaquim Puig-Antich) and the Interview Schedule for Children (Maria Kovacs).

At the conclusion of Dr. Costello's study in 1983, the new version was reviewed by the same expert advisory panel which had been convened in 1979, with the addition of David Shaffer. Reliability of the parent interview was found to be satisfactory, however, reliability for the child interview was poor as was concordance of both lay interviews with clinical diagnosis. Several researchers (Morton Beiser, Hector Bird, Naomi Breslau, Patricia Cohen, and Elizabeth Costello) undertook studies with the DISC-1 in other settings that provided useful methodological information on the instrument.

In 1985, Dr. Shaffer at the New York State Psychiatric Institute provided an evaluation of the DISC (#84M026061601D) that was the impetus for continued revision and methodologic work of the instrument. Dr. Shaffer and his colleagues, Mary Schwab-Stone, Prudence Fisher, and John Piacentini have taken the lead role since that time in the development of the DISC. Through a supplement to grant R01 MH36971 awarded to Patricia Cohen and a small contract (#88M047649002D), Dr. Shaffer and colleagues tested his revised version, the DISC-R. A subsequent larger contract (#278-89-0001) was awarded in 1989 to Dr. Shaffer to complete revisions of the DISC, to be retitled the DISC-2. Under this contract, the instrument was revised to provide diagnostic compatibility with DSM-III-R and anticipated DSM-IV and ICD-10 criteria. Validation studies were carried out on less common disorders in specialize clinical settings, and computer diagnostic algorithms were developed. This version, the DISC-2.1, and its algorithms were authored by Shaffer, Fisher, Piacentini, Schwab-Stone and Judith Wicks with additional input from Mark Davies, Patricia Cohen, Mary Rojas and Peter Gioia.

Special field trials to assess the feasibility of administering the interview to children ages 6-11 were undertaken by Donald J. Cohen (#86M00956301D), Gwendolyn Zahner (#88MO47649001D) and Mary Schwab-Stone (supplement to grant R01 MH43909).

Since 1990, further work on the methodological characteristics of the DISC has been carried out under the NIMH Cooperative Agreement for Methodologic Research for Multi-Site Epidemiologic Surveys of Mental Disorders in Child and Adolescent Populations (MECA). The four sites funded under this program, New York State Psychiatric Institute, the University of Puerto Rico, Emory University, and Yale University, conducted pilot surveys using the DISC-2.1. Based on analyses of the results of these pilot studies, the MECA Collaborative Diagnostic Committee and the Principal Investigators at each survey site developed this version, the NIMH DISC-2.3. The principal investigators were: Hector Bird, Glorisa Canino, Mina Dulcan, and Mary Schwab-Stone. The Diagnostic Committee was chaired by David Shaffer and members were: Peter Jensen and John Richters (NIMH); Hector Bird, Prudence Fisher, and John Piacentini (NYSPI); Luz M. Guevara, Sara Huertas, and Michael Woodbury (Puerto Rico); Mina Dulcan and Ben Lahey (Emory); and Mary Schwab-Stone (Yale). The diagnostic algorithms were revised for this version by John Piacentini, Prudence Fisher, Jenn-Yeu Chen and Chi Hsing Chang (NYSPI) and the manual was prepared by Prudence Fisher and Judith Wicks.

Several NIMH staff have guided the development of this instrument since 1979. Dr. Regier initiated the development of this instrument in 1979 following the same procedure that led to creation of the NIMH Diagnostic Interview Schedule (DIS) for the adult ECA study. Following the reorganization of NIMH in 1985, which established the Division of Clinical Research (directed by Dr. Regier), and a new Child and Adolescent Disorders Research Branch (Jack D. Burke, Jr., Acting Branch Chief), further work on the DISC was led by Drs. Regier and Burke and Ben Z. Locke, Chief, Epidemiology and Psychopathology Research Branch. Karen Bourdon and Lenore Radloff (prior to 1985) served as NIMH DISC coordinators and project officers.

Future modifications of the DISC will be based on results of the MECA program field trials of the instrument, and changes in diagnostic criteria. An editorial committee composed of scientific experts in psychopathology and diagnostic assessment of childr and adolescents will be supported by NIMH to evaluate options and recommend periodic changes. Based on the extensive Federal support for its development as noted above, the NIMH DISC will remain in the public domain and will not be subject to copyright limitations.

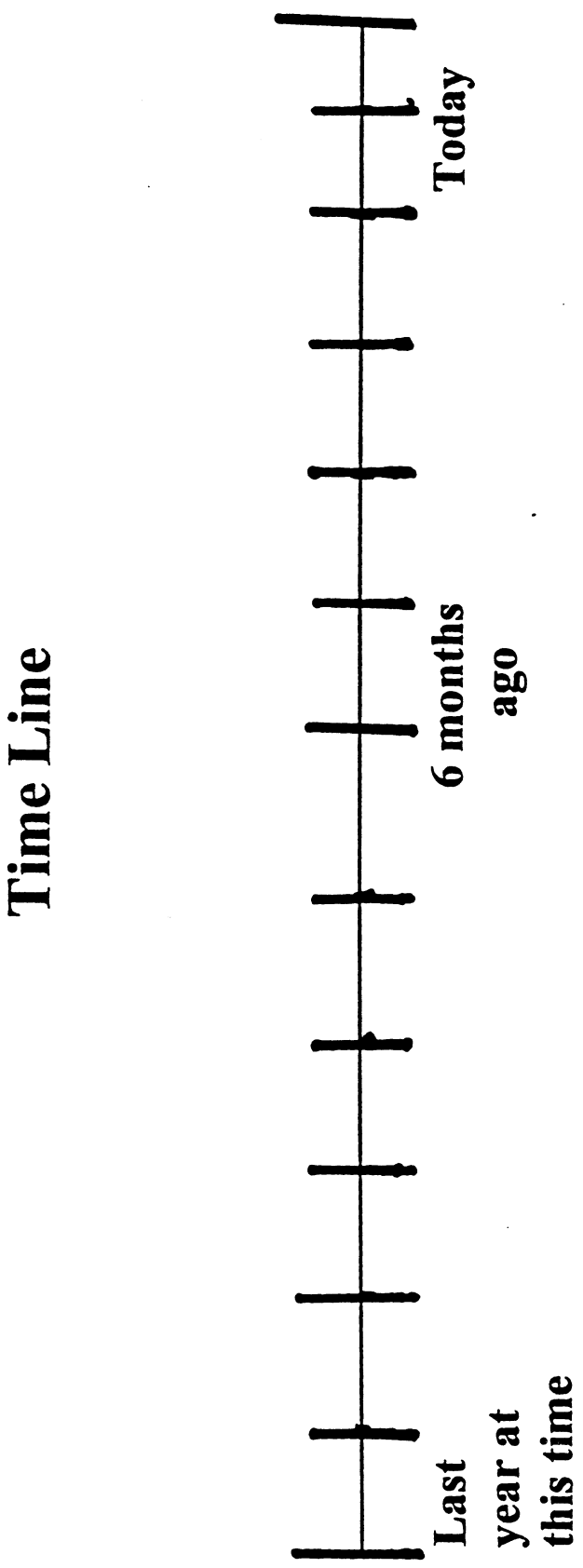

Time Line
Today
6 months ago
Last year at this time

TABLE OF CONTENTS

SUBJECT PROFILE

Subject #__ __ __ __ __ __ [1-6]

Form = (parent) 1 [7]

blank=3

Time: Test—1 Retest—2 [11]

1. Today's Date __ __/__ __/__ __ [12-17]

2. Child's Age (*at last birthday*) ___ ___ [18-19]

3. Child's Date of Birth __ __/__ __/__ __ [20-25]

4. Sex of Child Female—1 Male—2 [26]

5. Informant's relationship to child:

Biological/Early Adoptive Mother	1	[27]
Biological/Early Adoptive Father	2	
Stepmother	3	
Stepfather	4	
Foster Mother	5	
Foster Father	6	
Other, (Specify:_____)	7	____ (28)

6. Race/Ethnicity of child:

White	1	[29]
Black	2	
Hispanic (Specify:_____)	3	
Asian (Specify:_____)	4	____ (30)
Other (Specify:_____)	5	

7. Has the child been in school in the past year? 0=No 2=Yes [31]

in the past six months? 0=No 2=Yes [32]

8. Has the child been employed in the past year? 0=No 2=Yes [33]

in the past six months? 0=No 2=Yes [34]

Ask for all females (for males code 8)

9. Has she begun to menstruate? 0=No 2=Yes 8=NA 9=DK [35]

ESTABLISHING TIME LINE

INTERVIEWER: **BEFORE BEGINNING THE INTERVIEW, FILL OUT MONTHS AND MAJOR HOLIDAYS ON THE TIMELINE.**

[SHOW TIMELINE TO RESPONDENT]. Before we begin the interview, I'd like you to tell me about any important events that may have happened to _____ or [his/her] family in the past year. We'll put them on this TIMELINE and use it to help us with the questions in the interview.

Here we are in [*name current month and point to it on the time line*]. Now when is _____'s birthday [*place on time line*]?

What grade is _____ in now? This is when _____ started ___ grade [*place on time line*].

This is when school finished for the summer. Did _____ go away on vacation at all last year? Where did [he/she] go? When was that [*place on time line*]?

Have there been any other big things that happened to _____ or [his/her] family in the last year? Tell me about them. When was that [*place on time line*]?

Thinking back six months ago, that is, to last [NAME MONTH OR SEASON], is there anything that really sticks out in your mind . . . that you remember clearly [*place on time line*]?

How about around this time a year ago, last [NAME SEASON] or around this time [*point to line*]?

INTERVIEWER: IF NO EVENTS FOR SIX MONTHS OR ONE YEAR NAMED, USE FOLLOWING LIST TO JOG MEMORY OF RESPONDENT:

- OTHER FAMILY BIRTHDAYS
- HOLIDAYS, PARTIES, OR TRIPS
- BEGINNING AND END OF ANY JOBS
- HOSPITALIZATION
- PEOPLE ENTERING OR LEAVING HOUSEHOLD
- DEATHS OF FRIENDS AND FAMILY MEMBERS

[*When events for six months and one year ago have been named, give Timeline to respondent to hold.*]

The [rest of what I am going to ask you] is about things that _____ did or felt or ways [he/she] behaved in the last six months, that is, since [*show six-month marker to parent*].

Some questions are about the whole last year [*show one-year marker to parent*]. To help you remember what period of time I am asking about, we're going to use this special calendar as we go along.

SECTION III. DIAGNOSTIC MODULES

The questions I will be asking you are all written in this book. We ask them in the same way for everybody. There are no "right" or "wrong" answers; we are interested in the answer that tells the most about _____.

The answers you give me will be private and I will not pass them on to anyone except the people I work with doing this study.

Try as best you can to answer "yes" or "no" to each question. If there are things you would like to tell us more about, we will write those things down so that we can talk more about them at the end of the "yes-no" questions.

The questions I am going to ask are mainly about the last 6 months (that is, since _____) *[POINT TO SIX-MONTH MARK ON TIMELINE]*. Please say "yes" only if I ask about something that has been a problem during the last 6 months — it may have been going on for much longer than that, but it also has to have happened since [TIME LINE REFERENCE].

Sometimes I will ask you a question more than once. I am not trying to "catch you"; it is just that some people understand things better when we ask questions one way rather than another.

Some questions may sound personal or even silly to you, but try and answer them seriously and truthfully because we want to understand as much as we can about _____.

If you need a break, please let me know and we will stop for a few minutes.

IF NECESSARY, ADD: Please answer these questions as though you haven't told anything about _____ to anyone in this study [FOR PATIENT:...or here at the [clinic/hospital], including _____'s doctor].

[3/1/92] 0 = NO 1 = SOMETIMES/ SOMEWHAT 2 = YES 8 = NOT APPLICABLE 9, 99 = DON'T KNOW

START NEW CARD
DUP COL 1 - 10

MOD. E 1 [11 - 12]

CARD NO. 0 0 [13 - 14]
b [15]

TIME NOW |__|__|:|__|__| [16-19]

START NEW CARD
DUP COL 1 - 12

CARD NO. 0 1 [13 - 14]
b [15]

ADHD

For the next questions, we'll go back to talking about the last 6 months, that is, since [NAME EVENT/MONTH]. I would now like to ask some questions about problems with over-activity and not paying attention. A lot of [children/teenagers] are sometimes overactive or don't concentrate, but we are interested in problems that are there most of the time.

1. In the past 6 months, has anyone said that _____ moves [his/her] hands and feet a lot or squirms around in [his/her] seat [during class/at [his/her] job]?	0	1*	2*	8	9	[16]
2. Have you noticed that [he/she] has more trouble sitting still than other [children/ teenagers] [his/her] age?	0	1*	2*		9	[17]
3. In the past 6 months, have you or other people noticed that [he/she] is too fidgety or restless? That is, fiddling with [his/her] hands or jiggling [his/her] feet or wriggling or twisting around in [his/her] seat?	0	1*	2*		9	[18]
4. If [he/she] is someplace where [he/she] has to be still or stay put, like in church or riding in a car, does [he/she] get very restless and feel [he/she] has to move around?	0	1*	2*		9	[19]
IF YES, A- [illegible] so even if [he/she] is only there for, say, 15 minutes?	0	1	2		9	[20]

FOR CHILDREN AGE 12 OR OLDER, ASK Q5.

5. If [he/she] has to stay in a place for, say, more than 10 minutes, does [he/she] nearly always seem restless, as if [he/she] wanted to [illegible] [his/her] feet or get up or move about?	0	1*	2*	9	[21]

IF "*" RESPONSE TO Q1, 2, 3, 4 OR 5, ASK...

6. Has this trouble with sitting still or fidgeting been a problem for at least 6 months?	0	[2]	9	[22]

[3/1/92] 0 = NO 1 = SOMETIMES/ SOMEWHAT 2 = YES 8 = NOT APPLICABLE 9, 99 = DON'T KNOW

7. Has anyone said that [he/she] gets up from [his/her] seat a lot at [school/[his/her] job]?	0	1*	2*	8	9	[23]
8. Have you noticed that [he/she] doesn't stay in [his/her] seat at home? For example, when [he/she] is eating at the table or watching TV or doing [his/her] homework?	0	1*	2*		9	[24]

IF "*" RESPONSE TO Q7 OR 8, ASK...

9. Has not being able to stay in [his/her] seat been a problem for at least 6 months?	0		[2]	9	[25]

10. In the last 6 months, has anyone said that _____ has a hard time keeping [his/her] mind on [his/her] [schoolwork/work] when there were other things going on [in the classroom/where [he/she] was working]?	0	1*	2*	8	9	[26]
11. At home, does [he/she] have a problem playing games or working on projects or doing [his/her] homework, because little things keep taking [his/her] mind off what [he/she] is doing?	0	1*	2*		9	[27]

IF "*" RESPONSE TO Q10 OR 11, ASK...

12. Has difficulty with keeping [his/her] mind on what [he/she] is doing been a problem for at least 6 months?	0		[2]	9	[28]

13. In the past 6 months, when [he/she] was playing games, has [he/she] often had trouble waiting for [his/her] turn?	0	1*	2*	9	[29]
14. Does _____ often push or try to cut ahead when [he/she] has to stand in line?	0	1*	2*	9	[30]
IF YES, A. Have people gotten mad at [him/her] for doing that?	0	1	2	9	[31]

IF "*" RESPONSE TO Q13 OR 14, ASK...

15. Has trouble waiting for [his/her] turn or cutting ahead in line been a problem for at least 6 months?	0		[2]	9	[32]

[3/1/92] 0 = NO 1 = SOMETIMES/ SOMEWHAT 2 = YES 8 = NOT APPLICABLE 9, 99 = DON'T KNOW

16. Has anyone said that [he/she] often calls out the answers at [school/[his/her] job] even before the [teacher/co-worker] has finished the question?	0	1*	2*	8	9	[33]
17. Does [he/she] often blurt out an answer before you [or CARETAKER]) finish asking the question?	0	1*	2*		9	[34]
IF YES, A. Have you [or CARETAKER] gotten annoyed at [him/her] for that?	0	1	2		9	[35]

IF "*" RESPONSE TO Q16 OR 17, ASK...

18. Has blurting out answers like this been a problem for at least 6 months?	0		[2]	9	[36]

19. Since [NAME EVENT/MONTH], [has/have] [his/her] [teacher(s)/boss] had to remind [him/her] what [he/she] is supposed to be doing again and again and again?	0	1*	2*	8	9	[37]
When you [or CARETAKER] ask [him/her] to do something, do you have to keep reminding [him/her] to go back to it because [he/she] can't remember what [he/she] is supposed to do?	0	1*	2*		9	[38]

IF "*" RESPONSE TO Q19 OR 20, ASK...

21. Has needing to be reminded to follow through on things been a problem for at least 6 months?	0		[2]	9	[39]

22. In the past 6 months, has anyone said that _____ often has trouble paying attention to [his/her] [schoolwork/work]?	0	1*	2*	8	9	[40]
23. Suppose _____ is playing a game or doing a project [he/she] enjoys at home. Does [he/she] have trouble paying attention even if there is nothing else happening to take [his/her] mind off it?	0	1*	2*		9	[41]
24. At home, is it hard for [him/her] to spend more than a few minutes doing anything?	0	1*	2*		9	[42]

[3/1/92] 0 = NO 1 = SOMETIMES/ SOMEWHAT 2 = YES 8 = NOT APPLICABLE 9, 99 = DON'T KNOW

IF "0" RESPONSE TO Q22, 23, OR 24, ASK...

25. Has this trouble with paying attention been a problem for at least 6 months? 0 [2] 9 [43]

26. Have you been told that [he/she] has a problem at [school/work] because [he/she] keeps stopping and starting the work [he/she] is doing? 0 1* 2* 8 9 [44]

27. When [he/she] is at home, does [he/she] have a problem doing [his/her] homework or chores because [he/she] keeps stopping and starting what [he/she] is doing? 0 1* 2* 9 [45]

IF "0" RESPONSE TO Q26 OR 27, ASK...

28. Has stopping and starting what [he/she] is doing been a problem for at least 6 months? 0 [2] 9 [46]

29. In the past 6 months, has anyone said that [he/she] often stops in the middle of doing something at [school/work] before [he/she] has finished? 0 1 2 8 9 [47]

IF YES, A. Was this because [he/she] would start doing something else instead? 0 1* 2* 9 [48]

B. Does [he/she] even stop in the middle of doing fun things like games? 0 1 2 9 [49]

30. How about at home? Is it a problem that [he/she] often stops in the middle of things, without finishing? 0 1 2 9 [50]

IF YES, A. Is that because [he/she] starts doing something else instead? 0 1* 2* 9 [51]

B. Does [he/she] even stop in the middle of a game, or when [he/she] is playing? 0 1 2 9 [52]

IF "0" RESPONSE TO Q29A OR 30A, ASK...

31. Has shifting from one thing to another been a problem for at least 6 months? 0 [2] 9 [53]

[3/1/92] 0 = NO 1 = SOMETIMES/ SOMEWHAT 2 = YES 8 = NOT APPLICABLE 9, 99 = DON'T KNOW

32. In the last 6 months, has [he/she] been much more noisy than other kids when [he/she] is doing fun things?	0	1	2	9	[54]
IF YES, A. Is it hard for [him/her] to do fun things quietly?	0	1*	2*	9	[55]
33. Have [his/her] [teachers/boss] or other people complained because [he/she] is too noisy when [he/she] does fun things?	0	1*	2*	9	[56]

IF "*" RESPONSE TO Q32A OR 33, ASK:

34. Has being so noisy when [he/she] is doing fun things been a problem for at least 6 months?	0		[2]	9	[57]

START NEW CARD
DUP COL 1 - 12

CARD NO. 0 2 [13 - 14]
b [15]

35. Has anyone said that [he/she] runs around a lot more than other children [his/her] age at [school/work], for example, during [gym or free time/free time]?	0	1*	2*	8	9	[16]
36. How about when [he/she] is at home? Is [he/she] always running around a lot, like running or jumping or climbing on things?	0	1*	2		9	[17]

IF "*" RESPONSE TO Q35 OR 36, ASK...

37. Has running or jumping or climbing on things been a problem for at least 6 months?	0		[2	9	[18]

[3/1/92] 0 = NO 1 = SOMETIMES/ SOMEWHAT 2 = YES 8 = NOT APPLICABLE 9, 99 = DON'T KNOW

38. Has anyone said that [he/she] talks too much at [school/work]?	0	1*	2*	8	9	[19]
39. How about at home? Does [he/she] talk too much there?	0	1*	2*		9	[20]
IF YES, A. Have you or anyone else complained about this?	0	1	2		9	[21]
40. Do you or other adults think that [he/she] is a motormouth or chatterbox, that [he/she] is always talking too much?	0	1*	2*		9	[22]

IF "*" RESPONSE TO Q38, 39, OR 40, ASK...

41. Has talking too much been a problem for at least 6 months?	0	[2]	9	[23]

42. In the past 6 months, has _____ often started to talk when somebody else is still talking?	0	1*	2*	9	[24]
IF YES, A. Have people gotten annoyed because _____ interrupts too much?	0	1	2	9	[25]
43. Does [he/she] often butt in on what others are doing?	0	1*	2*	9	[26]
IF YES, A. Did they ever get mad at [him/her] for that?	0	1	2	9	[27]

IF "*" RESPONSE TO Q42 OR 43, ASK...

44. Has interrupting or butting in on others been a problem for at least 6 months?	0	[2]	9	[28]

[3/1/92] 0 = NO 1 = SOMETIMES/ SOMEWHAT 2 = YES 8 = NOT APPLICABLE 9, 99 = DON'T KNOW

Since [NAME EVENT/MONTH] [have/has] _____'s [teachers/boss] said that [he/she] often seems not to listen to what they are saying?	0	1*	2*	8	9	[29]
IF YES, A. Is that because [he/she] has a problem with hearing?	0	1	2		9	[30]
IF YES, B. What kind of hearing problem does [he/she] have? (DESCRIBE): _____ _____ _____	|__ __|					[31-32]
C. Have [his/her] [teachers/boss] complained about [his/her] not listening?	0	1	2		9	[33]
D. Did [he/she] not listen because [he/she] was daydreaming?	0	1	2		9	[34]
46. Does [he/she] often seem not to be listening to what you or other people are saying?	0	1*	2*		9	[35]
IF YES, A. Is that because [he/she] is daydreaming?	0	1	2		9	[36]

IF "*" RESPONSE TO Q45 OR 46, ASK...

47. Has not listening to others been a problem for at least 6 months?	0		[2]	9	[37]

48. Has anyone said that _____ often loses papers, books, pens or pencils (or equipment [he/she] needs for [his/her] job) at [school/work]?	0	1*	2*	8	9	[38]
49. At home, does _____ lose things more than other kids [his/her] age?	0	1*	2*		9	[39]

IF "*" RESPONSE TO Q48 OR 49, ASK...

50. Has losing things been a problem for at least 6 months?	0	[2]	9	[40]

[3/1/92] 0 = NO 1 = SOMETIMES/ SOMEWHAT 2 = YES 8 = NOT APPLICABLE 9, 99 = DON'T KNOW

51. Has anyone at [his/her] [school/work] said that [he/she] makes a lot of careless mistakes when doing [his/her] [schoolwork/work]?	0	1*	2*	8	9	[41]
52. At home, does [he/she] make more careless mistakes than other children [his/her] age?	0	1*	2*		9	[42]
IF "*" RESPONSE TO Q51 OR 52, ASK...						
53. Has making careless mistakes been a problem for at least 6 months?	0		[2]		9	[43]
54. In the past 6 months, has [he/she] often gotten [him/herself] into a dangerous situation where [he/she] could have been injured because [he/she] wasn't thinking?	0	1	2		9	[44]
IF YES, A. Please tell me about this. (DESCRIBE): _____ _____ _____	|___|					[45-46]
B. Was this something [he/she] did suddenly without thinking about it first?	0	1	2		9	[47]
C. Has doing dangerous things like this been a problem for at least 6 months?	0		[2]		9	[48]
55. Has anyone said that [he/she] often forgets or seems to lose track of what [he/she] is doing at [school/work], just sort of drifts off?	0	1*	2*	8	9	[49]
56. Does [he/she] often drift off or lose track of what [he/she] is doing at home?	0	1*	2*		9	[50]

[3/1/92] 0 = NO 1 = SOMETIMES/ SOMEWHAT 2 = YES 8 = NOT APPLICABLE 9, 99 = DON'T KNOW

IF "0" RESPONSE TO Q55 OR 56, ASK Q57.

57.	Sometimes people seem to lose track of what they are doing when they are using drugs or alcohol . . . or are very tired or haven't slept well . . . or sick . . . or very worried or anxious. Does _____ lose track of what [he/she] is doing when [he/she] is in one of these situations?	0•	1	2	9	[51]
	IF YES, A. Does [he/she] often drift off or lose track when [he/she] is not using drugs or alcohol or tired or sick or worried or anxious?	0		2•	9	[52]

IF "0" RESPONSE TO Q57 OR Q57A, ASK. . .

58.	Has losing track or drifting off been a problem for at least 6 months?	0		[2]	9	[53]

59.	In the past 6 months, has anyone told you that [he/she] often seems drowsy or sluggish at [school/work], like [he/she] has no energy?	0	1•	2•	8	9	[54]
60.	How about at home? Does [he/she] often seem drowsy or sluggish there?	0	1•	2•		9	[55]

IF "0" RESPONSE TO Q59 OR 60, ASK Q61.

61.	Sometimes people seem drowsy or sluggish when they are using drugs or alcohol . . . or are very tired or haven't slept well . . . or sick . . . or very worried or anxious. Does _____ seem drowsy or sluggish when [he/she] is in one of these situations?	0•	1	2	9	[56]
	IF YES, A. Does [he/she] often seem drowsy or sluggish when [he/she] is not using drugs or alcohol or tired or sick or worried or anxious?	0		2•	9	[57]

IF "0" RESPONSE TO Q61 OR Q61A, ASK. . .

62.	Has being drowsy or sluggish been a problem for at least 6 months?	0		[2]	9	[58]

[3/1/92] 0 = NO 1 = SOMETIMES/ SOMEWHAT 2 = YES 8 = NOT APPLICABLE 9, 99 = DON'T KNOW

START NEW CARD
DUP COL 1 - 12

CARD NO. 0 3 [13 - 14]
b [15]

63.	Has anyone said that there are a lot of things [he/she] wants to do and knows how to do at [school/work], but somehow never gets around to doing?	0	1*	2*	8	9 [16]
64.	And at home? Are there a lot of things [he/she] can do and wants to do, but never gets around to doing?	0	1*	2*		9 [17]

IF "*" RESPONSE TO Q63 OR 64, ASK Q65 TO 67.

65.	Is that because [he/she] doesn't seem to have any energy?	0	1	2	9 [18]
66.	Is that because [he/she] is very disorganized?	0	1	2	9 [19]
67.	Sometimes people don't get around to things when they are using drugs or alcohol or want to make someone else mad or angry. Does _____ have trouble getting around to things when [he/she] is in one of these situations?	0*	1	2	9 [20]
	IF YES, A. Does [he/she] often have trouble getting around to things when [he/she] is not using drugs or trying to make someone else mad or angry?	0		2*	9 [21]

IF "*" RESPONSE TO Q67 OR Q67A, ASK:

68.	Has not getting around to things been a problem for at least 6 months?	0		[2]	9 [22]

Read Additional Items →

NOTE 2:	ARE 4 OR MORE CRITERIA MET ([ ] RESPONSES CODED) IN Q1 TO 68:	0	2	[23]
IF YES:	CONTINUE.			
IF NO:	GO TO Q77, P.15.			

[6/13/95] 0 = NO 1 = SOMETIMES/ SOMEWHAT 2 = YES 8 = N/A 9,99 = DK

Additional ADHD items

(Ask after question #68]

1A. In the past 6 months, has anyone said that _____ fails to give close attention to details or makes careless mistakes in his/her work or other activities?	0	1*	2*	8	9
1B. Have you noticed that [he/she] has more trouble giving close attention than other children [his/her] age?	0	1*	2*	8	9
1C. In the past 6 months, have you or other people noticed that [he/she] doesn't give close attention to details?	0	1*	2*	8	9
1D. IF "*" RESPONSE TO Q1A, 1B, OR 1C, ASK... Has this trouble giving close attention to detail been a problem for at least 6 months?	0	[2]		9	[1A]
2A. In the past 6 months, has anyone said that _____ often runs about or climbs extensively in situations in which it is inappropriate?	0	1*	2*	8	9
2B. Have you noticed that [he/she] often runs about or climbs extensively more than other children [his/her] age?	0	1*	2*	8	9
2C. IF "*" RESPONSE TO Q2A OR 2B, ASK... Has this trouble often running about or climbing extensively in situations in which it is inappropriate been a problem for at least 6 months?	0	[2]		9	[2B]
3A. In the past 6 months, has anyone said that _____ is often "on the go" or act as if "driven by a motor"?	0	1*	2*	8	9
3B. In the past 6 months, have you noticed that [he/she] is often "on the go" or act as if "driven by a motor" more than other children [his/her] age?	0	1*	2*	8	9
3C. If [he/she] is someplace where [he/she] has to be still or stay put, like in church or riding in a car, does [he/she] seem to be often "on the go" or act as if "driven by a motor"?	0	1*	2*	8	9
3D. IF "*" RESPONSE TO Q3A, 3B, OR 3C, ASK... Has this trouble being often "on the go" or acting as if "driven by a motor" been a problem for at least 6 months?	0	[2]		9	[3C]

[6/13/95] 0 = NO 1 = SOMETIMES/ SOMEWHAT 2 = YES 8 = N/A 9,99 = DK

A. In the past 6 months, has anyone said that [he/she] has difficulty organizing tasks and activities?	0	1*	2*	8	9
4B. Have you noticed that [he/she] has difficulty organizing tasks and activities at home? For example, while [he/she] is doing his homework?	0	1*	2*	8	9
4C. IF "*" RESPONSE TO Q4A OR 4B, ASK... Has difficulty organizing tasks and activities been a problem for at least 6 months?	0	[2]		9	[4D]
5A. In the past 6 months, has anyone said that _____ avoids, dislikes, or is reluctant to engage in tasks that require sustained mental effort?	0	1*	2*	8	9
5B. At home, does [he/she] have a problem playing games or working on projects or doing [his/her] homework, because of avoiding or being reluctant to engage in a task that requires sustained mental effort?	0	1*	2*	8	9
5C. IF "*" RESPONSE TO Q5A OR 5B, ASK... Has avoiding or being reluctant to engage in a task that requires sustained mental effort been a problem for at least 6 months?	0	[2]		9	[5E]
6A. In the last 6 months, has anyone said that _____ is often forgetful in daily activities?	0	1*	2*	8	9
6B. Have you noticed that [he/she] is often forgetful in daily activities more than children his age?	0	1*	2*	8	9
6C. If "*" RESPONSE TP Q6A OR 6B, ASK... Has being forgetful in daily activities been a problem for at least 6 months?	0	[2]		9	[6F]

[23]

Note: Are 6 or more criteria met?
If yes: continue
If no: Go to Qmp, 15

[000]

92] 0 = NO 1 = SOMETIMES/ SOMEWHAT 2 = YES 8 = NOT APPLICABLE 9, 99 = DON'T KNOW

ked you a lot of questions about problems _____ may have had with paying ...ation or being too active. For example, you said that [LIST ALL BRACKETED ITEMS IN Q1-68]. Did any of these things cause problems for [him/her] when [he/she] was in kindergarten or first grade?	0	1	2	8	9	[24]
How old was [he/she] when [he/she] first started having problems because of these things? SPECIFY AGE → (77=WHOLE LIFE, ALWAYS)	|__ __| YRS.					[25-26]
Now thinking about just the last 6 months, have [LIST [ ] ITEMS IN Q1 TO 68] caused a problem with how [he/she] gets along with people at home?	0	1	2		9	[27]
Have these things caused a problem with how [he/she] gets along with friends or other [children/teenagers] [his/her] age?	0	1	2		9	[28]
Have these things caused problems for [him/her] at [school/work]?	0	1	2	8	9	[29]
Did [his/her] problems with paying attention or being too active begin soon after some bad thing or some big change happened to [him/her]?	0		2		9	[30]
YES, A. What was that? _____ _____	|__ __|					[31-32]

NOTE 3: IS THIS CLEARLY A ONE TIME EVENT?	0	2	[33]
IF YES: GO TO C. IF NO: GO TO B.			

B. Is this [STRESSFUL EVENT] still going on?	0	2	9	[34]
C. When did this [happen/begin]? (CODE MO/YR) _____	|__ __| MONTH	|__ __| YEAR		[35-38]

[3/1/92] 0 = NO 1 = SOMETIMES/ SOMEWHAT 2 = YES 8 = NOT APPLICABLE 9, 99 = DON'T KNOW

D. Did [he/she] have these problems paying attention or being too active before [STRESSFUL EVENT]? 0 2 9 [39]

IF YES, E. Did these problems definitely get worse after this [happened/began]? 0 2 9 [40]

IF YES, F. How soon after [STRESSFUL EVENT] did this behavior become more of a problem for [him/her]?

Less than 1 month ____ 1
1 - 3 months ____ 2
More than 3 months ____ 3
Don't know ____ 9 [41]

G. Was this behavior more of a problem for longer than 6 months? 0 2 9 [42]

IF NO H. How soon after [STRESSFUL EVENT] did [he/she] begin to have problems paying attention or being too active?

Less than 1 month ____ 1
1 - 3 months ____ 2
More than 3 months ____ 3
Don't know ____ 9 [43]

I. Did [he/she] have these problems paying attention or being too active for longer than 6 months? 0 2 9 [44]

75. Has _____ ever seen a doctor, psychiatrist, psychologist, social worker, guidance counselor or any other professional like that because [he/she] has problems with paying attention or being too active? 0 2 9 [45]

IF NO, GO TO E.

IF YES, A. Who did [he/she] see?

_____ |__|__| [46-47]

B. What did the doctor say was wrong (What did the [PERSON SEEN] say was the matter)?

_____ |__|__| [48-49]

_____

_____

92] 0 = NO 1 = SOMETIMES/ SOMEWHAT 2 = YES 8 = NOT APPLICABLE 9, 99 = DON'T KNOW

C. How old was [he/she] the first time [he/she] saw someone because [he/she] has problems paying attention or being too active?

SPECIFY AGE ——————————> |__ __| YRS. [50-51]

	D. Did [he/she] see anyone for this in the last 6 months?	0	2	9 [52]
IF NO TO Q75,	E. Did you (or [his/her] [CARETAKER]) ever think that [he/she] should see a doctor or some other professional like that because of these problems?	0	2	9 [53]
	F. Did [his/her] [school/job] or anyone else ever suggest that [he/she] see someone like that because of this?	0	2	9 [54]
	G. Did [he/she] ever ask to see someone special like a doctor or counselor for this?	0	2	9 [55]
i.	Has _____ ever had medicine for hyperactivity?	0	2	9 [56]
IF YES,	A. Has [he/she] taken any medicine for this in the past 6 months?	0	2	9 [57]

IF YES, B. What is the name of the medicine?
(LIST ALL MEDICATIONS)

_____ |__ __| [58-59]

_____

_____

[3/1/92] 0 = NO 1 = SOMETIMES/ SOMEWHAT 2 = YES 8 = NOT APPLICABLE 9, 99 = DON'T KNOW

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PARENT/CHI
MODULE E: ADHD

6	Sitting Still	—
9	Staying In Seat	—
12	Keeping Mind On Things	—
15	Cutting Ahead	—
18	Blurt Out Answers	—
21	Following Through	—
25	Paying Attention	—
28	Stopping/Starting	—
31	Shifting Activities	—
34	Being Noisy	—
37	Running around	—
41	Talking Too Much	—
44	Interrupting Others	—
47	Not Listening To Others	—
50	Losing Things	—
53	Careless mistakes	—
54C	Dangerous Things	—
58	Losing track	—
62	Drowsy/Sluggish	—
68	Trouble getting around to things	—
All 1D	Giving attention	—
2B	Running/climbing	—
3B	On the go	—
4C	Organizing	—
5C	Mental effort	—

[3/1/92] 0 = NO 1 = SOMETIMES/ SOMEWHAT 2 = YES 8 = NOT APPLICABLE 9, 99 = DON'T KNOW

START NEW CARD
DUP COL 1 - 10
MOD. E 2 [11 - 12]
CARD NO. 0 1 [13 - 14]
b [15]

ODD

77.	Since [NAME EVENT/MONTH], has [he/she] often lost [his/her] temper, like shouting, breaking things or hitting people?	0	1	2	9	[16]
	IF YES, A. Does this happen at home?	0	1	2	9	[17]
	B. How about at [school/work]?	0	1	2 8	9	[18]
	C. How often does [he/she] lose [his/her] temper? Would you say: Almost every day... at least once a week... or at least once a month?					
	4 - 7 days a week	[4]				[19]
	1 - 3 days a week	[3]				
	1 - 3 days a month	2				
	Less than once a month	1				
	Don't know	9				
	D. Has [he/she] been losing [his/her] temper like this a lot for six months or longer?	0		2	9	[20]
78.	Has [he/she] often argued with or talked back to you or other adults, like [his/her] teacher?	0	1	2	9	[21]
	IF YES, A. Does [he/she] do this at home?	0	1	2	9	[22]
	B. How about at [school/work]?	0	1	2 8	9	[23]
	C. How often does [he/she] argue or talk back like this? Would you say: Almost every day... at least once a week... or at least once a month?					
	4 - 7 days a week	[4]				[24]
	1 - 3 days a week	[3]				
	1 - 3 days a month	2				
	Less than once a month	1				
	Don't know	9				
	D. Has [he/she] been arguing or talking back to adults a lot for six months or longer?	0		2	9	[25]

[3/1/92] 0 = NO 1 = SOMETIMES/ SOMEWHAT 2 = YES 8 = NOT APPLICABLE 9, 99 = DON'T KNOW

79.	In the past 6 months, has [he/she] broken many rules?	0	1	2		9	[26]
	IF YES, A. Does [he/she] break rules at home?	0	1	2		9	[27]
	B. How about at [school/work]?	0	1	2	8	9	[28]
	C. How often does [he/she] break rules like this? Would you say: Almost every day... at least once a week... or at least once a month?						
	4 - 7 days a week	[4]					[29]
	1 - 3 days a week	[3]					
	1 - 3 days a month	2					
	Less than once a month	1					
	Don't know	9					
	D. Has [he/she] been breaking rules a lot for 6 months or longer?	0		2		9	[30]
80.	Has [he/she] often refused to do what you or other adults told [him/her]?	0	1	2		9	[31]
	IF YES, A. Does [he/she] refuse to do what [he/she] is told at home?	0	1	2		9	[32]
	B. How about at [school/work]?	0	1	2	8	9	[33]
	C. How often does [he/she] refuse to do what others tell [him/her]? Would you say: Almost every day... at least once a week... or at least once a month?						
	4 - 7 days a week	[4]					[34]
	1 - 3 days a week	[3]					
	1 - 3 days a month	2					
	Less than once a month	1					
	Don't know	9					
	D. Has [he/she] been refusing to do things a lot for six months or longer?	0		2		9	[35]
	E. Did [he/she] refuse to do what others told [him/her] because they were hurting [him/her] or punishing [him/her] severely?	0	1	2		9	[36]
	IF YES, F. Was this the only time [he/she] refused to do what others told [him/her]?	0		2		9	[37]

[3/1/92] 0 = NO 1 = SOMETIMES/ SOMEWHAT 2 = YES 8 = NOT APPLICABLE 9, 99 = DON'T KNOW

81.	Since [NAME EVENT/MONTH], has [he/she] often done things to bother other people on purpose?	0	1	2		9	[38]
	IF YES, A. Does this make it hard for [him/her] to get along with other people?	0	1	2		9	[39]
	IF YES, B. Does [he/she] do things to bother other people at home?	0	1	2		9	[40]
	C. How about at [school/work]?	0	1	2	8	9	[41]
	D. How often does [he/she] do things to bother other people? Would you say: Almost every day.... at least once a week.... or at least once a month?						
	4 - 7 days a week	[4]					[42]
	1 - 3 days a week	3					
	1 - 3 days a month	2					
	Less than once a month	1					
	Don't know	9					
	E. Has [he/she] been doing things to bother other people often for 6 months or longer?	0		2		9	[43]
	Has [he/she] usually blamed somebody else when [he/she] has made a mistake?	0	1	2		9	[44]
	IF YES, A. Does this make it hard for [him/her] to get along with other people?	0	1	2		9	[45]
	IF YES, B. Does [he/she] blame others for [his/her] mistakes at home?	0	1	2		9	[46]
	C. How about at [school/work]?	0	1	2	8	9	[47]
	D. How often does [he/she] blame others? Would you say: Almost every day... at least once a week.... or at least once a month?						
	4 - 7 days a week	[4]					[48]
	1 - 3 days a week	3					
	1 - 3 days a month	2					
	Less than once a month	1					
	Don't know	9					
	E. Has [he/she] been blaming others after making a mistake often for 6 months or longer?	0		2		9	[49]

[3/1/92] 0 = NO 1 = SOMETIMES/ SOMEWHAT 2 = YES 8 = NOT APPLICABLE 9, 99 = DON'T KNOW

83.	In the past 6 months, has _____ been grouchy, that is, [he/she] gets annoyed very easily over little things?	0	1	2		9	[50]
	IF YES, A. Does this make other people watch what they say or do when they are around [him/her]?	0	1	2		9	[51]
	IF YES, B. Is[he/she] grouchy or annoyed very easily at home?	0	1	2		9	[52]
	C. How about at [school/work]?	0	1	2	8	9	[53]
	D. How often does [he/she] seem grouchy or annoyed like this? Would you say: Almost every day... at least once a week... or at least once a month?						
	4 - 7 days a week	[4]					[54]
	1 - 3 days a week	[3]					
	1 - 3 days a month	2					
	Less than once a month	1					
	Don't know	9					
	E. Has [he/she] been grouchy or easily annoyed often for 6 months or longer?	0		2		9	[55]
84.	Has [he/she] often seemed angry or resentful saying that people blamed [him/her] unfairly?	0	1	2		9	[56]
	IF YES, A. Does this make it hard for [him/her] to get along with other people?	0	1	2		9	[57]
	IF YES, B. Does [he/she] seem angry or resentful at home?	0	1	2		9	[58]
	C. How about at [school/work]?	0	1	2	8	9	[59]
	D. How often does [he/she] seem angry or resentful like this? Would you say: Almost every day... at least once a week... or at least once a month?						
	4 - 7 days a week	[4]					[60]
	1 - 3 days a week	[3]					
	1 - 3 days a month	2					
	Less than once a month	1					
	Don't know	9					
	E. Has [he/she] seemed angry or resentful often for 6 months or longer?	0		2		9	[61]
85.	Since [NAME EVENT/MONTH], has [he/she] gotten even with other people by telling lies about them?	0	1*	2*		9	[62]
86.	Has [he/she] gotten even with others by hurting them or messing up their things?	0	1*	2*		9	[63]

[3/1/92] 0 = NO 1 = SOMETIMES/ SOMEWHAT 2 = YES 8 = NOT APPLICABLE 9, 99 = DON'T KNOW

IF "•" RESPONSE TO Q85 OR 86, ASK:

A. Does [he/she] get even with others at home by [TELLING LIES/HURTING THEM/BREAKING OR MESSING UP THEIR THINGS]?	0	1	2		9	[64]
B. How about at [school/work]?	0	1	2	8	9	[65]
C. How often does [he/she] get even with others like this? Would you say: Almost every day... at least once a week... or at least once a month?						
4 - 7 days a week	[4]					[66]
1 - 3 days a week	[3]					
1 - 3 days a month	[2]					
Less than once a month	1					
Don't know	9					
D. Has [he/she] been getting even with people a lot for six months or longer?	0		2		9	[67]

START NEW CARD
DUP COL 1 - 12

CARD NO. 0 2 [13 - 14]
b [15]

87. In the past 6 months, has [he/she] often tried to get other people into trouble?	0	1	2		9	[16]
IF YES, A. Does this make it hard for [him/her] to get along with other people?	0	1	2		9	[17]
IF YES, B. Does [he/she] try to get other people into trouble at home?	0	1	2		9	[18]
C. How about at [school/work]?	0	1	2	8	9	[19]
D. How often does [he/she] try to get other people into trouble like this? Would you say: Almost every day... at least once a week... or at least once a month?						
4 - 7 days a week	[4]					[20]
1 - 3 days a week	[3]					
1 - 3 days a month	[2]					
Less than once a month	1					
Don't know	9					
E. Has [he/she] tried to get other people into trouble a lot for 6 months or longer?	0		2		9	[21]

[3/1/92] 0 = NO 1 = SOMETIMES/ SOMEWHAT 2 = YES 8 = NOT APPLICABLE 9, 99 = DON'T KNOW

88. Have people complained because [he/she] swears or uses dirty words? 0 1 2 9 [22]

IF YES, A. Does [he/she] swear or use dirty words at home? 0 1 2 9 [23]

B. How about at [school/work]? 0 1 2 8 9 [24]

C. How often does [he/she] swear or use dirty words? Would you say: Almost every day... at least once a week... or at least once a month?

4 - 7 days a week	[4]	[25]
1 - 3 days a week	[3]	
1 - 3 days a month	2	
Less than once a month	1	
Don't know	9	

D. Has [he/she] been swearing or using dirty words a lot for 6 months or longer? 0 2 9 [26]

NOTE 4:	ARE 3 OR MORE [ ] RESPONSES CODED IN Q'S 77 TO 88?	0 2	[27]
IF YES:	CONTINUE.		
IF NO:	GO TO Q94, P. 23.		

89. I've asked you a lot of questions about problems _____ may have had with getting along with others, losing [his/her] temper, or breaking rules. How old was _____ when [he/she] began to act this way?

SPECIFY AGE ——————> |__ __| YRS [28-29]
(77=WHOLE LIFE, ALWAYS)

90. In the past 6 months, has this behavior caused a problem with how [he/she] gets along with people at home? 0 1 2 9 [30]

91. Has this behavior caused a problem with how [he/she] gets along with friends or other [children/teenagers] [his/her] age? 0 1 2 9 [31]

92. Has this behavior caused problems for [him/her] at [school/work]? 0 1 2 8 9 [32]

[3/1/92] 0 = NO 1 = SOMETIMES/ SOMEWHAT 2 = YES 8 = NOT APPLICABLE 9, 99 = DON'T KNOW

93. Did problems getting along with others, losing [his/her] temper, or breaking rules begin soon after some bad thing or some big change happened to [him/her]? 0 2 9 [33]

IF NO, GO TO Q94, P.23.

IF YES, A. What was that?

_____ |__ __| [34-35]

_____

NOTE 5: IS THIS CLEARLY A ONE TIME EVENT?	0	2	[36]
IF YES: GO TO C. IF NO: GO TO B.			

B. Is this [STRESSFUL EVENT] still going on? 0 2 9 [37]

C. When did this [happen/begin]? (CODE MO/YR)

_____ |__ __|__ __| [38-41]
MONTH YEAR

_____

D. Did [he/she]have problems getting along with others, losing [his/her] temper, or breaking rules before [STRESSFUL EVENT]? 0 2 9 [42]

IF YES, E. Did these problems definitely get worse after this [happened/began]? 0 2 9 [43]

IF YES, F. How soon after [STRESSFUL EVENT] did this behavior become more of a problem?

Less than 1 month ____ 1
1 - 3 months ____ 2
More than 3 months ____ 3
Don't know ____ 9 [44]

G. Did this behavior seem more of a problem for longer than 6 months? 0 2 9 [45]

IF NO, H. How soon after [STRESSFUL EVENT] did [he/she] begin to have problems with getting along with others, losing [his/her] temper, or breaking rules?

Less than 1 month ____ 1
1 - 3 months ____ 2
More than 3 months ____ 3
Don't know ____ 9 [46]

I. Did [he/she] have these probems for longer than 6 months? 0 2 9 [47]

[3/1/92] 0 = NO 1 = SOMETIMES/ SOMEWHAT 2 = YES 8 = NOT APPLICABLE 9, 99 = DON'T KNOW

INTENTIONALLY LEFT BLANK

MODULE E:PARENT/CHILI

ODD

77C Lost Temper

78C Argued/Talked Back

79C Broke Rules

80C Refused To Do As Told

81D Bothered Others

82D Blamed Others

83D Grouchy

84D Angry/Resentful

86C Gotten Even

87D Tried to Get Others In Trouble

88C Swearing

Insert BEFORE MODULE F, P.1

[3/1/92] 0 = NO 1 = SOMETIMES/ SOMEWHAT 2 = YES 8 = NOT APPLICABLE 9, 99 = DON'T KNOW

CD

START NEW CARD
DUP COL 1 - 10

MOD. E 3 [11 - 12]

CARD NO. 0 1 [13 - 14]
b [15]

Now, I'm going to ask you some questions about things that can get people into trouble. I just want to remind you that everything you tell me is completely confidential. For these questions, please think about the WHOLE LAST YEAR, that is, since [NAME EVENT/MONTH *from one year ago.*]

94.	In the past year, has [he/she] snatched someone's purse?	0	[2*]	9	[16]
95.	Has [he/she] held someone up or robbed someone?	0	[2*]	9	[17]
96.	Has [he/she] threatened someone in order to steal from them?	0	[2*]	9	[18]

IF YES (2*) TO Q94, 95 OR 96, ASK:

A.	Has [he/she] [SNATCHED A PURSE/ROBBED SOMEONE/ THREATENED SOMEONE] in the past 6 months?	0	2	9	[19]
B.	How old was [he/she] the first time [he/she] did this? CODE EXACT AGE ——————>	__ __ YRS.			[20-21]

97.	In the past year, has [he/she] stolen money from you (or [his/her] [CARETAKER]) or stolen things from other people [he/she] lives with?	0	2*	9	[22]
98.	[redacted]	0	2*	9	[23]
99.	Has [he/she] stolen at any other time when the person [he/she] stole from wasn't around or wasn't looking, like from someone's desk or locker?	0	2*	9	[24]

or shoplifting?

[3/1/92] 0 = NO 1 = SOMETIMES/ SOMEWHAT 2 = YES 8 = NOT APPLICABLE 9, 99 = DON'T KNOW

IF YES (2*) TO [illegible] 99, ASK:

A. Has [he/she] [STOLEN FROM SOMEONE AT HOME / SHOPLIFTED / STOLEN FROM SOMEONE WHO WASN'T AROUND] more than once in the past year?	0	[2]	9	[25]
IF YES, B. Has [he/she] stolen like this in the last six months?	0	2	9	[26]
C. When [he/she] stole like this, did [he/she] ever take anything that was worth more than $10.00?	0	2	9	[27]
IF YES, D. In the past year, how many times did [he/she] steal more than $10.00, or something worth more than $10.00?				
More than 12 times	4			[28]
7 - 12 times	3			
4 - 6 times	2			
1 - 3 times	1			
Don't know	9			
E. How old was [he/she] the first time [he/she] stole something when no one was looking?				
CODE EXACT AGE ---------->	___ YRS.			[29-30]

100. Since [NAME EVENT/MONTH *from one year ago*] has [he/she] run away from home overnight?	0	2	9	[31]
IF YES, A. Has [he/she] run away more than once?	0	[2]	9	[32]
B. When [he/she] ran away did [he/she] (ever) stay away for as long as two whole weeks?	0	[2]	9	[33]
C. Has [he/she] run away in the last six months?	0	2	9	[34]
D. How old was [he/she] the first time [he/she] ran away?				
CODE EXACT AGE ---------->	___ YRS.			[35-36]
E. Did [he/she] run away because people at home were hurting [him/her] or punishing [him/her] severely?	0	1 2	9	[37]
IF YES, F. Is this the only reason [he/she] ran away in the past year?	0	2	9	[38]

[3/1/92] 0 = NO 1 = SOMETIMES/ SOMEWHAT 2 = YES 8 = NOT APPLICABLE 9, 99 = DON'T KNOW

101.	Has [he/she] told a lot of lies?	0	1	2	9	[39]
	IF YES, A. Has [he/she] gotten into trouble for lying?	0	1	2	9	[40]
	IF YES, B. How often has [he/she] gotten into trouble for lying? Would you say: Every day . . . at least once a week . . . or at least once a month?					
	Every day	[4]				[41]
	1 - 6 days a week	[1]				
	1 - 3 days a month	[2]				
	Less than once a month	1				
	Don't know	9				
	C. Has [he/she] gotten into trouble for lying in the past 6 months?	0		2	9	[42]
	D. How old was [he/she] the first time [he/she] got in trouble for telling lies?					
	CODE EXACT AGE ——————>. (77=WHOLE LIFE, ALWAYS)	__ __ YRS.				[43-44]
102.	In the past year, has [he/she] started any fires without permission ?	0		2	9	[45]
	IF YES, A. Did the fire cause any damage or hurt anyone?	0		2	9	[46]
	B. Did [he/she] mean for the fire to cause damage or hurt someone?	0		[2]	9	[47]
	IF YES, C. Has [he/she] started a fire like this in the last six months?	0		2	9	[48]
	D. How old was [he/she] the first time [he/she] started a fire like this?					
	CODE EXACT AGE ——————>.	__ __ YRS.				[49-50]

[3/1/92] 0 = NO 1 = SOMETIMES/ SOMEWHAT 2 = YES 8 = NOT APPLICABLE 9, 99 = DON'T KNOW

103.	Has [he/she] skipped class or played hooky from school [taken off from work without asking] in the past year?	0	1	2	8 9	[51]
	IF YES, A. How often has [he/she] done this in the past year?					
	More than 12 times	[4]				[52]
	7 - 12 times	[3]				
	4 - 6 times	[2]				
	1 - 3 times	1				
	Don't know	9				
	B. Has [he/she] skipped [class or school/work] in the last 6 months?	0		2	9	[53]
	C. Did [he/she] skip [school or class/ work] because [he/she] was nervous or afraid?	0	1	2	9	[54]
	D. On the days [he/she] skipped [school/work], did you (usually) know that [he/she] wasn't at [school/work]?	0	1	2	9	[55]
	E. When [he/she] skipped [school/work], did [he/she] (usually) stay home?	0	1	2	9	[56]
	F. How old was [he/she] the first time [he/she] skipped [class or school/work]?					
	CODE EXACT AGE ——————>	___ YRS.				[57-58]
104.	Since [NAME EVENT/MONTH *from one year ago*], has [he/she] broken into a house, building, or car?	0		[2]	9	[59]
	IF YES, A. Has [he/she] done this in the last six months?	0		2	9	[60]
	B. How old was [he/she] the first time [he/she] did this?					
	CODE EXACT AGE ——————>	___ YRS.				[61-62]
105.	Has [he/she] broken something or messed up some place on purpose, like breaking windows, writing on a building, slashing tires?	0		[2]	9	[63]
	IF YES, A. Has [he/she] done this in the last six months?	0		2	9	[64]
	B. How old was [he/she] the first time [he/she] did this?					
	CODE EXACT AGE ——————>	___ YRS.				[65-66]

[3/1/92] 0 = NO 1 = SOMETIMES/ SOMEWHAT 2 = YES 8 = NOT APPLICABLE 9, 99 = DON'T KNOW

START NEW CARD
DUP COL 1 - 12
CARD NO. 0 2 b [13 - 14] [15]

106. In the past year, has [he/she] tortured animals or hurt them on purpose?	0	[2]	9	[16]
IF YES, A. Has [he/she] done this in the last six months?	0	2	9	[17]
B. How old was [he/she] the first time [he/she] did this?				
CODE EXACT AGE ——————>	___ YRS.			[18-19]

IF CHILD LESS THAN 12 YEARS OF AGE, GO TO Q108.

107. As far as you know, has [he/she] ever had any sexual experience with another person?	0	2	9	[20]
IF YES, A. In the past year, has [he/she] done anything sexual with someone for money or for something else [he/she] wanted?	0	[2]	9	[21]
IF YES, B. Has [he/she] done this in the past 6 months?	0	2	9	[22]
C. How old was [he/she] the first time [he/she] did this?				
CODE EXACT AGE ——————>	___ YRS.			[23-24]
D. In the past year, has [he/she] forced someone to do something sexual with [him/her] against their will?	0	[2]	9	[25]
IF YES, E. Has [he/she] done this in the last 6 months?	0	2	9	[26]
F. How old was [he/she] the first time [he/she] did this?				
CODE EXACT AGE ——————>	___ YRS.			[27-28]
108. In the past year, has [he/she] been in any serious physical fights where there was punching or hitting?	0	2	9	[29]
IF YES, A. Has [he/she] been in many fights like that?	0	2	9	[30]
B. Has [he/she] started any serious fights like that in the past year?	0	2	9	[31]
IF NO, GO TO 11.				
IF YES, C. Has [he/she] started at least four fights like that in the last year?	0	[2]	9	[32]

[3/1/92] 0 = NO 1 = SOMETIMES/ SOMEWHAT 2 = YES 8 = NOT APPLICABLE 9, 99 = DON'T KNOW

D. Has [he/she] started at least one fight like that in the last 6 months?	0		2	9	[33]
E. Has [he/she] started fights like that with people at home?	0		2	9	[34]
F. Has [he/she] started fights like that with other people, like at school or in the neighborhood?	0		2	9	[35]
G. How old was [he/she] when [he/she] first began to start fights like that?					
CODE EXACT AGE ----->	|___| YRS.				[36-37]
H. Has [he/she] ever used a weapon in a fight, like a bat or a brick or a bottle or a knife or gun?	0		2	9	[38]
IF YES, I. Has [he/she] used a weapon like that in more than one fight in the past year?	0		[2]	9	[39]
J. Has [he/she] used a weapon like that in at least one fight in the past six months?	0		2	9	[40]
K. How old was [he/she] when [he/she] first began to use a weapon in fights?					
CODE EXACT AGE ----->	|___| YRS.				[41-42]
109. In the past year, has [he/she] ever been physically cruel to someone or tried to cause them pain?	0		2	9	[43]
IF YES, A. Please tell me what happened. (DESCRIBE): _____ _____	|___|				[44-45]
B. Was this in a fight, or when [he/she] lost [his/her] temper?	[0]	1	2	9	[46]
IF YES, C. Did it ONLY happen in a fight, or when [he/she] lost [his/her] temper?	[0]		2	9	[47]
IF YES TO C, GO TO Q110.					
D. Has [he/she] tried to hurt someone, not during a fight, in the last six months?	0		2	9	[48]
E. How old was [he/she] the first time [he/she] did this?					
CODE EXACT AGE ----->	|___| YRS.				[49-50]

[3/1/92] 0 = NO 1 = SOMETIMES/ SOMEWHAT 2 = YES 8 = NOT APPLICABLE 9, 99 = DON'T KNOW

110.	In the past year, has [he/she] been a bully, that is, threatened or hurt other children who don't fight back?	0	1*	2*	9	[51]
111.	Have other parents ever complained to you that [he/she] picks on their kids?	0	1*	2*	9	[52]

IF YES (1* OR 2*) TO Q110 OR 111, ASK:

A. How often does [he/she] [bully/pick on] other kids? Would you say: Every day . . . at least once a week . . . or at least once a month?

Every day	[4]	[53]
1 - 6 days a week	[3]	
1 - 3 days a month	[2]	
Less than once a month	1	
Don't know	9	

B. Has [he/she] done this in the last 6 months?	0		2	9 [54]
C. Has [he/she] ever gotten into trouble for this?	0		2	9 [55]
D. How old was [he/she] the first time [he/she] started to [bully/pick on] other kids?				
CODE EXACT AGE ---------->	___	YRS.		[56-57]

IF CHILD IS UNDER AGE 13, GO TO Q113.

112.	Did _____ ever drink alcohol before age 13?	0		2	9 [58]
	IF YES, A. Was this more than just a sip?	0		2	9 [59]
	B. Did [he/she] drink alcohol regularly before age 13, say more than once a month?	0		[2]	9 [60]
	C. Did [he/she] ever drink alcohol before age 13 without your permission?	0	1	2	9 [61]
	IF YES, D. How old was [he/she] when [he/she] first drank alcohol without your permission?				
	CODE EXACT AGE ---------->	___	YRS.		[62-63]

IF Q112 WAS ASKED, GO TO Q114.

[3/1/92] 0 = NO 1 = SOMETIMES/ SOMEWHAT 2 = YES 8 = NOT APPLICABLE 9, 99 = DON'T KNOW

113.	Has _____ ever drunk alcohol in [his/her] whole life?	0		2	9	[64]
	IF YES, A. Was this more than just a sip?	0		2	9	[65]
	B. Has [he/she] drunk alcohol regularly, say, more than once a month?	0		[2]	9	[66]
	C. Has [he/she] ever drunk alcohol without your permission?	0	1	2	9	[67]
	IF YES, D. How old was [he/she] when [he/she] first drank alcohol without your permission? CODE EXACT AGE ——————>	___ YRS.				[68-69]
114.	Has [he/she] ever taken drugs to get high or to change the way [he/she] felt? This includes drugs [he/she] may have used on [his/her] own, that is, without a prescription, or drugs that were prescribed for [him/her], but [he/she] used them just to get high. Has [he/she] ever used drugs like this?	0		2	9	[70]
	IF YES, A. Has [he/she] taken any drugs or anything to make [him/herself] high, during the past 6 months?	0		[2]	9	[71]
	B. How old was [he/she] when [he/she] first used drugs to get high? CODE EXACT AGE ——————>	___ YRS.				[72-73]

START NEW CARD
DUP COL 1 - 12

CARD NO. 0 3 [13 - 14]
b [15]

115.	Does [he/she] belong to a gang or hang around with a group of kids who get into a lot of trouble?	0		[2]	9	[16]
	IF YES, A. Does being part of this group mean a lot to [him/her]?	0		2	9	[17]
	B. In the past year, has [he/she] skipped school with some of these kids?	0		2	8 9	[18]
	C. Has [he/she] stayed away from home overnight with some of these kids?	0		2	9	[19]
	IF YES, D. Did you know where [he/she] was?	0	1	2	9	[20]
	E. Has [he/she] often stayed out late in the evening with those kids?	0		2	9	[21]
	F. Has [he/she] ever told on a member of this group to get [him/herself] out of trouble?	0		2	9	[22]

[3/1/92] 0 = NO 1 = SOMETIMES/ SOMEWHAT 2 = YES 8 = NOT APPLICABLE 9, 99 = DON'T KNOW

G. In the past year, has [he/she] often used drugs or drunk alcohol with this group?	0		2		9	[23]
H. Has [he/she] ever stolen anything, gotten into fights, or broken other laws with members of this group?	0		2		9	[24]
I. Has [his/her] group sometimes fought with other groups or gangs?	0	1	2		9	[25]

*See next page 1A + 2A THEN, continue here

NOTE 7: WERE ANY [ ] RESPONSES CODED IN Q94 TO 115?	0		2			[26]
IF YES: CONTINUE IF NO: GO TO Q121, P. 33.						

116. You told me that [he/she] [NAME [ ] SYMPTOMS IN Q94 TO 115]. Did [he/she] do any of these things MORE THAN 6 MONTHS AGO, that is BEFORE [NAME EVENT/MONTH]?	0		2		9	[27]
117. In the last year, has doing these things caused problems for [him/her] at home?	0	1	2		9	[28]
18. Has doing these things changed how [he/she] gets along with other kids?	0	1	2		9	[29]
119. Has doing these things caused problems for [him/her] at [school/work]?	0	1	2	8	9	[30]
120. Did [his/her] [NAME [ ] SYMPTOMS IN Q94 TO 115] begin soon after some bad thing or some big change happened to [him/her]?	0		2		9	[31]

IF NO, GO TO Q121, P.33.

IF YES, A. What was that?

_____ |__|__| [32-33]

_____

NOTE 8: WAS THIS CLEARLY A ONE-TIME EVENT?	0		2			[34]
IF YES: GO TO C. IF NO: GO TO B.						

[3/1/92] 0 = NO 1 = SOMETIMES/ SOMEWHAT 2 = YES 8 = NOT APPLICABLE 9, 99 = DON'T KNOW

B. Is this [STRESSFUL EVENT] still going on?	0	2	9	[35]
C. When did this [happen/begin]? (CODE MO/YR)				
_____	|__|__|			[36-39]
		MONTH		YEAR
	0	2	9	[40]
	0	2	9	[41]
D. Did [he/she] do these things before [STRESSFUL EVENT]?				
IF YES, E. Did [he/she] do these things more often after this [happened/began]?				
IF YES, F. How soon after [STRESSFUL EVENT] did [he/she] start doing these things more?	1			[42]
Less than 1 month _____	2			
1 - 3 months _____	3			
More than 3 months _____	9			
Don't know _____	0	2	9	[43]
G. Was [NAME "[ ]" SYMPTOMS IN Q94 TO 115] more of a problem for longer than 6 months?				
IF NO H. How soon after [STRESSFUL EVENT] did [he/she] begin to [NAME "[ ]" SYMPTOMS IN Q94 TO 115]?	1			[44]
Less than 1 month _____	2			
1 - 3 months _____	3			
More than 3 months _____	9			
Don't know _____	0	2	9	[45]

[6/13/95] 0 = NO 1 = SOMETIMES/ SOMEWHAT 2 = YES 8 = N/A 9,99 = DK

Additional CD items

1A. Since [NAME EVENT/MONTH from one year ago] has [he/she] often stayed out at night despite parental prohibition?	0	[2]	9		[1A]
IF YES, A. Has [he/she] stayed out at night more than once?	0	2	9		
B. Has [he/she] stayed out in the last 6 months?	0	2	9		
C. How old was [he/she] the first time [he/she] stayed out? CODE EXACT AGE----------	I___ ___I YRS.				
D. Did [he/she] stay out because people at home were hurting [him/her] or punishing [him/her] severely?	0	1	2	9	
IF YES, Is this the only reason [he/she] stayed out in the past year?	0		2	9	

2A. Since [NAME EVENT/MONTH from one year ago] has [he/she] often bullied, threatened, or intimidated others?	0	[2]	9	[2A]
IF YES, A. Has [he/she] bullied, threatened or intimidated others in the last 6 months?	0	2	9	
B. How old was [he/she] the first time [he/she] started bullying, threatening, or intimidating others? CODE EXACT AGE----------	I___ ___I YRS.			

[3/1/92] 0 = NO 1 = SOMETIMES/ SOMEWHAT 2 = YES 8 = NOT APPLICABLE 9, 99 = DON'T KNOW

ADDITIONAL CONDUCT DISORDER QUESTIONS:

121. In the last year, has [he/she] been suspended from school? That is, told that [he/she] could not come back to school for a day or more? 0 [2*] 8 9 [46]

IF NO, A. Has [he/she] had an in-school suspension in the last year? 0 [2*] 8 9 [47]

IF "*" RESPONSE TO Q121 OR 121A, ASK:

B. How many times was [he/she] suspended during the last year?

SPECIFY NO. TIMES ——————> |__ __| [48-49]

C. Please tell me what happened.

_____ |__ __| [50-51]

_____

_____

122. In the last year, has [he/she] been expelled from school? That is, told that [he/she] could not come back to that school at all? 0 [2] 8 9 [52]

IF YES, A. How many times was [he/she] expelled in the last year?

SPECIFY NO. TIMES ——————> |__ __| [53-54]

B. Please tell me what happened.

_____ |__ __| [55-56]

_____

_____

[3/1/92] 0 = NO 1 = SOMETIMES/ SOMEWHAT 2 = YES 8 = NOT APPLICABLE 9, 99 = DON'T KNOW

123. In the last year, has [he/she] been in trouble with the police? 0 [2] 9 [57]

IF YES, A. Please tell me what happened. (DESCRIBE):

_____ |__ __| [58-59]

_____

B. Has [he/she] ever been arrested? 0 2 9 [60]

IF YES, C. How many times?

SPECIFY NO. TIMES ——————> |__ __| [61-62]

D. Has [he/she] been arrested in the last year? 0 2 9 [63]

E. How old was [he/she] the first time [he/she] was arrested?

SPECIFY AGE ——————> |__ __| YRS. [64-65]

124. Would [he/she] be in (more) trouble if the police could find out everything [he/she] had done? 0 [2] 9 [66]

IF YES, A. Please tell me what happened. (DESCRIBE):

_____ |__ __| [67-6

_____

IF HAD A JOB IN THE PAST YEAR, ASK...

125. Has [he/she] been fired from a job in the last year? 0 1 [2] 8 9 [69]

IF YES, A. How many times?

SPECIFY NO. TIMES ——————> |__ __| [70-71]

B. Why was [he/she] fired?

_____ |__ __| [72-73]

_____

_____

START NEW CARD
DUP COL 1 - 12

CARD NO. 0 4 [13 - 14]
b [1

[3/1/92] 0 = NO 1 = SOMETIMES/ SOMEWHAT 2 = YES 8 = NOT APPLICABLE 9, 99 = DON'T KNOW

NOTE 9:	WERE ANY [ ] RESPONSES CODED IN ODD TO CD, Q77 TO 125?	0	2	[16]
IF YES:	CONTINUE.			
IF NO:	GO TO TIME NOW, P. 36.			

126. You told me that [LIST ALL "[ ]" REPONSES NAMED IN Q77 TO 125]. Has _____ ever seen a doctor, psychiatrist, psychologist, social worker, guidance counselor, or any other professional like that because of these things? 0 2 9 [17]

IF YES, A. Who did [he/she] see? (WRITE IN):

_____ |__ __| [18-19]

B. What did the doctor say was wrong (What did [PERSON SEEN] say was the matter)?

_____ |__ __| [20-21]

_____

_____

C. How old was [he/she] the first time [he/she] saw someone because [he/she] has these problems?

CODE EXACT AGE ----------> |__ __| YRS. [22-23]

D. Did [he/she] see anyone for these things in the last 6 months? 0 2 9 [24]

IF NO, E. Did you (or [his/her] [CARETAKER]) ever think [he/she] should see a doctor or some other professional like that because of this? 0 2 9 [25]

F. Did _____'s school or anyone else ever suggest that [he/she] see someone like that because of these problems? 0 2 9 [26]

IF YES, G. How old was [he/she] when someone suggested this?

CODE EXACT AGE ----------> |__ __| YRS. [27-28]

H. Did [he/she] ever ask to see someone special like a doctor or a counselor for this? 0 2 9 [29]

[3/1/92] 0 = NO 1 = SOMETIMES/ SOMEWHAT 2 = YES 8 = NOT APPLICABLE 9, 99 = DON'T KNOW

INTERVIEWER:

1. DID YOU MARK ANY ITEMS IN MODULE E FOR CONSULTATION WITH SUPERVISOR?	0	2	[30]
2. WERE ANY QUESTIONS HARD FOR RESPONDENT TO UNDERSTAND?	0	2	[31]
3. CODE:			
AGE OF CHILD	___ YRS.		[32-33]
SEX OF CHILD:			
Female	1		[34]
Male	2		

TIME NOW ____:____ [35-38]

MODULE E:PARENT/CHIL
CD

94/95/96	Snatched/ Mugged/ Threat	
99A	Stole—No one saw	
100A/B	Run Away	
101B	Told Lies	
102B	Started Fire	
103A	Played Hooky	
104	Broken In Cars/Places	_
105	Broken or Messed Up Things	_
106	Tortured Animals	_
107A	Sexual Activity for $	_
107D	Forced someone sexually	_
108C	Started Fight	_
108I	Used Weapon	_
109/B/C	Been Cruel	_
111A	Others Complain	_
112B	Drink before 13	_
113B	Drink regularly	_
114A	Take drugs	_
115	Belong to gang	_
121/A/122	School suspension/ expulsion	_
123/124	Police trouble	_
125	Fired	_

Insert BEFORE MODULE F, P.
1A Slayer straight-

APPENDIX H

OKLAHOMA STATE UNIVERSITY INSTITUTIONAL REVIEW BOARD

APPROVAL

OKLAHOMA STATE UNIVERSITY
INSTITUTIONAL REVIEW BOARD

Date:	June 3, 1999	IRB #:	AS-96-001

Proposal Title: "A COMPARATIVE EVALUATION OF THE PREDICTIVE POWER OF THE DSM-IV DISRUPTIVE BEHAVIOR DISORDERS IN A PRESCHOOL POPULATION"

Principal Investigator(s): Maureen Sullivan
Jannette Rey

Reviewed and Processed as: Continuation and Modification

Approval Status Recommended by Reviewer(s): Approved

Signature:

Carol Olson, Director of University Research Compliance

June 3, 1999
Date

Approvals are valid for one calendar year, after which time a request for continuation must be submitted. Any modification to the research project approved by the IRB must be submitted for approval. Approved projects are subject to monitoring by the IRB. Expedited and exempt projects may be reviewed by the full Institutional Review Board.

VITA

Jannette Rey

Candidate for the Degree of

Doctor of Philosophy

Thesis: A COMPARATIVE EVALUATION OF THE PREDICTIVE POWER OF THE DSM-IV DISRUPTIVE BEHAVIOR DISORDERS IN A PRESCHOOL POPULATION

Major Field: Psychology

Biographical:

Personal Data: Born in New Haven, Connecticut, on June 2, 1965, the daughter of Miguel Angel and Juanita Rey.

Education: Graduated from Fox Chapel Area High School, Pittsburgh, Pennsylvania in June, 1983; received a Bachelor of Science degree in Psychology from the University of Pittsburgh in April, 1988; received a Master of Science Degree from Oklahoma State University in December, 1992; completed requirements for the Doctor of Philosophy Degree at the Oklahoma State University in December, 1999.

Professional Experience: Predoctoral Fellow, Departments of Clinical & Health Psychology and Family, Youth, and Community Sciences, University of Florida, July, 1997 - present; Psychology Predoctoral Intern in Clinical & Health Psychology, University of Florida Health Science Center, July, 1996 - June, 1997; Teaching Assistant, Department of Psychology, Oklahoma State University, August, 1995 - May, 1996; Staff Psychotherapist/Gatekeeper, Edwin Fair Community Mental Health Center, Stillwater, OK, August, 1993 – July, 1995; Psychological Associate, Psychological Services Center, Oklahoma State University, August, 1992 – June, 1996; Treatment Program Coordinator/Staff Therapist, Western Psychiatric Institute & Clinic, October, 1987 - August, 1991.

Professional Memberships: American Psychological Association; Association for the Advancement of Behavior Therapy; Society for Research in Child Development; Sigma Xi, The Scientific Research Society