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EVALUATING PARENT-TEACHER AGREEMENT IN THE RATING OF ATTENTION DEFICIT/HYPERACTIVITY DISORDER BEHAVIOR TO IMPROVE DIAGNOSTIC ACCURACY

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ABSTRACT

Objective: Clinicians often use multiple informants to obtain a wealth of information prior to making diagnostic and treatment decisions for various mental health conditions. Specifically, the assessment and diagnosis of Attention Deficit Hyperactivity Disorder relies heavily on ratings from multiple informants on child behavior. Levels of agreement between informants, such as parents and teachers, is, however, relatively low. Little is known about the benefits/limitations of using multiple informants on behavior rating scales and whether or not the level of agreement in ratings yields meaningful information This project aims to examine parent and teacher agreement in children with and without ADHD. *Methods*: 500 participants, ages 8-12, were given diagnostic statuses as having ADHD or being a Control. Parent and Teacher agreement on the internalizing and externalizing T-scores on the BASC-2 were compared to study informant agreement. *Results*: The type of BASC problem being reported significantly effects parent-teacher agreement. Agreement increases when reporting externalizing compared to internalizing problems. Diagnostic status significantly effects parent-teacher agreement of externalizing and internalizing problem, such that children with the ADHD diagnostic status had less parent-teacher agreement of externalizing and internalizing problems, than children with the Control status. There was a significant positive correlation of P/T agreement on EP and IP in which children whose parents and teachers disagreed on the child's internalizing problems also tended to disagree on the child's externalizing problems. *Conclusion*: Using multiple informant reports from behavioral checklists, such as the BASC-2, allows for a comprehensive diagnostic assessment. Levels of agreement between raters can go on to influence treatment methods.

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INTRODUCTION

What is ADHD?

Attention-Deficit/Hyperactivity Disorder (ADHD) is one of the most chronic neurobehavioral disorders among school-aged children and adolescents (Rader, McCauley, & Callen, 2009). Nearly four to seven percent of school-aged children are affected by this psychiatric disorder (Gillberg et al., 2004). Fifty percent of children diagnosed remain symptomatic through adolescence and continue to have problems into adulthood (Nijmeijer et al., 2008). ADHD is associated with greater risks of academic underachievement, poor school performance, school suspensions, and poor peer/family relations. These early childhood difficulties often lead to later problems in adult social relationships, marriage, and employment (Barkley, 1997).

The Diagnostic and Statistical Manual of Mental Disorders – Fifth Edition outlines a diagnostic process that uses five specific criteria to classify and assess ADHD. Clinicians must formally recognize the presence of six or more hyperactive-impulsive symptoms or six or more inattentive symptoms (American Psychological Association, 2013). Clinicians determine significance based on the severity and intensity of symptoms, compared to normal developmental patterns of behavior (McBurnett et al., 1993). The symptoms must be present prior to the age of twelve, not simply emerging in adolescence or adulthood (Kollins, 2010; Polanczyk, 2010). Symptoms are said to be pervasive, if they are evident in at least two settings. In order to ensure a single, stable, "clinically significant" diagnostic picture and eliminate reporter bias, multiple informants evaluate a range of behaviors that children with ADHD display over time and across settings (Barkley and DuPaul, 1990). Typically, for children and

adolescents, the informants reporting information about symptoms are the caregiver (parent) and a teacher. These parent-teacher ratings of symptoms of ADHD are crucial components of the assessment and diagnosis of ADHD because they reflect the similarities/differences in observed behaviors being reported (Barkley, 1997). How much teachers and parents see overlapping behaviors, often, depends on what specific situations the informant sees a child behave in; differing contexts/settings can bring out more or less symptoms of ADHD in a child (Gomez, 2007; Wolraich et al., 2004). The disruptive, observed behaviors must not simply be a result of situation specificity or better accounted for by developmentally-normative behavior or other psychiatric/medical conditions such as Depression, Obsessive Compulsive Disorder, academic/learning problems, Sensory Processing Disorders, autoimmune disorder, hearing problems, etc. Taking a comprehensive medical history and an in-depth diagnostic interview can rule out other reasons that could account for impairments and confirm presence of clinically significant symptoms, according to the DSM-V (Kollins, 2010).

The DSM-V recognizes three subtypes of the disorder (APA, 2013). The first, Hyperactive/Impulsive (H-I), subtype is characterized by having six or more symptoms of hyperactivity or impulsivity. The second, Primarily Inattentive (P-I) Subtype is characterized by having six or more symptoms of inattention. The predominantly hyperactive subtype is said to be more typically seen in younger-aged children, whereas, adolescents, more often, display inattentive symptoms (Nolan et al., 1999). The third, Combined subtype, meets all criteria for both the Hyperactive-Impulsive and the Inattentive subtype symptoms (APA, 2013). Symptoms of inattention usually remain steady through development, whereas, hyperactivity symptoms tend to subside (Nolan, Volpe, Gadow, & Sprafkin, 1999).

Later in development, children with ADHD have an increased risk of having a comorbid psychiatric condition (Booster, DuPaul, Eiraldi, & Power, 2012; Graziano et al., 2011). Some examples of comorbid disorders that co-exist with ADHD are oppositional defiant disorder; conduct disorder, mood disorder, anxiety disorder, bipolar disorder, learning disabilities, and substance-abuse disorders (Spencer, 2007). Children with the ADHD Inattentive subtype are at higher risk for internalizing comorbid disorders, whereas, children with the ADHD Hyperactive subtype are at higher risk for externalizing comorbid disorders (Barkley, DuPaul & McMurray, 1990). Overall, children of both previously stated subtypes are more likely to face elevated rates of depression and suicide, than those without the ADHD diagnosis (Eiraldi, Power, & Nezu, 1997). Children with ADHD perform, on average, lower on intelligence tests, have lower levels of functionality, during social interactions, and experience more behavior problems in school, than their non-diagnosed peers (Antshel et al., 2008; Farone et al., 1993). Having both ADHD and a diagnosed comorbid disorder often leads to further academic impairment, such as higher probabilities of being held back or repeating grades (Biederman et al., 2004). This group of children with both disorders, on top of already having social problems, are, also, more likely to be delinquent and use substances (Booster, DuPaul, Eiraldi, & Power, 2012; Graziano et al., 2011). Identifying problem behaviors early, however, can lessen the severity of symptoms.

Epidemiology of ADHD

Varying sampling factors such as race, nationality/ethnicity, community type (rural vs. urban), gender, age range, sex composition and socioeconomic-status can significantly affect how a child's ADHD behavior/symptoms are perceived, evaluated, and treated (Singh, 2006). Prevalence of ADHD varies across studies, for this reason.

Within the child population, gender plays a role in determining prevalence of ADHD. The Polanczyk (2007) epidemiological study determined that boys are 2.5 to 5.6 times more likely than female children to be diagnosed with ADHD, with an average 3:1 ratio. This gender ratio increases in the clinically referred samples. Several researchers believe this increase reflects that boys with ADHD are more likely to be clinically referred than girls with ADHD. Parent and teacher ratings also suggest that boys display more hyperactive and aggressive behaviors and girls display more symptoms of the Inattentive Subtype (Barkley, 1998; Jackson & King, 2004; Abikoff et al., 2004). Teachers are also more likely to refer boys than girls for ADHD, regardless of symptoms displayed (Sciutto, Nolfi, & Bluhm, 2004). But female, mothers and teachers, are shown to be the primary informants on reporting a child's ADHD behaviors and need for evaluation (Sommer, 2012). Mothers with depression have been found to rate a child's problem behaviors more severely than non-depressed mothers, and parents (particularly mothers) with higher levels of stress and anxiety, too, agree less with other informants (Briggs-Gowan, Carter, & Schwab-Stone, 1996; Youngstrom, Loeber, & Stouthamer-Loeber, 2000). Women generally are more predisposed than men to seek treatment for health problems and are more likely to recognize and acknowledge psychiatric problems. It is hypothesized that parents may be underreporting girls' symptoms (Valla, 1993). Several studies suggest a strong possible gender dynamic in the prevalence of ADHD phenomenon.

There have been inconsistent findings when examining the relationship of ADHD to social class/economic-status but both Trites (1979) and Szatmari (1992) found that rates of ADHD tend to increase with lower socioeconomic status. There has been a significant increase in the rate of treatment across all socio-demographic groups, particularly children from poor and

low-income families. Those with higher levels of education/income were also more likely to have heard of ADHD (Olfson, 2003). On average, caregiver credibility seems to be higher in better functioning families and families with higher levels of education (Gagnon, Vitaro, & Tremblay, 1992). Although it is clear that ADHD occurs across all socioeconomic levels, some researchers believe that when controlled for other comorbid conditions, low SES is no longer associated with rates of ADHD, but the relationship still remains unclear.

In the DSM's criteria of the disorder, all countries studied, to date, have populations diagnosed with ADHD (Fayyad et al., 2007; Polanczyk et al., 2007). Except for the slightly higher level of hyperactivity found in Hispanic/Latino males, there does not seem to be significant differences among ethnic groups in the prevalence and existence of ADHD as a disorder (Barkley, 2011). When cultural differences in prevalence emerge, similar to SES differences, controlling for comorbidities can often reduce or eliminate differences (Szatmari, 1992). Members of nonwhite racial/ethnic groups and older respondents are less likely to have heard of ADHD, influencing the way they reported symptoms (McLeod, 2007). Differing cultural norms for interpersonal behavior, such as use of physical punishment, verbal aggression, and guilt/shame induction, might also influence what a parent views as a symptom (Lambert, Weisz, Knight, & Desrosiers, 1992). Community studies have shown that African American and Hispanic/Latino children are significantly less likely to receive stimulant medication treatment, despite being diagnosed with ADHD as often as Caucasian students (Bauermeister et al., 2003; Olfson et al 2003; Rowland 2002). Because neighborhoods or school districts vary in cultural perception of the disorder, clinicians encourage teachers to help families identify undiagnosed students (Angold et al., 2000).

ADHD Behavior Rating Scales

Behavior rating scales (BRS) assist in the collection of data regarding a person's targeted behaviors. These scales rely on informants, to rate a range of behaviors, based on a series of statements given on questionnaires. The informant, or person who has completed the rating scales, must indicate how often a child exhibits a behavior, how long a behavior lasts, and/or the behavior's intensity. Essentially, the informant responds based on what extent each statement fits the behaviors a child displays and the informant observes. Stated behaviors on the rating scales are purposefully broad making them especially efficient to identify rare or covert behaviors. Parents and teachers sometimes prefer filling out rating scales instead of making notes from direct observation. BRS make it easy to compare the severity of problem behaviors to normative samples. Obtaining behavior ratings, from both parents and teachers, is recommended because children with ADHD display a wide range of behaviors that can vary over time and across settings. Using multiple informants/raters provides a more comprehensive, converging, and stable diagnostic picture/assessment of the child (Costenbader & Keller, 1990; McConaughy & Ritter, 2002; Barkley, 1990; DuPaul & Stoner, 1994; McBurnett et al. 1993). Overall, clinicians agree that each informant's ratings add to the clinical picture of the child (Grietens et al., 2004). Even though there is an unavoidable bias when collecting informant data, clinicians hope that final review of the larger assessment profile cancels out the different sources of bias (DuPaul & Stoner, 1994).

Using Parents and Teachers As Informants

Having multiple informants rate a child allows clinicians to obtain a significant amount of information at once. Achenbach, McConaughy, Howell (1987) determined that informants

that shared similar relationships and roles with a child, such as mothers/fathers, had higher correlations with each other when reporting behavior. When ratings from different informant pairs were compared, however, inter-rater agreement was low. In this way, when parents and teachers rate a child, in differing contexts, this becomes a complication because of inconsistent reporting of information. Eisenberg (2007) found that both teachers and parents held more negative perceptions of a child exhibiting symptoms, when academic skills suffered. Overall, studies have found low level of agreement between multiple informants across multiple settings (home vs. school) (Duhig, 2000). Despite this discrepancy, Power et al., (1998) determined that combining parent reports and teacher reports would still be beneficial in obtaining the most information to make a diagnosis. Poor inter-rater agreement in two-settings still decreases the diagnostic rates for all three subtypes of ADHD, however (Wolraich, 2004). When parents and teachers disagree and provide discrepant or contradictory ratings, this causes complications in diagnosis.

Informants often differ in the nature/amount of contact each has with the child, the settings in which they observe/interact with the child, and in their perspectives, biases, and expectations regarding appropriate versus problematic behavior (Edelbrock, 1983). Kraemer and Achenbach have hypothesized various factors that potentially lead to low inter-rater-agreement: 1) actual behavior differences in the child across settings, 2) informants' judgments of the disorder, 3) context-based differences in ability to elicit behavior being assessed, 4) candor of informants, and 5) measurement error (Kraemer et al., 2003; Achenbach, 2000). In general, informants differ in what they attribute to be the causes of behavior (i.e., dispositional qualities of the child versus environmental constraints,) how they perceive whether or which behaviors

warrant treatment, and the contexts in which they observe the behavior (De Los Reyes, 2009). Behaviors that only present themselves in certain isolated settings may be written-off, as having to do with environmental factors, rather than pathology, but behaviors consistently rated in multiple settings may indicate increased severity of symptoms or greater likelihood of pathology (Salvia & Ysseldyke, 2001). These cross-informant discrepancies often reflect disruptive behaviors that vary based on specific situations. Informant's individual judgments of the ADHD diagnosis can also influence inter-rater agreement. Parents are often the primary contributors/sources of information about citing behaviors/symptoms on rating scales (Granero, Ezpeleta, Domenech, and de la Osa, 2008). In addition to knowing the child from birth to current age, parents see behaviors across many different situations, outside of school. Parents, compared to teachers, are more accurate in providing information about internalizing problems (Loeber et al., 1990). For hyperactivity-impulsivity symptoms, parent reports demonstrate higher accuracy than teacher ratings. A parents' evaluation of the disorder plays a profound role in determining access to ADHD treatment (Pescosolido, 2007). Teachers are also valuable to the reporting process because they observe students in learning and social situations with peers, for long periods of time. Teacher ratings of hyperactive and inattentive behavior are said to be particularly useful (Loeber, Green & Lahey, 1990). Because teachers of younger children spend more time with the child, than teachers of older children, a teacher's reliability as an informant, is said to differ based on the age of the student being observed (Stevens, 1998). For teachers, exposure to/knowledge of the disorder, instead of years of teaching experience, might be the best predictor of how the informant completes screening questionnaires, rates behaviors, and interprets rating scales (Kos et al., 2004; Sciutto, Terjesen, & Bender Frank, 2000; Jerome,

1994). Despite informants having varying perceptions of the diagnosis, teacher ratings are most predictive of mental health referrals and a child's own perception of behaviors (Abikoff, 2002; Verhulst, Dekker, & van der Ende, 1997). Often, parents and teachers interpret the same responses differently; for example, one may encode failure-to-comply as opposition and the other may encode it as anxiety about task competency (Drabick et al., 2007; Ferdinand, van der Ende, & Verhulst, 2004). Differing cultural norms for interpersonal behavior, such as use of physical punishment, verbal aggression, and guilt/shame induction, might also influence what a parent views as a problem (Lambert, Weisz, Knight, & Desrosiers, 1992). Although researchers believe that the level of agreement on rating scales increases the likelihood that the same phenomenon/symptoms are being described, disagreement among informants can provide helpful information to make sense of convergent/divergent viewpoints of parents/teachers, which ultimately has implications for treatment and outcomes (Des Los Reyes & Kazdin, 2005). Because the contexts in which informants observe patients differ, too, discrepancies may indicate a meaningful variation in behavior depending on situation (e.g. disruptive behaviors exhibited at home but not school) (Carlson, 2011; Achenbach, 2006; Kraemer et al., 2003). If patients do contextually vary in where they express concerns, then informant discrepancies should reflect these contextual variations. Ratings, undoubtedly, rely on the informant to honestly assess behavior. When a child has fewer behavior problems, there is, generally, greater inter-rater agreement (Victor, Halverson, & Wampler, 1988). But the informants' mental states during the completion of ratings can impacts results. An informant's perceptions might depend on expectations, tolerance for behaviors, and individual opinions on what behaviors are considered problematic or what treatments/medications should be used (Konold, Walthall, & Pianta, 2007).

The majority of work published on informant discrepancies, however, focuses only on the extent to which discrepancies reflect measurement error or informants' reporting biases (De Los Reyes, 2011; De Los Reyes, Kundey, & Wang, 2011; Richters, 1992).

Understanding informant discrepancies is crucial for the assessment, development, and treatment of child psychopathology. Because these discrepancies commonly occur across measurement methods (De Los Reyes and Kazdin, 2005), researchers studying children's behavior find the inconsistencies a general concern. Additionally, discrepancies make it difficult to determine treatment efficacy because of inconsistent outcomes of treatment (De Los Reyes and Kazdin. 2008; Weisz et al. 2006). Depending on the problem type (e.g. internalizing versus externalizing concerns) and informant pair (e.g. parent-teacher, mother-father, parent-child), differences in the magnitude of discrepancies have been found (Achenbach, 2006). These reporting disagreements/discrepancies between informants may predict the development of negative psychosocial outcomes, increased behavioral and emotional problems for the child as well as poorer treatment response, and poor parental participation in the child's therapy (Ferdinand et al., 2004; Guion et al., 2009; Pelton, 2001). Most discrepancies between informant pairs (e.g. parent-teacher, mother-father, parent-child) are in the moderate-to-large range (De Los Reyes and Kazdin, 2005). Outcome report inconsistencies can reaffirm that a treatment yielded positive outcomes, whether some informant reports were unreliable, and/or what specific circumstances in which treatment was, in fact, effective for the child. Understanding the stability of informant discrepancies is needed to clarify treatment response (De Los Reyes, 2009). The literature, however, rarely examines whether discrepancies yield meaningful information.

PURPOSE OF PRESENT STUDY

The purpose of this study is to examine the pattern of parent and teacher discrepancies in children with and without ADHD. The hypotheses are as follows:

(1) Parent-teacher agreement will be higher when symptoms assessed are observable (i.e. externalizing symptoms including oppositional defiance and aggression). In contrast, parent-teacher agreement will be lower when symptoms assessed are unobservable (i.e, internalizing symptoms including depression and anxiety).

(2) Parent-teacher agreement tends to be higher when a child has fewer behavior problems. Therefore, it is predicted that parent-teacher agreement of both externalizing (oppositional defiance and aggression) and internalizing (anxiety/depression) behaviors will be greater among non-ADHD controls than among children with ADHD.

(3) Previous work has suggested teachers of younger children may be more reliable raters than teachers of older children because of the increased time they spend with students. Therefore, that as children age, the degree to which parents and teachers disagree about a child's internalizing behaviors will increase. Age would not influence the degree to which parents and teachers disagree about a child's externalizing behaviors as much as internalizing behaviors would.

METHODS

Participants

This study consisted of 500 school-aged children, within the ages of 8 and 12, both with and without a history of Attention Deficit/Hyperactivity Disorder. These voluntary participants were recruited from the general central Pennsylvania population, specifically, from Centre, York,

and Dauphin counties. The ADHD diagnostic status was given to 307 (61.4%) participants, while 193 (38.6%) participants were considered Controls, without attention problems. The average age of all participants in the study was 10.21 years old, with the average IQ being 105.41. Out of all participants, 55.8% (n=279) were male and 44.2% (n=221) were female. When separated by diagnostic status, in the ADHD group, 64.5% (n=198) of the children were male and 35.5% (n=109) were female; in the Control group, 41.9% (n=81) were male and 58.1% (n=112) were female.

Screening Criteria and Data Collection Procedures

A three-step screening process is required to determine eligibility of participants into this study. The first step involves a preliminary evaluation, via phone interview with a parent, to obtain demographic information and evaluate the child's basic health/functioning and rule out--any previous diagnosis of Autism Spectrum Disorder, psychosis, a neurological disability, any profound sensorimotor disability, a full scale IQ of less that 80, and/or another family member had participated. Children, currently taking any stimulant medications and unable to discontinue medication-use 24 to 48 hours before the study, were also not included in further stages of the study in order to ensure that the medications were not impacting a child's results. If any of these separate issues were determined, the children were ineligible and unable to participate, considered "screened out" for our specific study. At this time, parents were informed of our consent procedure, ensuring the safety of their child as a participant in the study.

Following the phone screen, in the second stage of the study, the child's parent and teacher were asked to complete questionnaires. Parents signed a release of information form, giving teachers the permission to answer questions about the 8-12 year old participant. For

completing the questionnaires, teachers were compensated with a $10 gift card. Both parent and teacher filled out the Conners' Rating Scale, the ADHD Rating Scale, and the Teacher Social Skills Rating System (SSRS), Behavioral Assessment Scale for Children – Second Edition (BASC-2). These rating forms covered a range of questions about the child's thoughts, feeling, and behaviors while off of medication. In order for a participant to be assigned the ADHD diagnostic status in the study, at least one parent and one teacher screen index must have exceeded the 84th percentile, or have a T-score greater or equal to 61. Screen indices included the Hyperactivity, Aggression, Conduct Problems, and Attention Problems Scale on the BASC-2, and the Oppositional Problems, Cognitive/Inattention Problems, Hyperactivity, ADHD Index, and DSM-V Total Subscales on the Conners' Rating Scale. For a child to be considered a control participant, all screen indices must have been lower than 80th percentile, or have T-scores equal to or below 58. If the child was "screened out" of the study, based on questionnaires, participants were compensated with a $10 gift card.

Parents in this study completed the long form of the Conners' Rating Scale (CRS) questionnaire, while teachers completed the short form. Parents and teachers rate a specific child's problem behaviors on a Likert-scale, ranging from "not true at all" to "very much true." Both informants, parent and teacher, complete the ADHD Rating Scale, which measure different symptoms of inattention, hyperactivity, impulsivity, and the frequency of these symptoms. The ADHD Rating Scale focuses on specific ADHD symptomatology standardized in the DSM-V. This 18-item Likert-scaled questionnaire allows each informant to rate a child's behaviors from "never or rarely" to "very often" (DuPaul, Power, Anastopoulos, & Reid, 1998). In order to be grouped as having ADHD, parent or teacher had to have reported at least three symptoms of

inattention, at least three symptoms of hyperactivity/impulsivity or more than two symptoms in each category- inattention and hyperactivity/impulsivity. Another Likert-scale questionnaire, the Social Skills Rating Scale (SSRS), also allows parent-teacher to rate a child's social skills ranging from "never" to "very often." The teacher SSRS has an additional section where the teacher rates a academic performance of the child.

The Behavioral Assessment System for Children (BASC) is another norm-referenced Likert-scale questionnaire to assess a child's observable adaptive and problem behaviors. Parent-teacher are asked, on separate forms, to endorse which characteristics the child exhibits, ranging from "never" to "almost always." The BASC Parent Rating Scale is designed to evaluate the child's emotional and behavioral functioning at home, while the BASC Teacher Rating Scale is designed to assess functioning at school. This study focuses on developmental issues covered in the child form for children ages 6-11 and the adolescent form for children aged 12. The primary clinical scales on the BASC-2 include Adaptability, Activities of Daily Living (parent form), Aggression, Anxiety, Attention Problems, Atypicality, Conduct Problems, Depression, Functional Communication, Hyperactivity, Leadership, Learning Problems (teacher), Social Skills, Somatization, Study Skills (teacher), and Withdrawal. There are five TRS/PRS BASC-2 composite scales: Adaptive Skills, Behavioral Symptoms Index, Externalizing Problems, Internalizing Problems, School Problems (teacher form).

In the third stage of the study, participants are given diagnostic status of either ADHD participant or control participant based on the completed questionnaires and a structured clinical interview. The child and the primary caregiver come to the Pennsylvania State University campus for two, three-hour visits. At the beginning of the first parent session, caregivers are

asked to sign a witness-confirmed written copy of the consent form to ensure our lab is allowed to collect data from the child. In the first visit, the primary caregiver completes the National Mental Health's Diagnostic Interview Schedule for the Children Version IV, a clinical diagnostic interview which helps to identify possible childhood psychiatric diagnoses, based on the information the caregiver provides about the child's behavior and experiences. The child needs to meet the full criteria for the diagnosis based on the DISC in order to be diagnosed with ADHD. Parents also complete other questionnaires such as treatment and developmental history. During this first visit, the child completes parts of the Wechsler Intelligence Scale for Children (WISC-IV; Wechsler, 2003) and Wechsler Individual Achievement Test (WIAT-III; Wechsler, 2003). Along with other computer tasks, children also filled out self-report measures of anxiety and depression. After the first visit, diagnostic status is assigned to each participant and the status (ADHD, control) has to coincide with the initial ADHD (yes/no) classification. If screened out after the first visit, they receive a $30 gift card. Participants, both ADHD and control, moving to the second visit had to have an IQ above 80 with controls needing an IQ less than 115. If the family completes both visits, they receive a $100 gift card.

Parent and Teacher BASC-2 Reports

This study focuses on the clinical composite BASC scales of Externalizing Problems and Internalizing Problems. Eternalizing disorder behaviors create conflicts within the environment or with others, whereas, internalizing disorders that are described as inner-directed and over-controlled are classified as internalizing Disorders, whereas, (Reynolds, 1990; Reynolds, 1992). Externalizing problems are characterized by disruptive, "acting-out" behavior. The BASC-2 Externalizing Problems composite scale, for both parents and teachers, consists of areas of

Hyperactivity, Aggression, and Conduct Problem BASC subscales. The Hyperactivity scale is characterized by over activity, excessive task-irrelevant physical (motor) movement, acting without thinking, and is often co-occuring with Attention problems. The Aggression scale measures the tendency for a child to act iin a hostile manner that may appear threatening to others. The Conduct Problem scale measures the tendency of a child to engage in anti-social-rule-breaking behavior. The Internalizing Problems composite scale, for both parents and teachers, consists of areas of Anxiety, Depression, and Somatization BASC subscales. The Internalizing Problems composite on the BASC-2 is like a "broad index of inwardly directed distress," not characterized by acting-out behavior (Reynolds and Kamphaus, 2004). The Anxiety scale measures the tendency to be nervous or worried about real/imagined problems, the Depression scale measures the tendency to have feelings of unhappiness and sadness that may result in inability to carry out everyday activities, and the Somatization scale examines the tendency to be overly sensitive to relatively minor physical problems/discomforts. The individual questionnaire item responses are converted to item raw scores (0-3), then summed and converted to percentiles. T-scores are obtained by comparing results to age-normative data. T-scores between 41 and 59 are in the "average" range, no functional impairment/lack of symptomatology) and from 60-69 being in the "at risk" range, meaning impairment in one or more settings/possible diagnosable condition. On the clinical scales, high scores, in the clinically significant range, indicate more problem behaviors and a high level of maladjustment.

Scores in the "at-risk" range may still be significant but not severe enough to require formal treatment. On adaptive scales, however, high scores indicate normal functioning and low

scores indicate areas of concern. For the purposes of this study, the teacher and parent reports from the BASC-2 will be used.

Data Analysis

To quantify the degree of discrepancy between parent and teacher reports of externalizing versus internalizing problems, the scores on the internalizing and externalizing composites of the parent BASC and teacher BASC were subtracted from each other and the absolute value was taken of this difference.

If the proposed hypotheses were true, the expected results would be as follows:

1) Paired T-Test: There will be a significant main effect of type of BASC problem (externalizing problems and internalizing Problems), such that parent-teacher agreement will be higher for externalizing problems and lower for internalizing problems.

2) One-Way ANOVA: There will be a significant main effect of diagnostic status (independent variable) on parent-teacher agreement of externalizing and internalizing problems on the BASC (dependent variable), such that parent-teacher agreement will be greater for Controls than children with the ADHD diagnostic status.

3) Correlation analyses will be used to determine the relationship between parent-teacher agreements of externalizing problems on the BASC and internalizing problems on the BASC; the relationship between parent-teacher agreement of externalizing problems and age in days at visit 1; and the relationship between parent-teacher agreement of internalizing problems and age in days at V1. As a child ages, the degree to which Parents/Teachers disagree on externalizing/internalizing Problems increases. Age, however, would not influence the degree to

which parents and teachers disagree about a child's externalizing problems as much as internalizing problems would.

RESULTS

In the preliminary analyses, some differences emerged within the sample. As would be expected, parent-report of hyperactivity problems [$F(1,498)=483.614$, $p=.000$] and attention problems [$F(1,498)=1376.693$, $p=.000$] on the BASC were significantly higher among kids with ADHD than controls. Teacher report of hyperactivity problems [$F(1,495)=355.986$, $p=.000$] and attention problems [$F(1,496)=1044.126$, $p=.000$] on the BASC were also significantly higher among kids with ADHD than controls (See Table 1).

IQ also differed significantly based on diagnostic status with the control group having an average IQ of 109.74 and the ADHD group having an average IQ of 102.70 [$F(1,497=33.135$, $p=.000$]. Although both the Control group and the ADHD group IQs both fell within the average range (90-110), the ADHD group had an IQ closer to the average IQ of 100 than the control group, which had an IQ closer to the high end of the average range. Among children with ADHD, there were more boys ($n=198$) compared to girls ($n=109$). But, in the Control (without ADHD) group, there were more girls ($n=112$) than boys ($n=81$). For females, the gender distribution, between Control ($n=112$) and ADHD ($n=109$) groups, seems to be more equal than the gender distribution, between Control ($n=81$) and ADHD ($n=198$) groups, for boys. Age, however, did not differ significantly based on diagnostic status, ADHD [$F(1,498)=.236$, $p=.627$]. Results shown below (Table 1).

Hypothesis 1: Paired Samples T-Test on Parent-Teacher Agreement of EP and IP

A Paired Sample T-Test was conducted to compare parent-teacher agreement of externalizing problems and parent-teacher agreement of internalizing problems. Agreement among reporters for externalizing Problems ($M=8.0348$, $SD=7.611$) was greater than for

internalizing problems (*M*=9.9939, *SD*=8.826); t(487),-4.383, *p*=.000. The results suggest that type of problem being reported does have a significant effect on parent-teacher agreement. Specifically, the results suggest that when reporting externalizing problems, parent-teacher agreement in greater.

Hypothesis 2: One-Way ANOVA of Diagnostic Status (ADHD vs. Control) on Parent-Teacher agreement of EP and IP

Measures of parent-teacher agreement of externalizing and internalizing problems, for children with differing diagnostic statuses (ADHD and Control), were submitted to a one-way between-participant Analysis of Variance (ANOVA). There was a significant main effect of ADHD diagnostic status on parent-teacher agreement of externalizing problems [*F*(1,490)=107.132, *p*=.000] and on the parent-teacher agreement of internalizing problems [*F*(1,488)=28.093, *p*=.000], such that children with the Control status had more parent-teacher agreement of EP/IP problems than children with the ADHD diagnostic status (See Table 2).

Hypothesis 3: Correlation Between P/T agreement of EP, P/T agreement of IP, and age

There was a significant, moderate, positive correlation between parent-teacher agreement of externalizing problems and parent-teacher agreement on internalizing Problems (*r*= .285, *p*=.00). Children whose parents and teachers tended to disagree on the child's internalizing problems also tend to disagree on the child's externalizing problems. Graph of this significant correlation provided below (Figure 1). This result held within each group separately as well, (ADHD only: [*N*(298)= .212, *p*=.000; Control only: [*N*(190)= .253, *p*=.000]).

There was a non-significant correlation between parent-teacher agreement of externalizing problems and the child's age in days at Visit 1 [*r*= -.002, *n*=492, *p*=.972]. In other

words, as the child's age increases, parent-teacher agreement on externalizing problems does not significantly increase.

There was a non-significant correlation between parent-teacher agreement of internalizing problems and the child's age in days at V1 [r=.015, n=490, p=.738] In other words, as the child's age increases, PT agreement of IP does not significantly decrease. Results shown in (Table 3).

DISCUSSION

Preliminary Analyses

This study examined the relationship between parent and teacher ratings of behavior and asked whether or not parent-teacher agreement, on externalizing and internalizing behavior, varied by ADHD diagnostic status. First, as expected, parents and teachers reported more problems in the ADHD group indicating that this study accurately and properly assigned the ADHD diagnosis status to children who were indeed experiencing higher levels of attention and hyperactivity problems. Age did not differ significantly based on diagnostic status. This helped eliminate age as a potential confound to the interpretation of results.

In this sample, IQ scores differed significantly based on the participant's diagnostic status. Children with ADHD had lower IQs than Controls. These results are consistent with previous research concluding that ADHD youth have lower IQ scores than peers (Faraone et al., 1993; Biederman et al., 2004). Nevertheless, it is important to note that children with ADHD in this study did have IQ scores, which fell well within the average range of 90-110. But, group differences in IQ may have affected how parents and teachers were reporting behaviors. According to previous research, both parents and teachers hold more negative perceptions of the academic skills of an ADHD-diagnosed child compared to peers, even though the child might have equal academic skills, as measured by standardized assessment (Eisenberg and Schneider, 2007). As such, the relationship between parent and teacher ratings may have differed in children who are lower functioning such as participants who are diagnosed with ADHD. The IQ difference coupled with other negative behaviors, due to diagnostic status, may also point to why children diagnosed with ADHD accomplish substantially less amount of work than their peers

do, given the same time period. From the standpoint of a clinician, how diagnostic status affects IQ, and, therefore, school functioning, has implications for treatment planning as well as treatment special education eligibilities (DuPaul & Stoner, 2003).

In terms of gender, the male: female ratio in the ADHD group alone was 2:1. In the Controls, the ratio was reversed 1:2. Because of this, the findings that parent and teacher agreement was higher in controls may have been confounded with sex. That is, the ADHD group was male-dominated, which might have lead to lower parent-teacher agreement, than the control group. Conversely, the controls were female-dominated, which might have lead to higher parent-teacher agreement, than the ADHD group. If the gender distribution in the ADHD group were more equal, then there would be a higher amount of agreement within the group, even though this level of agreement might be lower than controls. . If the gender distribution in the control group were more equal, then there would be a lower amount of agreement within the group, even though this level of agreement might be higher than the ADHD group. Overall, a more equal gender distribution might make parent-teacher agreement of both groups less discrepant for females and more discrepant for males. The disproportionate gender distribution, ultimately, skews results between and across groups. Ideally, for studying males and females, the sample would have an equal gender ratio, between the ADHD and control group, in order to increase internal validity. But, the literature states that ADHD is more often diagnosed in males than females (Neece, Baker, Cmic & Blancher, 2012; Brown, 2000; Bruchmuller 2012). In this study, the representativeness of the ADHD sample is validated by there being more males than females. If the gender ratio, were, in fact, equal, between groups, the findings, of parent-teacher agreement, would be less generalizable to the ADHD population.

Hypothesis 1

As hypothesized, parent-teacher agreement was higher when symptoms assessed were observable (externalizing problems) and lower when symptoms assessed are unobservable (internalizing problems). Prior research also found that parent-teacher agreement is particularly discordant when estimating internalizing symptomology as compared to externalizing symptomology (Achenbach et al., 1987; Stanger and Lewis, 1993; Kanne et al., 2009; Fergusson & Horwood, 1993; Frauenglass & Routh, 1999; Hay et al., 1999; Hinshaw & Nigg, 1999; Kumpulainen et al., 1999; McConaughy, 1992; Merrell, 1999; Phares, 1997; Silverman & Rabian, 1999). Some have suggested that this is due to the more covert nature of internalizing behaviors (Hoyt & Kerns, 1999). Because externalizing behaviors are more observable, they are more objective for parents and teachers to rate, therefore, potentially yielding more agreement. On the other hand, because internalizing symptomology is less observable, perhaps, parents and teachers are viewing it as less severe and are unable to agree, as easily. The findings suggest that, unfortunately, it may be more difficult for parents and teachers to agree on the internalizing behaviors, a school-aged child exhibits. It is possible, however, that parents and teachers are agreeing that a symptom exists but are disagreeing on whether the externalizing or internalizing problems are more severe and necessary to address.

The high parent-teacher agreement seen, when assessing externalizing symptomology, may also be due to the fact that, overall, ADHD behavior is considered to be on the externalizing spectrum (Langberg, 2010). When clinicians are looking at how parents and teachers rated externalizing versus internalizing symptomology, it is important to consider the role that ADHD symptom domain is playing. For example, parent-teacher agreement may be higher or lower for

inattention versus hyperactivity/impulsivity domains. This information can be particularly helpful in assessing subtype classification. Discrepancies, in parent versus teacher rating-responses, may, additionally, help clinicians identify potential contextual influences on the type of behavior a child exhibits, what situations (e.g. school/home) lessen or worsen symptoms and, therefore, what type of intervention may be best for a school-aged child, based on where the behaviors are most evident.

Hypothesis 2

Parent-teacher agreement on their ratings of externalizing and internalizing problems were greater for non-ADHD Controls than children with ADHD. Previous studies have also found that inter-rater agreement is greater among children with fewer behavior problems (Victor, Halverson, & Wampler, 1988). These results suggest that both parent and teacher forms of the BASC are fairly effective in identifying ADHD-diagnosed and undiagnosed children (Lett & Kamphaus, 1997; Jarratt, Riccio, & Siekierski, 2005; Doyle, Ostrander, Skare, Crosby, & August, 1997). By evaluating parent-teacher agreement on number of maladjusted symptoms of EP/IP, the clinician can easily separate-out the non-clinical sample, those showing high parent-teacher agreement and lower number of EP/IP symptoms. Therefore, unnecessary referrals could be avoided. In this way, the clinician can more efficiently focus on at-risk children, who are, often, under-identified.

Mitsis et al., (2000) notes that much of the discrepancy in parent-teacher agreement of a ADHD subtype was a result of differences in opinion between informants regarding single symptoms; similarly, in this study, parents and teachers may have agreed on the presence of behavior, but may not have agreed on the severity of problems, thus contributing to informant

disagreement. Clinicians can, however, make note of disagreement areas to identify, if parents or teachers are actually endorsing different levels of symptom severity. In this way, the BASC is helpful in preliminarily identifying what areas a diagnosed child has problems in, to guide clinicians' interventions.

Hypothesis 3

Age was not associated with the degree to which parent and teachers agreed with each other on externalizing and internalizing problems. This may be because the study was limited to a small age range (i.e. children 8-12 years old). If preschool-aged children or teenagers were included then it could have been a reflection of how much time children spend with informants, giving insight into how parent and teachers rate behaviors based on familiarity with the child. In fact, other studies, which did included younger and older children, did find that parents and teachers of elementary school age children had higher agreement regarding behavioral functioning than parents-teachers of preschools or older adolescents (Achenbach et al., 1987; Szatmari et al., 1994).

This study also found that children whose parents and teachers tended to disagree on internalizing problems also disagreed on externalizing Problems. This result suggests that parent and teachers, with high agreement, are rating behaviors similarly/consistently and agreeing, in the way behavior is being exhibited, across contexts. On the other hand, parent and teachers with lower agreement may, in fact, be reporting differences in the way behaviors are being exhibited or, might have different understandings of how externalizing and internalizing problems manifest themselves in children. Furthermore, clinicians would be interested in further examining the low agreement, seeing if there was a pattern in which informant was rating higher, if the

disagreement was strong, and if the low agreement influenced the scales cut-offs. There have been few correlational studies on this topic but previous research suggests that children who are seen by their caregiver as increasingly externalizing and internalizing are seen similarly by teachers (Keiley, 2000).

Limitations and Considerations

This study sample's lack of diversity makes it hard to be generalized to the U.S. population. Participants were recruited from a small geographical area and was limited in terms of age, only including children 8-12 years old. Since the geographical area, participants were recruited from, is primarily made up of a Caucasian population, it can be assumed that there is little variation of ethnicities in the sample, and previous research shows that teachers do rate children differently based on ethnicity and socioeconomic status. Also, research indicates that the ADHD diagnosis is much more prevalent among Caucasian children than among African-American children (Miller & Nigg, 2008). Gender was also unequal in this sample and, often, discrepancies in ratings are said to be the result of gender biases, such as gender-specific tolerance to certain behaviors. These factors do, specifically, affect the way informants respond on rating scales.

Because parents and teachers, often, interpret the same responses differently (Drabick et al., 2008; Ferdinand, van der Ende, & Verhulst, 2004), knowing the informants' perception of ADHD disorder and characteristics of the raters, themselves, would be helpful in eliminating or making sense of rater biases (De Los Reyes & Kazdin, 2005; Konold et al., 2004). It is hard to determine where respondent bias (the minimizing or exaggerating symptoms) comes in play, but knowing prior information about informants helps analyze results.

In this study, children with and without ADHD were recruited but it may be that families, who were very concerned with their child's display of ADHD symptoms, were particularly more motivated to participate. Perhaps, this inflated the severity of parent ratings in the ADHD group, but it is important to remember that children, in need of clinical assessment, would be coming from families who are very concerned with functioning, anyways.

Although the integration of paternal report may be beneficial, the most useful source of information about behavior, across contexts, comes from maternal reports (Phares, 1997; Richters, 1992). Parent (often maternal) report is often criticized for being subjective. Teacher report is from controlled, structured classroom settings but parental report is not from a controlled setting, which has its advantages and disadvantages. The caregiver report, however, provides invaluable information about ADHD concerns and allows the clinician to evaluate the degree of distress the child's problems are causing to the family. Parental and teacher involvement in the reporting process affects the child's treatment outcomes.

Age-normed behavioral questionnaires are one of the easiest ways to obtain information from client populations in a standardized way. Because behavioral checklists quantify opinions, this greatly helps the diagnostic process. However, behavior checklists, such as the BASC-2, can have numerous sources of error that may contribute to limitations (Merrell, 2008). When different informants, such as parents and teachers, view a behavior in a similar way this is called trait variance. When different informants, such as parents and teachers, view behavior in a dissimilar way, this is called source variance. One problem with the BASC is that it indicates variance but does not specify whether trait or source variance is taking effect. This specification of trait or source variance, however, is important when examining the differences between parent

and teacher ratings of ADHD symptomology, a specification that is missing from this study. The study used difference scores to assess informant discrepancies between parent and teacher. Research is unclear if these difference scores have acceptable levels of reliability. Some have questioned whether or not difference scores can accurately capture informant discrepancies and variation in scores, while others accept its use (Des Los Reyes and Kazdin, 2004; Rogosa and Wilett, 1983).

Implications

The hypotheses and results of this study produce findings that point clinicians towards the continued necessity of using multiple informant reports, from behavioral checklists, such as the BASC-2, in the assessment process of behavior issues (Grietens et al., 2004; Treutler & Epkins, 2001; Merrell, 2008). When parents and teachers disagree about a child's behavior, clinicians should take this additional information as an opportunity to further guide assessment and treatment (Des Los Reyes and Kazdin, 2006a&b). Although parents make the initial referral to clinicians in many instances, teachers, undoubtedly, play an equally important role in the initial screening for ADHD by further clarifying the nature of a child's problems. The multi-informant, multi-method approach to diagnosing ADHD ensures that a clinician does not over-depend on one source or assessment method (Pelham et al., 2005). Using the BASC-2, as an initial way to collect data, on the details of a child's at-home and at-school difficulties, should continue to be an important part of any comprehensive diagnostic assessment.

Conclusion

By the time a child with ADHD reaches elementary school, they are said to have already fallen behind. Recognizing, earlier, that there is a potential discrepancy, in the way parent and

teacher respond on behavioral rating forms, may help create a diagnostic assessment more accurate in diagnosing ADHD. Because early identification of behavioral problems, in children, is crucial, mental health professionals must continue to ensure the efficacy of assessment tools, in measuring symptoms and diagnosing disorders, in order to keep a child's functioning closer to their peers. As research continues, on attempting to improve clinically assessment, the issue of parent-teacher agreement should continue to be analyzed.

Future Research

The replication and extension of these findings, about multiple informants, is needed. Several areas of research remain unexplored. This study only focuses on problem behaviors, but interesting questions, in the area of adaptive behaviors and, how parent and teachers ratings differ, given positive versus problem behaviors, are unanswered. The question of the role of gender, also, has not been explored fully, in regards to rater perception and biases, as well as diagnoses of ADHD. Whether or not parent and teacher ratings should be weighed differently, when making a diagnostic decisions, is also a compelling question, which again reaffirms the difficulties in combining viewpoints. Including the child perception of the disorder, through self-report, may, too, provide insight into the true nature of the disorder. Future research must, certainly, consider other assessment methods/measures, such as ratings form other informants (e.g. fathers, peers) to improve diagnostic accuracy.

TABLES AND FIGURES

Table 1. Summary of Sample

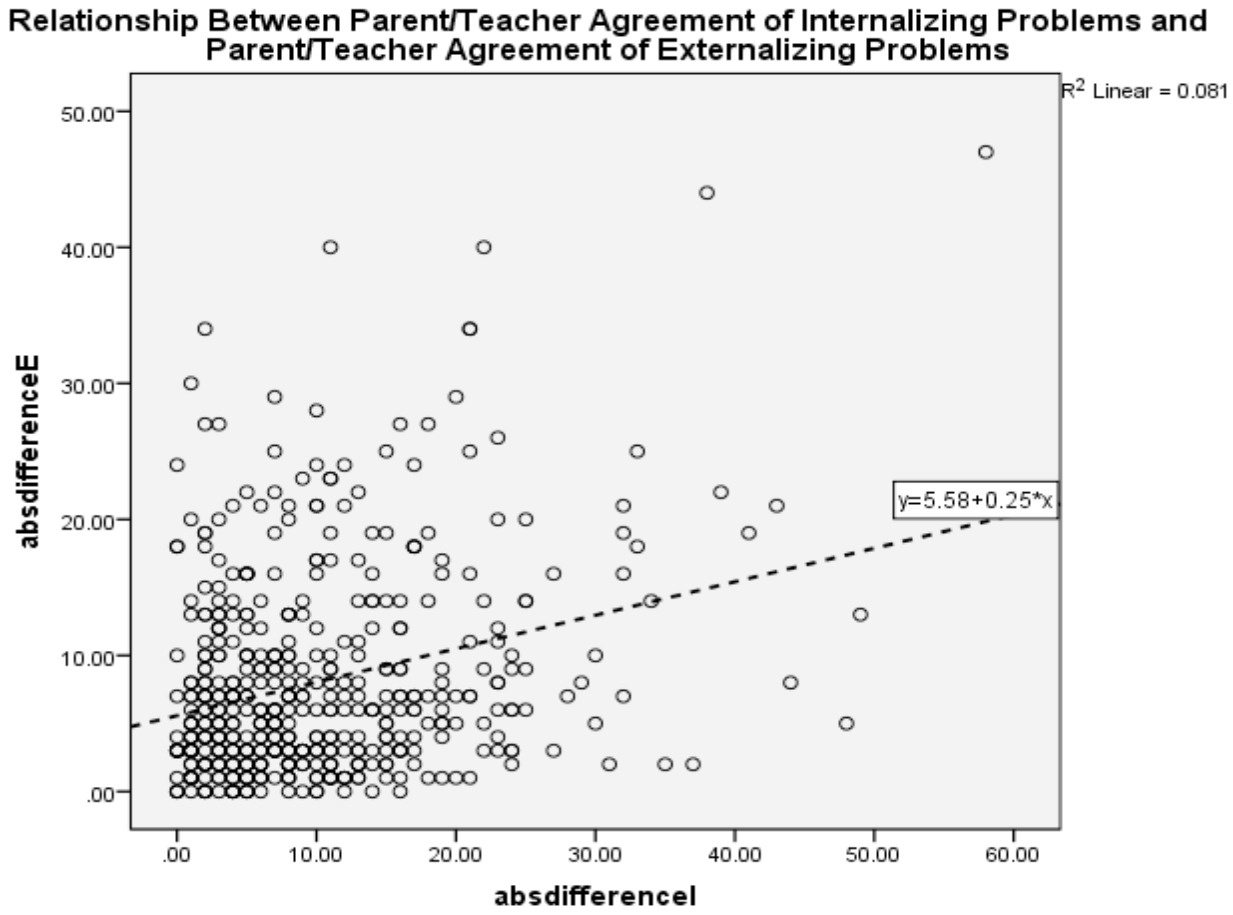
	ADHD ***n= 307***		***CONTROL*** ***n=193***	
	M	***SD***	***M***	***SD***
AGE	10.19	1.24	10.25	1.30
IQ	102.70	14.56	109.74	11.03
Male to Female Ratio	198:109		81:112	
Parent BASC Ext. Prob T- Score	60.87	12.21	43.36	4.44
Teacher BASC Ext. Prob T- Score	56.78	10.44	43.17	2.92
Parent BASC Int. Prob. T- Score	56.82	13.89	45.83	8.61
Teacher BASC Int. Prob T- Score	54.60	11.48	45.05	6.62
Parent BASC Hyperactivity T- Score	64.71	12.89	45.83	8.61
Teacher BASC Hyperactivity T- Score	54.60	11.48	45.05	6.62
Parent BASC Attention T- Score	66.33	6.80	44.09	6.06
Teacher BASC Attention T- Score	61.94	6.77	41.98	5.72
Parent-Teacher BASC Agreement Difference Score (Ext. Prob)	10.57	8.50	3.98	2.85
Parent-Teacher BASC Agreement Difference Score (Int. Prob)	11.65	9.75	7.43	6.32

Table 2: Correlation Table

Correlation Between Parent/Teacher Agreement of Externalizing Problems versus Parent/Teacher Agreement of Internalizing Problems

		absdifferenceE	absdifferenceI
absdifferenceE	Pearson Correlation	1	.285**
	Sig. (2-tailed)		.000
	N	492	488
absdifferenceI	Pearson Correlation	.285**	1
	Sig. (2-tailed)	.000	
	N	488	490

Figure 1:



BIBLIOGRAPHY

Abikoff, H., Courntey, M., Pelham, W.E. (2004). Teachers' ratings of disruptive behaviors: the influence of halo effects. *Journal of Abnormal Child Psychology*, 32:215-224. Retrieved from Web of Science database.

Abikoff, H. B., Jensen, P. S., Arnold, L. E., Hoza, B., Hechtman, L., Pollack, S., ... & Wigal, T. (2002). Observed classroom behavior of children with ADHD: Relationship to gender and comorbidity. *Journal of abnormal child psychology*,*30*(4), 349-359. Retrieved from http://link.springer.com/article/10.1023/A:1015713807297#page-1

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

Achenbach, T. M. (2000). Assessment of psychopathology. In *Handbook of developmental psychopathology* (pp. 41-56). Springer US.

Achenbach, T. M. (2006). As others see us: Clinical and research implications of cross-informant correlations for psychopathology. *Current Directions in Psychological Science*, 15, 94–98. Retrieved from Web of Science database.

American Psychiatric Association, (2013). *Diagnostic and statistical manual of mental health disorders: DSM-5* (5th ed.). Washington, DC: American Psychiatric Publishing.

Angold, A., & Costello, E. (2000). The child and adolescent psychiatric assessment (CAPA). *Journal of the American Academy of Child & Adolescent Psychiatry*, *39*(1), 39-48. Retrieved from http://www.sciencedirect.com/science/article/pii/S0890856709660998

Antshel, K.M. (2008). Attention Deficit Hyperactivity Disorder in the context of a high intellectual quotient/giftedness. *Developmental Disabilities Research Reviews,* 14, 293-299. Retrieved from http://onlinelibrary.wiley.com/doi/10.1002/ddrr.34/abstract

Barkely, R., DuPaul, G.J., McMurray, M.B. (1990). Comprehensive Evaluation of Attention Deficit Disorder With and Without Hyperactivity as Defined by Research Creiteria. *Journal of Counseling and Clinical Psychology*, 58 (6), 775. Retrieved from ProQuest database.

Barkley, R. A., Fischer, M., Edelbrock, C. S., & Smallish, L. (1990). The adolescent outcome of hyperactive-children diagnosed by research criteria.1. An 8-year prospective follow-up-study. *Journal of the American Academy of Child and Adolescent Psychiatry*, 29(4), 546-557. Retrieved from http://www.sciencedirect.com/science/article/pii/S0890856709652217

Barkley, R.A. (1997). Behavioral Inhibition, Sustained Attention, and Executive Functions: Constructing a Unifying Theory of ADHD. *Psychological Bulletin, 121,* 65-94. Retrieved from PubMed database.

Barkley, R. A. (1998). Attention-Deficit Hyperactivity Disorder. *Scientific American*, 66-71. Retrieved from the PubMed database.

Barkley, R. A., Knouse, L. E., & Murphy, K. R. (2011). Correspondence and disparity in the self and other ratings of current and childhood symptoms and impairments in adults with ADHD. *Psychological Assessment*, 23, 437-446. doi:http://dx.doi.org/10.1037/a0022172

Bauermeister, J., Canino, G., Bravo, M., Ramirez, R., Jensen, P.S., Chavez, L. et al. (2003). Stimulant and psychosocial treatment of ADHD in Latino/Hispanic children. *Journal of*

the American Academy of Child and Adolescent Psychiatry, 42(7): 851–855. DOI: 10.1097/01.CHI.0000046864.56865.30

Bierderman, J., Monuteaux, M. C., Doyle, A. E., Seidman, L. J., Wilens, T. E., Ferrero, F. (2004). Impact of executive function deficits and attention-deicit/hyperactivity disorder (ADHD) on academic outcomes in children. *Journal of Consulting and Clinical Psychology*, 72 (5), 757-766. Retrieved from http://www.ldchicago.com/efacoutcomes.pdf.

Brown, M. B. (2000), Diagnosis and Treatment of Children and Adolescents With Attention-Deficit/Hyperactivity Disorder. Journal of Counseling & Development, 78: 195–203. doi: 10.1002/j.1556-6676.2000.tb02578.x

Bruchmuller, K., Margraf, J., & Schneider, S. (2012). Is ADHD diagnosed in accord with diagnostic criteria? Overdiagnosis and influence of client gender on diagnosis. *Journal of Consulting and Clinical Psychology*, 80(1), 128-138. Retrieved from doi:http://dx.doi.org/10.1037/a0026582

Biederman, J., Monuteaux, M. C., Doyle, A. E., Seidman, L. J., Wilens, T. E., Ferrero, F.,...Faraone, S. V. (2004). Impact of executive function deficits and attention-deficit/hyperactivity disorder (ADHD) on academic outcomes in children. *Journal of Consulting and Clinical Psychology*, 72(5), 757-766. Retrieved from http://www.ldchicago.com/efacoutcomes.pdf

Booster, G. D., DuPaul, G. J., Eiraldi, R., & Power, T. J. (2012). Functional impairments in children with ADHD: Unique effects of age and comorbid status. *Journal of Attention*

Disorders, 16(3), 179-189. Retrieved from http://jad.sagepub.com/content/16/3/179.full.pdf+html

Briggs-Gowan, M. J., Carter, A. S., & Schwab-Stone, M. (1996). Discrepancies among mother, child, and teacher reports: Examining the contributions of maternal depression and anxiety. *Journal of Abnormal Child Psychology*, 24, 749-765. Retrieved from http://sk8es4mc2l.scholar.serialssolutions.com/?sid=google&auinit=MJ&aulast=Briggs-Gowan

Carlson, G. A., & Blader, J. C. (2011). Diagnostic implications of informant disagreement for manic symptoms. *Journal of Child and Adolescent Psychopharmacology*, *21*(5), 399-405. Retrieved from http://www.mlmcclain.com/scribbler/pdfs/Carlson_Blader_Dx.pdf

Costenbader, V. K., & Keller, H. R. (1990). Behavioral ratings of emotionally handicapped, learning disabled, and nonreferred children: Scale and source consistency. *Journal of Psychoeducational Assessment*, 8, 485- 496. Retrieved from http://jpa.sagepub.com/content/8/4/485.full.pdf

De Los Reyes, A., & Kazdin, A. E. (2004). Measuring informant discrepancies in clinical child research. *Psychological Assess- ment*, 16, 330–334. Retrieved from http://drum.lib.umd.edu/bitstream/1903/8397/1/De%20Los%20Reyes%20&%20Kazdin%20(2005).pdf

De Los Reyes, A., & Kazdin, A.E. (2005). Informant discrepancies in the assessment of childhood psychopathology: A critical review, theoretical framework, and recommendations for further study. *Psychological Bulletin, 131*, 483-509. Retrieved ____ from, doi: 10.1037/0033-2909.131.4.483

De Los Reyes, A., & Kazdin, A. E. (2006a). Conceptualizing changes in behavior in intervention research: The range of possible changes model. *Psychological Review*, 113, 554–583. . Retrieved from http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3020401/pdf/nihms262101.pdf

De Los Reyes, A., & Kazdin, A. E. (2006b). Informant discrepancies in assessing child dysfunction relate to dysfunction within mother-child interactions. *Journal of Child and Family Studies*, 15, 643–661. Retrieved from http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3020626/pdf/nihms262102.pdf

De Los Reyes, A., & Kazdin, A. E. (2008). When the evidence says, "Yes, no, and maybe so": Attending to and interpreting inconsistent findings among evidence-based interventions. *Current Directions in Psychological Science*, 17, 47–51. Retrieved from http://cdp.sagepub.com/content/17/1/47.full.pdf+html

De Los Reyes, A., Henry, D.B., Tolan, P.H., & Wakschlag, L.S. (2009). Linking informant discrepancies to observed variations in young children's disruptive behavior. *Journal of Abnormal Child Psychology, 37*, 637-652. Retrieved from http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3734944/

De Los Reyes, A. (2011). Introduction to the special section. More than measurement error: Discovering meaning behind informant discrepancies in clinical assessments of children and adolescents

De Los Reyes, A., Kundey, S.M.A., & Wang, M. (2011). The end of the primary outcome measure: A research agenda for constructing its replacement. *Clinical Psychology Review, 31*, 829-838. Retrieved August 27, 2013 from, doi: 10.1016/j.cpr.2011.03.011

Doyle, A., Ostrander, R., Skare, S., Crosby, R. D., & August, G. J. (1997). Convergent and criterion-related validity of the behavior assessment system for children-parent rating scale. *Journal of Clinical Child Psychology*, *26*(3), 276-284. Retrieved from http://www.tandfonline.com/doi/abs/10.1207/s15374424jccp2603_6#.U9cWA4BdVi4

Drabick, D. A., Gadow, K. D., & Loney, J. (2007). Source-specific oppositional defiant disorder: Comorbidity and risk factors in referred elementary schoolboys. *Journal of the American Academy of Child & Adolescent Psychiatry*, *46*(1), 92-101.

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

DuPaul, G. J., & Stoner, G. (1994). ADHD in the schools: Assessment and intervention strategies (2nd ed.). *New York: Guilford*. Retrieved from Web of Science database.

Dupaul, G. J., & Stoner, G. (2003). ADHD in the schools: Assessment and intervention strategies New York: Guilford. Retrieved from PubMed database.

Duhig, A.M., Renk, K., Epstein, M.K., & Phares, V. (2000). Interparental agreement on Internalizing, Externalizing, and Total Problems: A meta-analysis. *Clinical Psychology: Science and Practice*, 7, 435–453. Retrieved from http://uweb.cas.usf.edu/familyresearchgroup/index_files/Duhig,%20Renk,%20Epsein,%20Phares,%202000.pdf

Edelbrock, C. (1983). Problems and issues in using rating scales to assess child personality and psychopathology. *School Psychology Review*, 12, 293-299.

Eiraldi, R. B., Power, T. J., & Nezu, C. M. (1997). Patterns of comorbidity associated with subtypes of attention-deficit/hyperactivity disorder among 6-12-year-old children.

Journal of the American Academy of Child Adolescent Psychiatry, 36 (4), 503-514. Retrieved from Web of Science database.

Eisenberg, D., Schneider, H., (2007). Perceptions of academic skills of children diagnosed with ADHD. *Journal of Attention Disorders,* 10:390–397. Retrieved from http://jad.sagepub.com/content/10/4/390.full.pdf

Faraone, S. V., Biederman, J., Lehman, B. K., Spencer, T., Norman, D., Seidman, L. J., . . . Tsuang, M. T. (1993). Intellectual performance and school failure in children with attention deficit hyperactivity disorder and in their siblings. *Journal of Abnormal Psychology, 102*(4), 616-623. doi:http://dx.doi.org/10.1037/0021-843X.102.4.616

Fayyad, J., De Graaf, R., Kessler, R. (2007). Cross-national prevalence and correlates of adult attention-deficit hyperactivity disorder. *The British Journal of Psychiatry*. 190:402-409. Retrieved from http://bjp.rcpsych.org/content/190/5/402.long

Ferdinand, R. F., van der Ende, J., & Verhulst, F. C. (2004). Parent- adolescent disagreement regarding psychopathology in adoles- cents from the general population as a risk factor for adverse outcome. *Journal of Abnormal Psychology*, 113, 198–206. Retrieved from doi:http://dx.doi.org/10.1037/0021-843X.113.2.198

Fergusson, D. M., Lynskey, M. T., & Horwood, L. J. (1993). The effect of maternal depression on maternal ratings of child behavior. *Journal of Abnormal Child Psychology, 21*(3), 245-69. Retrieved from http://search.proquest.com/docview/204975505?accountid=13158

Fergusson, D. M. and Horwood, L. J. (1993), The Structure, Stability and Correlations of the Trait Components of Conduct Disorder, Attention Deficit and Anxiety/Withdrawal

Reports. Journal of Child Psychology and Psychiatry, 34: 749–766. doi: 10.1111/j.1469-7610.1993.tb01069.x

Frauenglass, S., & Routh, D. K. (1999). Assessment of the Disruptive Behavior Disorders. In *Handbook of disruptive behavior disorders* (pp. 49-71). Springer US. Retrieved from http://link.springer.com/chapter/10.1007/978-1-4615-4881-2_3#page-1

Gagnon, C., Vitaro, F. and Tremblay, R. E. (1992), Parent-Teacher Agreement on Kindergarteners' Behavior Problems: a Research Note. Journal of Child Psychology and Psychiatry, 33: 1255–1261. doi: 10.1111/j.1469-7610.1992.tb00944.x

Gillberg, C., Gillberg, I.C., Rasmussen, P., Kadesjö, B., Söderström, H., Råstam, M.,...Niklasson, L. (2004). Co-existing disorders in ADHD – implications for diagnosis and intervention. *European Child & Adolescent Psychiatry, 13,* I/80-I/92. Retrieved from http://link.springer.com/article/10.1007%2Fs00787-004-1008-4#

Gomez, R. (2007). Australian parent and teacher ratings of the DSM—IV ADHD symptoms: Differential symptom functioning and parent-teacher agreement and differences. *Journal of Attention Disorders*, 11(1), 17-27. Retrieved from http://jad.sagepub.com/content/11/1/17.full.pdf

Granero, R., Ezpeleta, L., Domenech, J.M., & de la Osa, N., (2008). What single reports form children and parents aggregate to attention deficit hyperactivity disorder and oppositional defiant disorder diagnoses in epidemiological studies. *European Child and Adolescent Psychiatry,* 17(6), 356-364. Doi:10.1007/s00787-008-0677-9

Graziano, P. A., Geffken, G. R., & McNamara, J. P. (2011). Atypical behaviors and comorbid externalizing symptoms equally predict children with attention-deficit/hyperactivity

disorder's social functioning. *Child Psychiatry and Human Development*, 42(4), 377-389. Retrieved from http://ccf.fiu.edu/research/publications/articles-2010-present/art_101007_s10578-011-0224-7.pdf

Grietens, H., Onghena, P., Prinzie, P., Gadeyne, E., Van Assche, V., Ghesquiere, P., Hellinckx, W. (2004). Comparison of mothers', fathers', and teachers' reports on problem behavior in 5- to 6-year-old children. *Journal of Psychopathology and Behavioral Assessment,* 26(2), 137-146. Retrieved from Web of Science database.

Guion, K., Mrug, S., & Windle, M. (2009). Predictive value of informant discrepancies in reports of parenting: Relations to early adolescents' adjustment. *Journal of Abnormal Child Psychology, 37*(1), 17-30. Retrieved from http://search.proquest.com/docview/61905367?accountid=13158

Hay, D. F., Pawlby, S., Sharp, D., Schmücker, G., Mills, A., Allen, H. and Kumar, R. (1999), Parents' Judgements About Young Children's Problems: Why Mothers and Fathers Might Disagree Yet Still Predict Later Outcomes. Journal of Child Psychology and Psychiatry, 40: 1249–1258. doi: 10.1111/1469-7610.00541

Hinshaw, S. P., & Nigg, J. T. (1999). Behavior rating scales in the assessment of disruptive behavior problems in childhood. Retrieved from http://psycnet.apa.org/psycinfo/1999-04266-004

Hoyt, W. T., & Kerns, M. (1999). Magnitude and moderators of bias in observer ratings: A meta-analysis. *Psychological Methods*, 4, 403-424. Retrieved from doi:http://dx.doi.org/10.1037/1082-989X.4.403

Jackson, D. A., & King, A. R. (2004). Gender differences in the effects of oppositional behavior on teacher ratings of ADHD symptoms. *Journal of Abnormal Child Psychology, 32*(2), 215-24. Retrieved from http://search.proquest.com/docview/204991780?accountid=13158

Jarratt, K., Riccio, C. and Siekierski, B. (2005). Assessment of attention hyperactivity disorder (ADHD) using the BASC and BRIEF. *Applied Neuropsychology*,12(2), 83-89. Doi:10.1207/s15324826an1202_4

Jerome, L., Gordon, M., & Hustler, P. (1994). A comparison of American and Canadian teachers' knowledge and attitudes towards Attention Deficit Hyperactivity Disorder (AHHD). *The Canadian Journal of Psychiatry/La Revue canadienne de psychiatrie*. Retrieved from Web of Science database.

Kumpulainen, K., Räsänen, E., & Henttonen, I. (1999). Children involved in bullying: psychological disturbance and the persistence of the involvement.*Child abuse & neglect*, *23*(12), 1253-1262. Retrieved from http://www.sciencedirect.com/science/article/pii/S0145213499000988

Kanne, S. M., Abbacchi, A. M., & Constantino, J. N. (2009). Multi-informant ratings of psychiatric symptom severity in children with autism spectrum disorders: The importance of environmental context. *Journal of autism and developmental disorders*, *39*(6), 856-864. Retrieved from http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2878186/

Keiley, M.K., Bates, J.E., Dodge, K.A., Pettit, G.S. (2000). A cross-domain growth analysis: Externalizing and internalizing behaviors during 8 years of childhood. *Journal of*

Abnormal Child Psychology, 28:161–179. Retrieved from http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2775438/

Kollins, S. & Sparrow, E. (2010). Guide to assessment scales in Attention-Deficit/Hyperactivity Disorder. C.K. Conners (Ed.). London, UK: Springer Healthcare. Retrieved from Web of Science database.

Konold, T. R., Walthall, J. C., & Pianta, R. C. (2004). The behavior of child behavior ratings: Measurement structure of the Child Behavior Checklist across time, informants, and child gender. Behavioral Disorders, 29, 372- 383. Retrieved from http://psycnet.apa.org/psycinfo/2004-20660-005

Konold, T.R. & Pianta, R.C. (2007). The influence of informants on ratings of childrens' behavioral functioning: A latent variable approach. *Journal of Psychoeducational Assessment*, 25,(3), 222-236. Retrieved from http://jpa.sagepub.com/content/25/3/222.full.pdf

Kos, J. M., Richdale, A. L. and Jackson, M. S. (2004), Knowledge about Attention-Deficit/Hyperactivity Disorder: A comparison of in-service and preservice teachers. Psychol. Schs., 41: 517–526. doi: 10.1002/pits.10178

Kraemer, H. C., Measelle, J. R., Ablow, J. C., Essex, M. J., Boyce, W. T., & Kupfer, D. J. (2003). A new approach to integrating data from multiple informants in psychiatric assessment and research: Mixing and matching contexts and perspectives. *American Journal of Psychiatry*, 160, 1566- 1577. Retrieved from http://journals.psychiatryonline.org/article.aspx?articleid=176405

Kumpulainen, K., Räsänen, E., Henttonen, I., Moilanen, I., Piha, J., Puura, K., Tamminen, T., & Almqvist, F. (1999). Children's behavioural/emotional problems: A comparison of parents' and teachers' reports for elementary school-aged children. *European Child & Adolescent Psychiatry*, 8, 41-47. Retrieved from the Web of Science database.

Lambert, M., Weisz, J., Knite, F., Desrosiers, M., Overly, K., & Thesiger, C. (1992). Jamaican and American adult perspectives on child psychopathology: further exploration of the threshold model. *Journal of Consulting and Clinical Psychology,* 60, 146-149. Retrieved from http://www.wjh.harvard.edu/~jweisz/pdfs/1992a.pdf

Langberg, J.M., Epstein, J.N., Simon, J.O., Loren, R.E.A., Arnold, L.E., Hechtman, L. (2010). Parent agreement on ratings of children's Attention-Deficit/Hyperacitivity Disorder and broadband externalizing behaviors. *Journal of Emotional and Behavioral Disorders*, 18:41–50. Retrieved from http://ebx.sagepub.com/content/18/1/41.full.pdf

Lett, N. J., & Kamphaus, R. W. (1997). Differential validity of the BASC Student Observation System and the BASC Teacher Rating Scale. *Canadian Journal of School Psychology,* 13, 1-14. Retrieved from http://cjs.sagepub.com/content/13/1/1.full.pdf

Loeber, R., Green, S.M., Lahey, B.B. (1990). Mental health professionals' perception of the utility of children, mothers, and teachers as informants on childhood psychopathology. *Journal of Clinical Child & Adolescent Psychology*, 19(2), 136-143. Retrieved from http://www.tandfonline.com/doi/abs/10.1207/s15374424jccp1902_5#.U9bFB4BdVi4

McBurnett, K., Lahey, B. B., & Pfiffner, L. J. (1993). Diagnosis of attention deficit disorders in DSM-IV: Scientific basis and implications for education. *Exceptional Children*, 60(2), 108-117. Retrieved from Web of Science database.

McConaughy, S. H., & Ritter, D. R. (2002). Best practices in multidimensional assessment of emotional or behavioral disorders. In A. Thomas & J. Grimes (Eds.), Best practices in school psychology IV (pp. 1303-1320). Bethesda, MD: National Association of School Psychologists. Retrieved from Web of Science database.

McConaughy, S. H., Stanger, C., & Achenbach, T. M. (1992). Three-Year Course of Behavioral/Emotional Problems in a National Sample of 4− to 16-Year-Olds: I. Agreement among Informants. *Journal of the American Academy of Child & Adolescent Psychiatry*, *31*(5), 932-940. Retrieved from http://www.sciencedirect.com/science/article/pii/S0890856709649807

McLeod, J. D., Fettes, D. L., Jensen, P. S., Pescosolido, B. A. and Martin, J. K. (2007) Public knowledge, beliefs, and treatment preferences concerning attention-deficit hyperactivity disorder. Psychiatric Services 58 , pp. 626-631. Merrell, K.W. (2008*). Behavioral, social, and emotional assessment of children and adolescents (3rd ed.)*. New York: Lawrence Erlbaum Associates. . Retrieved from http://ps.psychiatryonline.org/article.aspx?articleid=97991

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

Merrell, K.W. 2008. *Behavioral, Social, and Emotional Assessment of Children and Adolescents,* 3rd edition. Taylor & Francis Group.

Miller, T., Nigg, J., & Miller, R. (2009). Attention deficit hyperactivity disorder in African American children: What can be concluded from the past ten years. *Clinical Psychology*

Revie, (29), 77-86. Retrieved from http://www.sciencedirect.com/science/article/pii/S0272735808001384

Mitsis, E. M., McKay, K. E., Schulz, K. P., Newcorn, J. H., & Halperin, J.M. (2000). Parent–teacher concordance for DSM-IV attention-deficit/hyperactivity disorder in a clinic-referred sample. *Journal of the American Academy of Child and Adolescent Psychiatry*, 39(3), 308-313. Retrieved from http://www.sciencedirect.com/science/article/pii/S089085670966158X

Neece, C. L., Baker, B. L., Cmic, K., & Blancher, J. (2012). Examining the Validity of ADHD as a Diagnosis for Adolescents with Intellectual Disabilities: Clinical Presentation. *Journal of Abnormal Child Psychology*, 41, 597-612. Retrieved from the Web of Science database.

Nijmeijer, J.S., Minderaa, R.B., Buitelaar, J.K., Mulligan, A., Hartman, C.A., & Hoekstra, P.J. (2008). Attention-deficit/hyperactivity disorder and social dysfunctioning. *Clinical Psychology Review, 28,* 692-708. Retrieved from http://www.sciencedirect.com/science/article/pii/S0272735807001821

Nolan, E.E., Volpe, R.J., Gadow, K.D. (1999). Developmental, gender, and comorbidity differences in clinically referred children with ADHD. *Journal of Emotional Behavior Disorders,* 7:11-20. Retrieved from http://ebx.sagepub.com/content/7/1/11.full.pdf

Olfson, M., Gameroff, M., Marcus, S., & Jensen, P.S. (2003). National trends in the treatment of Attention Deficit Hyperactivity Disorder. *American Journal of Psychiatry*, 160(6): 1071–1077. Retrieved from http://journals.psychiatryonline.org/article.aspx?articleid=176262

Pelham, W.E., Fabiano, G.A., Massetti, G.M. (2005) Evidence-based assessment of attention deficit hyperactivity disorder in children and adolescents. *Journal of Clinical Child and Adolescent Psychology*. 34(3):449-476. Retrieved from http://akip.uk-koeln.de/studium_und_promotion/masterseminar-kinder-und-jugendlichenpsychotherapie/papers/pelham-2008-ebt-adhd.pdf

Pelton, J., & Forehand, R. (2001). Discrepancy between mother and child perceptions of their relationship: I. Consequences for adolescents considered within the context of parental divorce. *Journal of Family Violence*, *16*(1), 1-15. Retrieved from http://link.springer.com/article/10.1023/A:1026527008239#page-1

Pescosolido, B.A., Perry, B.L., Martin, J.K. (2007) Stigmatizing attitudes and beliefs about treatment and psychiatric medications for children with mental illness. *,* 58:613—618, 2007. Retrieved from http://journals.psychiatryonline.org/article.aspx?articleid=97979

Phares, V. (1997). Accuracy of informants: do parents that mother knows best? *Abnormal Child Psychology*, 25(2), 165-171. Retrieved from http://www.ncbi.nlm.nih.gov/pubmed/9109033

Polanczyk, G., de Lima, M.S., Horta, B.L., Biederman, J., Rohde, L.A. (2007). The worldwide prevalence of ADHD: a systematic review and meta-regression analysis. *American Journal of Psychiatry*, 164:942-948. Retrieved from http://journals.psychiatryonline.org/article.aspx?articleid=98517

Polanczyk, G., Caspi, A., Houts, R., Kollins, S.H., Rohde, L.A., Moffitt, T.E. (2010). Implications of extending the ADHD age-of-onset criterion to age 12: results from a

prospectively studied birth cohort. *Journal of American Academy of Child and Adolescent Psychiatry*, 49:210-216. DOI: 10.1016/j.jaac.2009.12.014)

Power, T. J., Andrews, T. J., Eiraldi, R. B., Doherty, B. J., Ikeda, M. J., DuPaul, G. J., & Landau, S. (1998). Evaluating attention deficit hyperactivity disorder using multiple informants: The incremental utility of combining teacher with parent reports.*Psychological Assessment, 10*(3), 250-260. doi:http://dx.doi.org/10.1037/1040-3590.10.3.250

Power. T.J., Doherty, B.J., Panichelli-Mindel, S.M. (1998) The predictive validity of parent and teacher reports of ADHD symptoms. *Journal of Psychopathology and Behaviorial Assessment*, 20:57-81. Retrieved from http://libres.uncg.edu/ir/uncg/f/a_anastopoulos_predictive_1998.pdf

Rader, R., McCauley, L., Callen, E., (2009) Current strategies in the diagnosis and treatment of childhood attention-deficit/hyperactivity disorder. *American Family Physicia, 79(8),* 657–665. Retrieved from http://www.aafp.org/afp/2009/0415/p657.html

Reynolds, W. M. (1990). Introduction to the nature and study of internalizing disorders in children and adolescents. *School Psychology Review*, 19 (2), 137-141. Retrieved from http://psycnet.apa.org/psycinfo/1990-25357-001

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

Reynolds, C. R., & Kamphaus, R. W. (2004). Behavior assessment scale for children. *Bloomington, MN: Pearson Assessments*.

Richters, J. (1992). Depressed mothers as informants about their children: A critical review of the evidence for distortion. *Psychological Bulletin,* 112:485–499. Retrieved from

http://data.psych.udel.edu/abelcher/Shared%20Documents/1%20Assessment%20(48)/c%20Diagnosis%20and%20assessment%20of%20specific%20problems/Ritchers%201992.pdf

Rogosa, D. R., & Willett, J. B. (1983). Demonstrating the reliability of the difference score in the measurement of change. *Journal of Educational Measurement*, 20, 335–343. Retrieved from http://www.jstor.org/stable/1434950

Rowland, A. S., Lesesne, C. A. and Abramowitz, A. J. (2002), The epidemiology of attention-deficit/hyperactivity disorder (ADHD): A public health view. Ment. Retard. Dev. Disabil. Res. Rev., 8: 162–170. doi: 10.1002/mrdd.10036

Salvia, J., & Ysseldyke, J. E. (2001). Assessment (8th ed.). *Boston: Houghton Mifflin*. Retrieved from Web of Science database.

Sciutto, M. J., Terjesen, M. D. and Frank, A. S. B. (2000), Teachers' knowledge and misperceptions of Attention-Deficit/hyperactivity disorder. Psychol. Schs., 37: 115–122. doi: 10.1002/(SICI)1520-6807(200003)37:2<115::AID-PITS3>3.0.CO;2-5

Sciutto, M. J., Nolfi, C. J., & Bluhm, C. A. (2004). Effects of child gender and symptom type on elementary school teachers' referrals for ADHD. *Journal of Emotional and Behavioral Disorders, 12*, 247 -253. Retrieved from http://ebx.sagepub.com/content/12/4/247.full.pdf

Silverman, W. K., & Rabian, B. (1999). Rating scales for anxiety and mood disorders. Retrieved from http://psycnet.apa.org/psycinfo/1999-04266-005

Singh, I. (2008). ADHD, culture and education. *Early Child Development and Care*, 178(4), 347-361. Retrieved from http://www.tandfonline.com/doi/abs/10.1080/03004430701321555#.U9bJQoBdVi4

Sommer, J.L., (2012). Informant Gender Differences in Parental Reports of Attention Deficit Hyperactivity Disorder Behavior in Boys and Girls. Directed by Dr. Arthur D. Anastopoulos. 142 pp. Retrieved from http://libres.uncg.edu/ir/uncg/f/Sommer_uncg_0154D_10895.pdf

Spencer, T.J., Biederman, J., Mick E. (2007). Attention-deficit/hyperactivity disorder: diagnosis, lifespan, comorbidities, and neurobiology. *Ambulatory Pediatrics,* 73–81. Retrieved from http://jpepsy.oxfordjournals.org/content/32/6/631.long

Stanger, C., & Lewis, M. (1993). Agreement among parents, teachers, and children on internalizing and externalizing behavior problems. *Journal of Clinical Child Psychology*, 22, 107-115. Retrieved from http://jpepsy.oxfordjournals.org/content/32/6/631.long

Stevens, J., Quittner, A.L., Abikoff, H. (1998). Factors influencing elementary school teachers' ratings of ADHD and ODD behaviors. *Journal of Clinical Child Psychology,* 27:406-414. Retrieved from http://www.ncbi.nlm.nih.gov/pubmed/9866077

Szatmari, P. (1992). The epidemiology of attention-deficit hyperactivity disorders. In G. Weiss (Ed.), *Child and adolescent psychiatric clinics of North America: Attention-deficit hyperactivity disorder*, 361-372.

Szatmari, P., Archer, L., Fisman, S., Streiner, D.L. (1994). Parent and teacher agreement in the assessment of pervasive developmental disorders. *Journal of Autism Developmental Disorders,* 24:703–717. Retrieved from PubMed database.

Treutler, C. M., & Epkins, C. C. (2003). Are discrepancies among child, mother, and father reports on children's behavior related to parents' psychological symptoms and aspects of parent-child relationships? *Journal of Abnormal Child Psychology, 31*(1), 13-27. doi:http://dx.doi.org/10.1023/A:1021765114434

Trites, R.L., Dugas, F., Lynch, G., & Ferguson, B. (1979). Incidence of hyperactivity. *Journal of Pediatric Psychology,* 4, 179-188. Retrieved from Web of Science database.

Valla, J.P., Bergeron, L., Breton, J.J. (1993). Informants, correlates and child disorders in a clinical population. *The Canadian Journal of Psychiatry*, 38:406-411. Retrieved from http://www.ncbi.nlm.nih.gov/pubmed/8402434

Verhulst, F. C., Dekker, M. C. and van der Ende, J. (1997), Parent, teacher and self-reports as predictors of signs of disturbance in adolescents: whose information carries the most weight?. Acta Psychiatrica Scandinavica, 96: 75–81. doi: 10.1111/j.1600-0447.1997.tb09909.x

Victor, J. B., Halverson, C. F., & Wampler, K. S. (1988). Family-school context: Parent and teacher agreement on child temperament. *Journal of Consulting and Clinical Psychology, 56*(4), 573-577. doi:http://dx.doi.org/10.1037/0022-006X.56.4.573

Wechsler, D. (2003). Wechsler intelligence scale for children. (4th ed.). London: Pearson Assessments.

Wechsler, D. (2009). Wechsler individual achievement test. (3rd ed.). San Antonio, Tx: The Psychological Corporation.

Weisz, J. R., McCarty, C. A., & Valeri, S. M. (2006). Effects of psychotherapy for depression in children and adolescents: a meta-analysis. *Psychological bulletin*, *132*(1), 132. Retrieved from http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2150594/

Wolraich, M. L., Lambert, E. W., Bickman, L., Simmons, T., Doffing, M. A., & Worley, K. A. (2004). Assessing the impact of parent and teacher agreement on diagnosing attention-deficit hyperactivity disorder. *Journal of Developmental & Behavioral Pediatrics*, 25, 41-47. Retrieved from http://www.ncbi.nlm.nih.gov/pubmed/14767355

Youngstrom, E., Loeber, R., & Stouthamer-Loeber, M. (2000). Patterns and correlates of agreement between parent, teacher, and male adolescent ratings of externalizing and internalizing problems. *Journal of Consulting and Clinical Psychology, 68*(6), 1038-1050. doi:http://dx.doi.org/10.1037/0022-006X.68.6.1038

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Psi Chi (The International Honors Society in Psychology)	2012-Present
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Schreyer Scholar Internship Grant	Summer 2013
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