

University of Massachusetts Amherst

From the Selected Works of Elizabeth (Lisa) Harvey

October 1, 2013

Predictors of Discrepancies Between Informants' Ratings of Preschool-aged Children's Behavior: An Examination of Ethnicity, Child Characteristics, and Family Functioning

Elizabeth Harvey, *University of Massachusetts - Amherst*

Candice Fischer

Julie L Weieneth

Sara D Hurwitz

Aline G Sayer



Available at: https://works.bepress.com/elizabeth_harvey/1/

Published in final edited form as:

Early Child Res Q. 2013 October 1; 28(4): 668–682. doi:10.1016/j.ecresq.2013.05.002.

Predictors of discrepancies between informants' ratings of preschool-aged children's behavior: An examination of ethnicity, child characteristics, and family functioning

Elizabeth A. Harvey^{a,1}, Candice Fischer^{a,2}, Julie L. Weieneth^{a,3}, Sara D. Hurwitz^{a,4}, and Aline G. Sayer^{a,5}

^aUniversity of Massachusetts Amherst, Tobin Hall, 135 Hicks Way, University of Massachusetts, Amherst, Massachusetts 01003

Abstract

The present study examined predictors of discrepancies between mothers', fathers', and teachers' ratings of 3-year-old children's hyperactivity, attention problems, and aggression. Participants were families of 196 3-year-old children who took part in child and family assessments. Ethnicity was one of the most consistent predictors of discrepancies. African American mothers and fathers were more likely to rate their children's hyperactivity, attention problems, and aggression lower than teachers. In contrast, Latina mothers were more likely to rate their children as more hyperactive and inattentive than teachers. ADHD/ODD diagnoses, parental depression, number of children, and children's pre-academic skills were also predictive of discrepancies for some measures for some informants. These findings provide insight into factors that may contribute to informant discrepancies in ratings of preschool children.

Keywords

Informant discrepancies; hyperactivity; inattention; aggression; preschoolers

Although there is wide consensus regarding the importance of gathering data from multiple informants in the assessment of child psychopathology (Grills & Ollendick, 2002), there is a large body of research documenting discrepancies among informants' reports (Achenbach, McConaughy, & Howell, 1987; De Los Reyes & Kazdin, 2005; Sims & Lonigan, 2012). Moreover, there is growing evidence that these discrepancies represent more than just

© 2013 Elsevier Inc. All rights reserved.

Please address correspondence to Elizabeth Harvey, Dept. of Psychology, Tobin Hall, 135 Hicks Way, University of Massachusetts, Amherst, Massachusetts 01003; phone: 1 (413) 349-9199; fax: 1 (413) 545-0996; eharvey@psych.umass.edu.

¹Elizabeth A. Harvey, Department of Psychology, University of Massachusetts Amherst, Tobin Hall, 135 Hicks way, Amherst, MA 01003, phone: 413-349-9199, Fax: 413-545-0996, eharvey@psych.umass.edu

²Candice Fischer, Department of Psychology, Universidad Católica de Chile, Av Vicuña Mackenna 4860, Macul, Santiago, Chile, Phone: 56-2-3547506, Fax: 56-2-5533092, cfischer@uc.cl

³Julie L. Weieneth, New England Academy, 500 Cummings Center, Suite 1100, Beverly, MA 01915, Phone: 978-921-1103 Ext. 141, Fax: 978-921-2203, jlweieneth@gmail.com

⁴Sara D. Hurwitz, Norfolk County Teachers' Association, 500 North Main Street, Unit B, Second Floor, Randolph, MA 02368, saradhurwitz@gmail.com

⁵Aline G. Sayer, Department of Psychology, University of Massachusetts Amherst, Tobin Hall, 135 Hicks way, Amherst, MA 01003, Phone: 413 577 6279, Fax: 413-545-0996, sayer@psych.umass.edu

Publisher's Disclaimer: This is a PDF file of an unedited manuscript that has been accepted for publication. As a service to our customers we are providing this early version of the manuscript. The manuscript will undergo copyediting, typesetting, and review of the resulting proof before it is published in its final citable form. Please note that during the production process errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain.

measurement error (De Los Reyes, 2011). Identifying factors that contribute to cross-informant discrepancies may provide insight into why variability across raters occurs and guide practitioners when they face discrepant assessment data. Despite a burgeoning body of research on this topic, several important gaps remain.

In an increasingly diverse society, one of the most glaring gaps in the literature is a lack of understanding of the role that culture may play in explaining disagreement between informants. Cross-cultural differences in ratings of child behavior have been well-documented (Achenbach & Rescorla, 2007), suggesting that cultural differences could account for informant discrepancies when informants are from different cultures. The cultural context within which ratings are made may affect how children behave in different settings and how informants perceive the same behavior, both of which likely contribute to differences in ratings.

Another important gap in the literature is the relative lack of attention to predictors of discrepancies between mothers', fathers', and teachers' ratings of preschoolers, particularly with respect to identifying paternal characteristics that predict disagreement. Studies of predictors of discrepancies have tended to focus on caregiver-youth discrepancies and on ratings of older children and adolescents (De Los Reyes et al., 2011; De Los Reyes, Goodman, Kliever, & Reid-Quinones, 2008). Inconsistencies in ratings of preschoolers' behavior may have different correlates than for older children, in part because adults are likely to have different attributions and expectations for preschoolers than for older children (De Los Reyes & Kazdin, 2005; van der Ende, Verhulst, & Tiemeier, 2012) and in part because inconsistencies may be due to developmentally-based behavior problems in preschoolers (Campbell, 1995) that may manifest more in some settings than in others. A few studies have made important steps in identifying predictors of mother-teacher (Crane, Mincic, & Winsler, 2011; Dinnebeile et al., 2013; Phillips & Lonigan, 2010) and mother-father discrepancies (Dave, Nazareth, Senior, & Sherr, 2008) among preschoolers. However, these studies have not specifically examined predictors of father-teacher discrepancies, and have examined only a handful of predictors (demographic variables and measures of children's ability) of mother-teacher discrepancies.

A third critical gap is the paucity of research on predictors of discrepant ratings of attention-deficit hyperactivity disorder (ADHD) symptoms (Chi & Hinshaw, 2002; Collishaw, Goodman, Ford, Rabe-Hesketh, & Pickles, 2009; Dave et al., 2008; Edelbrock, Costello, Dulcan, Conover, & Kala, 1986; Langberg et al., 2010; Phillips & Lonigan, 2010; Van der Oord, Prins, & Oosterlaan, 2006). There is some evidence that predictors of hyperactivity and inattention may differ from predictors of disruptive behavior (Langberg et al., 2010); understanding factors that account for differences in ratings of hyperactivity and inattention are key to informing ADHD assessments.

The present study seeks to address these gaps by examining predictors of discrepancies between mothers', fathers', and teachers' reports of preschoolers' hyperactivity, inattention, and aggression. This study examines a number of child and family factors that are likely to play an important role in informant discrepancies, but particularly focuses on ethnicity, a critically understudied variable. Gaining a better understanding of these factors may be particularly useful in guiding the interpretation of multi-method assessments of attention-deficit and disruptive behavior disorders in preschoolers from diverse backgrounds, which may be increasingly common with the recent extension of guidelines for diagnosing ADHD down to age 4 (American Academy of Pediatrics [AAP], 2011).

Theoretical Models of Informant Discrepancies

Theoretical models have posited that an informant's ratings of a child's symptoms are affected by the trait underlying the symptoms, the context (which affects symptom expression), characteristics of the informant that shape the informant's perspective, and error (Dumenci, Achenbach, & Windle, 2010; Kraemer et al., 2003). Whereas the first of these factors underlies agreement among informants, the remaining three are likely to contribute to informant discrepancies. At least three lines of research provide support for the role of contextual differences in contributing to informant disagreement. First, greater discrepancies have been documented between parents and teachers than between mothers and fathers (Achenbach et al., 1987), suggesting that children may behave differently at home than at school. Second, variability in behavior across different contexts is associated with parent-teacher discrepancies (De Los Reyes, Henry, Tolan, & Wakschlag, 2009). Third, teachers' reports, but not parents' reports, have been associated with classroom observations (Winsler & Wallace, 2002). In addition, the importance of informants' subjective perspectives in contributing to informant discrepancies has been supported by theoretical models that highlight informants' attributions, perspectives, and goals (De Los Reyes & Kazdin, 2005); research documenting differences across raters of the same behavior in the same context (Domínguez de Ramírez & Shapiro, 2005); and research suggesting that adults may vary in their awareness of their children's symptoms (Mesman & Koot, 2000). It can be difficult to tease apart whether two informants differ because the observed behavior differs across settings or because of differences in perception of the same behavior. Nonetheless, both mechanisms point to a variety of factors that may contribute to informant discrepancies, including culture, child characteristics, and family functioning.

Culture

The cultural context of the child and informant may play a pivotal role in discrepant ratings. *Culture* refers to shared norms, beliefs, values, and customs that are transmitted intergenerationally (Betancourt & Lopez, 1993). Because people from different cultures vary in their standards for conduct, behavior and perceptions of behavior are likely to vary across cultures (Achenbach & Rescorla, 2007). Directly measuring the shared values, beliefs, and standards of behavior that constitute culture can be difficult, which often leads researchers to use ethnicity as a proxy for culture. Although this approach is imperfect because there are many aspects of culture that are shared across ethnic groups and there is great variability within ethnic groups, it represents a starting point for understanding cultural influences.

Ethnic differences in behavior and perceptions of behavior are likely to be determined by the broad set of values that are commonly held by their culture. For example, whereas the European American culture has consistently been described as an individualistic culture (Triandis, Bontempo, Villareal, Asai, & Lucca, 1988), Latino cultures have been argued to have a more interdependent view, with an emphasis on *respeto* (proper demeanor) and *familismo* (an emphasis on the importance of family; Harwood, Leyendecker, Carlson, Asencio, & Miller, 2002). Similarly, extended kin networks, cooperation, spirituality, and movement expressiveness may be common values among African American families (Hill, 2001; Neal, McCray, Webb-Johnson, & Bridgest, 2003; Stewart, 2004). In the United States, Latino and African American individuals have also experienced a history of discrimination and oppression, which in turn can affect well-being (Pascoe & Smart Richman, 2009). These broad cultural values and experiences of discrimination may result in different socialization goals and practices (Pagano, Hirsch, Deutsch, & McAdams, 2002), which in turn may affect children's behavior and adults' expectations for and perceptions of children.

Not surprisingly, ethnicity has not been linked to informant discrepancies when informants are likely of the same ethnicity (e.g., mothers and fathers; Duhig, Renk, Epstein, & Phares, 2000; Langberg et al., 2010). However, studies on parent-teacher discrepancies have yielded more ethnic differences. Parent-teacher discrepancies in ratings of preschool children's self-control have been found to be higher among African American than Latino parents (Crane et al., 2011). Similarly, although teachers' ratings were typically lower than parents' ratings of adolescents, this was significantly less true for African American adolescents than for White (Lau et al., 2004; Youngstrom, Loeber, & Stouthamer-Loeber, 2000), Latino, or Asian adolescents (Lau et al., 2004). In contrast, Kolko and Kazdin (1993) and Dinnebeil et al. (2013) did not find a link between ethnicity and parent-teacher informant discrepancies, although the latter study combined children from diverse ethnic backgrounds, which may have masked effects. Research has not yet examined mechanisms by which ethnicity may lead to informant discrepancies, but there is some evidence that acculturation may play a role in informants' ratings (Domínguez de Ramírez & Shapiro, 2005). Studies are needed to build on this small body of research, with a particular need for research that examines possible mechanisms underlying ethnic differences in informant discrepancies.

Child Characteristics

Three child characteristics that may play a role in discrepancies between parents' and teachers' ratings of preschool-aged children include child gender, academic functioning, and mental health status. Child gender may contribute to informant discrepancies because there may be gender differences in how variable children are in their behavior in different settings, and because mothers, fathers, and teachers may differ in their gender expectations for children. Although a number of studies, including two meta-analyses, have found no gender differences in informant agreement (Achenbach et al., 1987; Crane et al., 2011; Duhig et al., 2000; Hughes & Gullone, 2010; Kolko & Kazdin, 1993; Langberg et al., 2010), gender differences appear to be somewhat more common in studies of younger children, though no consistent pattern has emerged. For example, Dave et al. (2008) found that fathers were more likely than mothers to rate preschool boys as more hyperactive than girls, whereas Gagnon, Vitaro, and Tremblay (1992) reported that in a large sample of kindergarten children, mother-teacher correlations for externalizing behavior suggested greater agreement for boys than for girls. Because girls make up a higher proportion of children with behavior problems during the preschool years than among older children (Campbell, 1995), there may be more opportunity for preschool girls' behavior to conflict with parent and teacher expectations, which in turn may lead to more gender differences in informant discrepancies. However, more studies of gender differences in informant ratings of preschool-aged children are needed to evaluate this possibility.

Children's academic functioning is another potentially important child characteristic. Children with academic difficulties may show different patterns of behavior at home compared to school (Heiervang, Stevenson, Lund, & Hugdahl, 2001), which may differentially affect parents' and teachers' perceptions of their behavior. Although research has not examined how children's academic skills are related to informant discrepancies, a few studies have examined related constructs including cognitive and verbal abilities. These findings have been mixed. Chi and Hinshaw (2002) did not find a relation between children's cognitive ability and parent-teacher agreement. However, others have found that children who scored lower on tests of cognitive/verbal ability tended to have higher teacher reports of conduct problems and hyperactivity (Collishaw et al., 2009) and lower teacher reports of social-emotional competence (Crane et al., 2011) compared to mothers.

Finally, children's mental health may be an important, but understudied, child characteristic. Children with mental health issues may be more susceptible to environmental factors

(Belsky & Pluess, 2009) and therefore behave differently across settings. Mothers, fathers, and teachers may also differ in how likely they are to adjust their expectations based on a child's mental health status, which could also contribute to informant discrepancies. Consistent with this rationale, Kolko and Kazdin (1993) found higher mother-teacher agreement among a nonpatient than a psychiatric patient sample. In contrast, Achenbach et al. (1987) failed to find differences in agreement among mixed informants of clinic vs. nonclinic samples, and Carlson and Blader (2011) reported that parents and teachers were more likely to agree in ratings of mania symptoms in children with externalizing disorders than in non-diagnosed children. In sum, although studies have begun to identify child characteristics that may play a role in discrepancies between mothers, fathers, and teachers, more work is needed, particularly among preschool-aged children.

Family Functioning

Finally, theory and research point to family functioning as a potentially important contributor to informant discrepancies. Parent psychopathology, particularly maternal depression, has been perhaps the most well-studied predictor of informant discrepancies, though much of the literature focuses on discrepancies between maternal ratings and observers' or children's ratings (Richters, 1992). Parent psychopathology may contribute to informant discrepancies both because children may behave differently with distressed parents than with other adults, and because parent psychopathology may distort parents' views of their children's behavior. In fact, maternal depression, anxiety, stress, and global measures of psychopathology have been linked with mother-teacher (Chilcoat & Breslau, 1997; Collishaw et al., 2009; Van der Oord et al., 2006; Youngstrom et al., 2000) and mother-father discrepancies (Langberg et al., 2010; Treutler & Epkins, 2003) in ratings of externalizing symptoms, with poorer maternal functioning associated with higher ratings of their children's behavior relative to other reports. However, the few studies that have examined whether maternal depression or parenting stress may bias their ratings of ADHD symptoms have found mixed results (Chi & Hinshaw, 2002; Langberg et al. 2010; Van der Oord et al., 2006). Thus, although maternal psychopathology likely plays an important role in informant discrepancies, this role may vary across different types of child behavior. The handful of studies on paternal depression has failed to find a link between fathers' depression and mother-father discrepancies (Hughes & Gullone, 2010; Jensen, Xenakis, Davis, & Degroot, 1988; Langberg et al., 2010). However, global measures of fathers' psychopathology (Treutler & Epkins, 2003), anxiety (Jensen et al., 1988), and parenting stress (Dave et al., 2008; Hughes et al., 2010; Langberg et al., 2010) have been associated with mother-father discrepancies in ratings of externalizing behavior (with greater father distress associated with higher father ratings relative to mothers). Taken together, these findings provide support for the notion that parent well-being may account for informant discrepancies; however, a better understanding is needed of discrepancies in ratings of ADHD symptoms and of the role of fathers' well-being in informant discrepancies.

Though less well-studied, social class, family structure, and family stressors are also likely to play a role in informant discrepancies. Children from families with fewer resources and more stressful family conditions may behave differently at home than at school in response to stressors in the home. Research on SES has yielded mixed findings; some studies have found a link between SES and mother-father (Duhig et al., 2000) and mother-teacher (Gagnon et al., 1992; Phillips & Lonigan, 2010) agreement, and others have failed to find a correlation between SES and parent-teacher discrepancies (Chi & Hinshaw, 2002; Christensen, Margolin, & Sullaway, 1992; Collishaw et al., 2009; Dinnebeil et al., 2013; Jensen et al., 1999; Kolko & Kazdin, 1993; Treutler & Epkins, 2003; Youngstrom et al., 2000). The samples included in these studies varied widely in ethnic makeup, range of SES, and diagnostic status which may account for mixed findings. Fewer studies have examined

the effects of family structure or family stressors on informant discrepancies, and findings have been mixed. Some studies support a link between less parent-teacher agreement and greater family size, single parenthood, and family stressors (Collishaw et al. 2009; Gagnon et al., 1992), but others do not (Christensen et al., 1992; Jensen et al., 1988). Research is needed to build on these few studies to better establish whether family structure and stressors are associated with informant discrepancies.

The Present Study

The present study examines predictors of discrepancies between mothers', fathers', and teachers' ratings of 3-year-old children's inattention, hyperactivity, and aggression. Guided by theory and previous research, this study focused on the following predictors: ethnicity (African American, Latino, White), child characteristics (gender, pre-academic skills, and ADHD/oppositional defiant disorder [ODD] diagnoses), and family functioning (mother and father depression and negative life events, SES, single parenthood, and family size). It was predicted that greater parent-teacher discrepancies would be evident for African American and Latino children, because parents and teachers would more likely be from different cultural backgrounds. It was also predicted that greater family adversity would be associated with parents reporting higher symptoms than teachers and that parent depression would be associated with parents reporting higher symptoms than other informants.

Because ethnicity is an understudied variable in the informant discrepancies literature, this study also explored possible pathways through which ethnicity might lead to informant discrepancies, including through acculturation, parent depression, negative life events, and socioeconomic status. These variables have been associated with informant discrepancies in previous research (Carlson & Ogles, 2009; De Los Reyes & Kazdin, 2005; Domínguez de Ramírez & Shapiro, 2005; Epstein et al., 2005; Gross, Fogg, Garvey, & Julion, 2004; Schmitz & Velez, 2003), and may therefore play an important role in the process by which ethnicity leads to informant discrepancies.

Method

Participants

Participants were drawn from 258 3-year-old children who participated in a larger longitudinal study of behavior problems (Harvey, Metcalfe, Herbert, & Fanton, 2011). One-hundred ninety-six children (113 boys) who had at least two informants' (biological mother, biological father, or teacher) reports of their behavior at age 3 were selected for this study. One-hundred twenty-five children had measures completed by their biological mother and their teacher, 162 had measures completed by their biological mother and father, and 91 had measures completed by their biological father and teacher. Children were all 3 years old at the time of initial screening and were 37 to 50 months ($M = 44.27$ months, $SD = 3.31$) at the time of the first home visit. Of the 196 mothers who participated, 140 (71%) identified as White, 30 (15%) as Latino (predominately Puerto Rican), 22 (11%) as African American, and 4 (2%) as multi-ethnic. Of the 162 fathers who participated, 114 (70%) identified as White, 28 (17%) as Latino (predominately Puerto Rican), 17 (10%) as African American, and 3 (2%) as multi-ethnic. The median combined family income was \$52,000. The mean years of education completed by mothers and fathers were 13.84 years ($SD = 2.63$) and 13.56 years ($SD = 2.65$), respectively. Twenty-five percent of families were single-parent families.

Procedure

All participants were recruited by distributing screening questionnaire packets to parents (generally mothers) through state birth records, pediatrician offices, child care centers, and community centers throughout western Massachusetts. Screening packets contained the Behavior Assessment System for Children – Parent Report Scale (BASC-PRS; Reynolds & Kamphaus, 1992) and a questionnaire assessing for exclusion criteria, parental concern about externalizing symptoms, and demographic information. Exclusion criteria for all participants included parent report of child intellectual disabilities, deafness, blindness, language delay, cerebral palsy, epilepsy, autism, or psychosis. Children both with ($n = 155$ in the present study) and without ($n = 41$) externalizing problems based on parent-report at the time of screening were recruited. Criteria for the externalizing group were: (a) parent responded “yes” or “possibly” to, “Are you concerned about your child’s activity level, defiance, aggression, or impulse control?” and (b) BASC-PRS hyperactivity and/or aggression subscale T scores fell at or above 65 (approximately 92nd percentile). Criteria for the non-problem comparison children were: (a) parent responded “no” to, “Are you concerned about your child’s activity level, defiance, aggression, or impulse control?” and (b) T scores on the BASC-PRS hyperactivity, aggression, attention problems, anxiety, and depression subscales fell at or below a T score of 60. Parents whose children met criteria for the study were contacted by phone and invited to participate. All measures used in the present study were collected at the first time point (Time 1; age 3) with the exception of child diagnoses which were based on data collected at the fourth time point (Time 4 [T4]; age 6). Data were collected during home visits and parents were paid for their participation. All child behavior measures were available in Spanish from the scale developers. Written informed consent was obtained from all parents who participated. The study was conducted in compliance with the authors’ Institutional Review Board.

Measures of Behavior Problems

BASC-PRS and BASC-Teacher Report Scale (TRS)—This rating scale assesses a broad range of psychopathology in children ages 2 years 6 months and older. The hyperactivity (16 items for the BASC-PRS, 10 items for the BASC-TRS), aggression (13 items for BASC-PRS, 12 items for BASC-TRS), and attention problems (7 items for both the BASC-PRS and BASC-TRS) subscales were used. Items are rated on a scale from 1 (never) to 4 (almost always). These subscales have demonstrated good reliability for 2- to 3-year-old children (Reynolds & Kamphaus, 1992). The BASC-PRS was completed by both parents and the BASC-TRS was completed by preschool teachers or child care providers by mail at Time 1. T scores between 60 and 69 are considered at-risk and T scores of 70 and above are considered clinically significant (Reynolds & Kamphaus, 1992). Cronbach’s alphas in the current sample indicated good reliability for the hyperactivity (.89 for mothers and fathers and .84 for teachers), aggression (.85 for mothers, .83 for fathers, and .90 for teachers), and attention problems subscales (.77 for mothers, .74 for fathers, and .88 for teachers).

Measures of Predictor Variables

Demographic factors—Parents provided demographic information, including ethnicity, income, marital status, education, and number of children at Time 1. Parents were asked to self-report whether they identified as Spanish/Hispanic/Latino (and if yes, to specify their country of origin) and to identify their race by checking one or more of the following categories: White, Black/African American, Asian, Pacific Islander, and American Indian. Two ethnicity variables were created for each parent: Latino (1 = Latino; 0 = not Latino) and African American (1 = African American; 0 = not African American). An SES variable was calculated for each parent by standardizing and averaging parents’ years of education and

family income. A family SES variable was then calculated by averaging mothers' and fathers' SES. Marital status was coded 0 for single parenthood and 1 if the mother was married or living with a partner.

Child diagnoses at Time 4—Clinicians who conducted the home visits when children were 6 years old assigned diagnoses of ADHD and ODD based on a diagnostic interview and parent and teacher completed BASCs (Reynolds & Kamphaus, 1992) and Disruptive Behavior Rating Scales (Barkley & Murphy, 1998). Diagnoses were made at age 6, because at the time this study was designed, there was not sufficient evidence supporting the validity of ADHD and ODD diagnoses in preschool children. Earlier measures of ADHD and ODD symptoms would fit better temporally as predictors of discrepancies, but might detect both early ADHD and ODD and transient symptoms that could be part of a developmental phase, and would highly overlap with the dependent variables in this study (informants' ratings).

Clinicians were all clinical or school psychology graduate students who had taken graduate courses in child assessment and were trained by the first author to conduct these clinical assessments. In making diagnoses, clinicians examined symptom counts, identified elevations on BASC hyperactivity and aggression subscales (T scores > 65), and examined evidence of impairment based on the interview. Convergent evidence of developmentally deviant symptoms was needed to make diagnoses (elevations on most though not necessarily all measures). A second clinician reviewed materials and made independent diagnoses. Discrepancies were discussed and a consensus diagnosis was reached. Kappa was .78 for ADHD and .75 for ODD. Of the 173 children in this study who completed home visits at age 6, 79 (46%) met criteria for ADHD (41 combined type, 11 hyperactive/impulsive type, and 7 inattentive type) and/or ODD.

Pre-academic skills—The Kaufman Survey of Early Academic and Language Skills (KSEALS; Kaufman & Kaufman, 1993) is a measure of pre-academic, language, and articulation skills and was administered at Time 1. The Early Academic and Language Skills Composite (KSEALS Composite) is a summary score for the vocabulary and numbers, letters, and words subtests and was used to measure pre-academic skills for this study. The KSEALS subscale scores have demonstrated adequate reliability, with split-half correlations ranging between .88 and .91 for 3-year-old children and good predictive validity for children ages 3 to 6 years (Kaufman & Kaufman, 1993). Split-half correlations in the present sample were .84 for the vocabulary and .89 for the numbers, letters, and words subtests.

Center for Epidemiologic Studies Depression Scale (CES-D)—Maternal and paternal depression at Time 1 were measured using the CES-D (Radloff, 1977), a 20-item questionnaire of depressive symptoms. Items were scored on a scale from 1 (rarely) to 4 (most of the time) and ratings were averaged across items after reverse-scoring relevant items; higher scores indicated greater depression. This measure has demonstrated good reliability and validity (Weissman, Sholomskas, Pottenger, Prusoff, & Locke, 1977). Cronbach's alpha was .89 for both mothers and fathers in this sample.

Life Experiences Survey (LES)—The LES (Sarason, Johnson, & Siegel, 1978) is a 57-item measure of family stress and was completed by mothers and fathers at Time 1. Respondents rate the valence and severity of events that have occurred in the past year. The severity of negative events on the LES was calculated by summing across the negative valence ratings. The LES negative events scale has demonstrated good test-retest reliability and has been found to correlate with anxiety and depression (Sarason et al., 1978). The severity scores were skewed so square root transformations were conducted. Higher scores indicated greater stress.

Acculturation scale—Acculturation was assessed using the Stephenson Multigroup Acculturation Scale (SMAS; Stephenson, 2000) at Time 1. The SMAS is a 32-item scale containing two subscales: ethnic society immersion and dominant society immersion. The dominant society immersion subscale was used in the present study, with higher scores indicating greater levels of immersion in European American culture. This subscale has demonstrated excellent reliability and has been found to correlate with other scales of acculturation (Stephenson, 2000). Cronbach's alphas for the dominant society immersion subscale in the present sample were .83 for mothers and .87 for fathers.

Methodological Considerations

Researchers have used a variety of approaches to assess informant discrepancies/agreement among mothers, fathers, and teachers, which may in part account for the many mixed findings in the literature. The two most common approaches have been correlations between informants and difference scores. Meta-analyses that have examined cross-study differences in informant agreement (Achenbach et al., 1987; Duhig et al., 2000; Renk & Phares, 2004) have examined correlations between informants. However, correlations only indicate whether two informants agree on the relative ratings of children. Predicting raw difference scores has been a common method (which is also statistically equivalent to regressing the predictor on each informant's ratings; Laird & Weems, 2011) and there is growing support for their use (De Los Reyes & Kazdin, 2004). However, there have been differences of opinion regarding the use of difference scores. Some have argued that difference scores are not intrinsically unreliable (De Los Reyes et al., 2011; Laird & Weems, 2011; Rogosa, Brandt, & Zimowski, 1982). However, others have raised concerns about difference scores (Laird & De Los Reyes, 2013), including issues regarding the reliability of raw difference scores (Kaplan & Saccuzzo, 2009), because the error in the two individual scores that make up the difference scores is compounded. One approach to address potential concerns about measurement error in difference scores is to measure discrepancies using growth models that correct for measurement error (Maguire, 1999). This approach has been used to examine cross informant ratings in adults (Cano, Johansen, & Franz, 2005; Kuo, Mohler, Raudenbusch, & Earls, 2000; Lyons, Zarit, Sayer, & Whitlatch, 2002), and should yield more reliable true discrepancy scores.

Analytic Plan

Structural equation modeling using MPlus (Muthén & Muthén, 1998–2010) was used to assess informant discrepancies. To create latent variables of each informant's reports of child behavior, items from the BASC hyperactivity, aggression, and attention problems were each parceled into 3 sets of items for each rater for optimal measurement of the latent variables (Little, Cunningham, Shahar, & Widaman, 2002). Using multiple indicators allows measurement error to be removed from the latent variable, thus allowing for the estimation of the "true" rather than the "observed" correlation among variables. Since observed associations between variables are attenuated, this is similar to correcting for the reliability of the measures when estimating the association between them.

To estimate discrepancies between informants, we employed an approach used previously with multilevel modeling strategies (Cano et al., 2005; Kuo et al., 2000) and extended it to structural equation modeling. In multilevel modeling, discrepancy is estimated by regressing informants' ratings on a dummy coded rater variable (coded $-.5$ for one rater and $.5$ for the other rater). The slope of the resulting linear relation estimates the discrepancy between raters and the intercept represents the average of the two informants (the level of ratings when rater is 0, which is midway between the two raters). Extending this model to structural equation modeling using a latent growth model, two latent factors are estimated, one that represents the discrepancy (the slope) and one that represents the average of the two

informants (the intercept). The discrepancy factor is estimated by setting the loadings for one rater to .5 and the other to $-.5$, and the intercept (average rating) is estimated by setting the loadings for both raters to 1. Using the multiple parcels ensured that we had enough information to identify this model.

Three models were tested for each set of discrepancy variables. In Model 1, child characteristics were entered (child gender, T4 ADHD/ODD diagnoses, and pre-academic skills). In Model 2, child characteristics were entered together with the two ethnicity variables (African American and Latino/a); thus White becomes the reference category. In Model 3, family functioning variables (parent depression, negative life events, SES, number of children, and for mother-teacher models, single parenthood) were added in addition to ethnicity and child characteristics. This model order was selected because it was critical to evaluate the relation between family functioning and informant discrepancies controlling for child characteristics and ethnicity which could account for such a relation. Finally, Model 3 was trimmed by deleting predictor variables one at a time, beginning with the variable with the highest p -value in predicting rater discrepancies, with the exception that the two ethnicity variables were only removed if both variables had high p -values. Variables were deleted until all predictors had p -values less than .20. Each predictor was also entered individually for each set of analyses (labeled single predictor models) to facilitate comparison with previous studies that have not controlled for other predictor variables.

To test indirect pathways by which ethnicity might lead to discrepancies through other family factors, path modeling was used. Full information maximum likelihood was used to address missing data in predictor variables. In this method, all observed information (including from cases with some missing data) is used to estimate parameters. Mplus6 was used to estimate all parameters as well as to obtain measures of goodness of fit.

Results

Descriptive Statistics

Means, standard deviations, and intercorrelations for measures of hyperactivity, attention problems, and aggression and for predictor variables are presented in Tables 1 and 2. Mothers and fathers differed significantly in their mean ratings of hyperactivity and aggression, all $ps < .001$, with mothers giving higher scores than fathers on average, but they did not differ significantly in their ratings of attention problems, $p = .15$. This stands in contrast to data from the norm sample for the BASC-PRS, in which fathers' ratings of preschool-aged children were significantly higher than mothers' ratings on the hyperactivity and attention problems subscales, and were not significantly different in ratings of aggression (Reynolds & Kamphaus, 1992). Father-teacher dyads differed significantly in their mean raw score ratings of hyperactivity, $p < .001$, and in their attention problem T scores, $p = .009$, with fathers giving higher ratings than teachers. Father-teacher dyads did not significantly differ in their average ratings on any other measures. Mother-teacher dyads differed significantly on all mean ratings of child behavior, all $ps < .05$, with mothers giving higher ratings than teachers.

Bivariate correlations between informants were comparable to those of the norm sample (Reynolds & Kamphaus, 1992). Mothers' and fathers' reports of children's behavior were consistently highly correlated, with large-sized correlations. Correlations between mothers' and teachers' reports of behavior were generally significant, but modest in size, with small-to medium-sized correlations. Fathers' and teachers' ratings of aggression were significantly but modestly correlated, but fathers' and teachers' ratings were not significantly correlated for hyperactivity or attention problems. R to z transformations indicated that correlations between mothers' and fathers' ratings of child behavior were significantly higher than

correlations between mothers' and teachers' ratings ($z = 5.14$ for hyperactivity, $z = 3.82$ for attention problems, and $z = 3.64$ for aggression, all $ps < .001$) and correlations between mothers' and fathers' ratings were significantly higher than correlations between fathers' and teachers' ratings ($z = 5.71$ for hyperactivity, $z = 4.23$ for attention problems, and $z = 4.02$ for aggression, all $ps < .001$). Correlations between mothers and teachers were not significantly different than correlations between fathers and teachers ($z = 1.00$, $p = .32$ for hyperactivity, $z = 0.73$, $p = .46$, for attention problems, and $z = 0.69$, $p = .49$, for aggression).

Predictors of Informant Discrepancies

Table 3 presents all models for mother-father discrepancies, Table 4 presents all models for father-teacher discrepancies, and Table 5 presents all models for mother-teacher discrepancies. Table 6 provides an overview of significant predictors based on trimmed models for each informant pair for hyperactivity, attention problems, and aggression.

Examination of Indirect Effects of Ethnicity on Discrepancies

Mediation path models were constructed to test the hypothesis that ethnicity would be associated with acculturation (dominant society immersion), parent depression, negative life events, and socioeconomic status, which in turn would be associated with informant discrepancies. The discrepancy latent variable was regressed on one of the mediator variables and the two ethnicity variables, and the mediator variable was regressed on the two ethnicity variables. These variables were also all regressed on family SES as a control variable. There was partial support for indirect paths from maternal ethnicity to maternal depression to mother-teacher discrepancy for hyperactivity and inattention (Figures 1 and 2). Latina mothers were significantly more likely to be depressed, which in turn was significantly associated with mothers giving higher ratings of hyperactivity and attention problems compared to teachers (Figures 1 and 2). However, the indirect paths from Latina through maternal depression to hyperactivity discrepancy, $B = -.08$, $SE = .05$, $p = .13$, and attention problems discrepancy, $B = -.14$, $SE = .08$, $p = .11$, did not reach significance. African American mothers were also more likely to experience depression, which in turn was significantly associated with mothers' giving higher ratings of hyperactivity and attention problems compared to teachers. However, the indirect path from African American through maternal depression to hyperactivity discrepancy, $B = -.06$, $SE = .05$, $p = .13$, and the indirect path from African American through maternal depression to attention problems discrepancy, $B = -.11$, $SE = .07$, $p = .12$, did not reach significance. Interestingly these indirect paths for African American mothers were in the opposite direction as the direct path from African American to hyperactivity and attention problems discrepancies. Thus, although African American mothers generally gave lower ratings of hyperactivity and attention problems compared to teachers, this appeared to occur despite the fact that African American mothers tended to be more depressed which was linked with higher ratings of hyperactivity and attention problems compared to teachers.

African American and Latino fathers also experienced more depression, which in turn was associated with less mother-father discrepancy in ratings of hyperactivity (Figure 3). The indirect path from African American to paternal depression to hyperactivity discrepancy approached significance, $B = .07$, $SE = .04$, $p = .06$, and the indirect path from Latino to paternal depression to hyperactivity discrepancy was significant, $B = .09$, $SE = .04$, $p = .03$. Thus, although being Latino and African American did not have an overall effect on hyperactivity discrepancy (Table 3), to the extent that Latino and African American fathers experienced more depression, they were less likely to give lower ratings of hyperactivity compared to mothers. Again, the indirect path for African American fathers was in the opposite direction as the direct path from African American to hyperactivity discrepancies.

Thus, although African American fathers were generally more likely to give lower ratings of hyperactivity compared to mothers, this appeared to occur despite the fact that African American fathers tended to be more depressed which tended to be linked with less discrepant ratings of hyperactivity.

African American and Latino fathers experienced more depression which was also associated with fathers giving higher ratings of attention problems relative to mothers (Figure 4). The indirect path from African American to paternal depression to attention problems discrepancy was significant, $B = .12$, $SE = .05$, $p = .02$, as was the indirect path from Latino to paternal depression to attention problems discrepancy, $B = .15$, $SE = .06$, $p = .006$. Thus, although being Latino did not have an overall effect on attention problems discrepancy and although African American fathers tended to give lower ratings of attention problems compared to mothers (Table 3), to the extent that Latino and African American fathers experienced more depression, they were more likely to give higher ratings of attention problems. Again, the indirect path for African American fathers was in the opposite direction as the direct path from African American to attention problems discrepancies. Thus, although African American fathers were generally more likely than White fathers to give lower ratings of attention problems relative to mothers, this appeared to occur despite the fact that African American fathers tended to be more depressed than White fathers, which was linked with giving higher ratings of attention problems relative to mothers.

Discussion

The present study examined predictors of discrepancies between mothers', fathers', and teachers' ratings of 3-year-old children's hyperactivity, attention problems, and aggression. Ethnicity was one of the most consistent predictors of discrepancies. African American mothers and fathers were more likely than White parents to rate their children's hyperactivity, attention problems, and aggression lower than teachers, and African American fathers were more likely than White fathers to give lower ratings of attention problems relative to mothers. In contrast, Latina mothers were more likely than White mothers to rate their children as more hyperactive and inattentive than teachers. T4 ADHD/ODD diagnoses, parental depression, number of children, and children's pre-academic skills were also predictive of discrepancies for some measures for some informants.

Culture

Findings of this study are consistent with a small body of research suggesting that parent and teacher agreement of children's behavior may vary by ethnicity, and that teachers tend to endorse higher levels of symptoms for African American children than parents do (Lau et al., 2004; Youngstrom et al., 2000). If these findings are replicated with older children, this may partly explain why African American children identified at risk for ADHD are less likely to be evaluated, diagnosed, and treated (Bussing, Zima, Gary, & Garvan, 2003) and why African American children diagnosed with ADHD are less likely to receive medication than White children with ADHD (Rowland et al., 2002). For some African American children, ADHD diagnoses could be driven in part by teachers' perceptions; if parents do not share these perceptions or concerns, they may see no need to pursue treatment or evaluation. In addition, our findings that Latino mothers were more likely to give higher ratings of symptoms compared to teachers and that African American mothers were more likely to give lower ratings of symptoms compared to teachers suggest that the pattern of discrepancy varies across ethnicity, and points to the importance of examining different ethnic groups separately. Combining children of different ethnic groups may mask possible effects of ethnicity. Interestingly, the pattern was fairly consistent for African American parent-teacher

discrepancies across ratings of hyperactivity, attention problems, and aggression, whereas the effect for Latina mothers was specific to hyperactivity.

Child Characteristics

Child characteristics did not generally play a role in predicting informant discrepancies with a few notable exceptions. Children with higher pre-academic skills were more likely than children with lower pre-academic skills to be rated lower on attention problems by teachers than by mothers. It may be that attention problems are less noticeable at preschool when children have strong pre-academic skills. Mothers may see children in a wider variety of contexts, including non-academic contexts, where children may not be able to draw on their strong pre-academic skills to overcome attentional issues. Similarly, children with strong pre-academic skills may be interested in pre-academic activities, which may increase their focus. It should also be noted that although most of the items on the measure of attention were general items of attention problems, one item (gives up easily when learning something new) had an academic emphasis, which may have resulted in a greater influence of children's academic abilities on teachers' ratings. ADHD/ODD diagnoses were also predictive of mother-father discrepancies in hyperactivity ratings. Although mothers tended to give higher ratings than fathers on average, this difference was greater for children who later received ADHD/ODD diagnoses than for children who did not. It may be that mothers spend more time with their preschool-aged children than fathers and are therefore more aware of early symptoms of ADHD. More research is needed to better understand the mechanisms underlying the relation between these child characteristics and informant discrepancies.

Family Functioning

Consistent with previous research suggesting that parental depression may bias reports of their children's behavior (Conrad & Hammen, 1989), greater maternal depression was associated with mothers giving higher attention problems ratings than teachers, and this effect approached significance for ratings of hyperactivity. Fathers with greater depression were more likely than less-depressed fathers to give higher ratings of hyperactivity and attention problems relative to mothers. Although previous findings have been consistent in linking parent depression with informant discrepancies in ratings of externalizing problems (Chilcoat & Breslau, 1997; Collishaw et al., 2009; Youngstrom et al., 2000), links with discrepancies in ratings of ADHD symptoms have been mixed (Chi & Hinshaw, 2002; Van der Oord et al., 2006). In contrast, the present study found links between parental depression and discrepant ratings of ADHD symptoms but not aggression. In addition, although global measures of father psychopathology have been associated with mother-father discrepancies (Treutler & Epkins, 2003), paternal depression has not been associated with mother-father discrepancies in older children (Hughes & Gullone, 2010; Langberg et al., 2010; Jensen et al., 1988). The present study suggests that paternal depression plays a role in mother-father discrepancies in younger children. Thus, although within-study comparisons between younger and older children are needed, comparing the results of the present study to those of previous studies suggests that parental depression may play a bigger role in informant discrepancies in ratings of ADHD symptoms in younger children than in older children. Because hyperactivity and inattention are common among preschoolers (Campbell, 1995), there may be more subjectivity in deciding what constitutes frequent occurrence of symptoms of hyperactivity and inattention. Parents who are depressed may be more likely to consider hyperactivity and inattention in preschoolers as problematic, whereas less-depressed parents may attribute such behavior to a developmental phase and therefore give lower ratings. Larger studies are needed to examine a broad range of ages and an array of child symptomatology to more fully understand the potentially complex relation between parent depression and perceptions of different types of child behavior across development.

There was also evidence that mothers and fathers who had more children were more likely than parents with fewer children to rate their children as more aggressive relative to teachers. This finding stands in contrast to the handful of studies with older children that have either found that greater family size was associated with higher teacher than parent ratings (Collishaw et al., 2009) or that family size was not associated with parent-teacher discrepancies (Jensen et al., 1988). Younger children may be more likely to be aggressive with their siblings than older children are, which could result in a higher incidence of aggression at home than at school for young children with more siblings than for children with fewer siblings. It also may be that parents with more children are more overwhelmed in their role as parents, which may lower their tolerance for aggressive behavior in children. More research is needed to determine whether family size contributes to parent-teacher discrepancies because it results in actual differences in behavior or because it affects parents' perception of behavior.

Indirect Pathways Between Parent Ethnicity and Informant Discrepancies

Examination of possible indirect paths by which ethnicity may contribute to informant discrepancies suggested that African American and Latino parents tended to be more depressed than White parents (perhaps because of experiences with discrimination and its consequences; Pascoe & Smart Richman, 2009), which in turn was associated with mothers giving higher ratings of symptoms relative to teachers, and with fathers giving higher ratings of symptoms relative to mothers. However, these indirect paths for African American parents were in the opposite direction as the direct paths from African American to discrepancies. Thus, for example, although African American mothers were more likely than White mothers to give lower ratings of behavior problems relative to teachers, this occurred despite the fact that African American mothers tended to be more depressed than White mothers, which was linked with giving relatively higher ratings of behavior problems. These findings suggest that there are likely multiple processes through which ethnicity contributes to informant discrepancies, some of which may contribute to higher ratings of symptoms and some of which may contribute to lower ratings of symptoms. Thus, African American mothers' experiences of greater depression may have increased their ratings, but other (unmeasured) processes may have lowered ratings among African American mothers, which counteract the mediating effect of depression.

Although there were ethnic differences in SES and dominant society immersion, these factors did not appear to be involved in the process by which ethnicity contributes to discrepancies. One potentially important factor that was not examined in this study is cultural norms and expectations regarding child behavior. For example, it has been argued that the African American culture tends to value movement expressiveness (Neal et al., 2003). African American parents may therefore view high activity levels as desirable behavior rather than as symptoms of hyperactivity. It may also be that African American children behave differently for their parents than for their teachers, perhaps because their parents may use different child management techniques than their teachers. In fact, there is evidence that there is a greater mismatch in parents' and teachers' authoritarian beliefs for African American than for White parents (Barbarin et al., 2010), which may cause children to behave differently at home than at school. Further research is needed to explore these possibilities.

Clinical Implications

Understanding factors that contribute to discrepancies in parent and teacher ratings of preschool children's behavior problems has potential implications for the diagnostic assessment of behavior disorders in young children. This is particularly germane given growing evidence that ADHD often begins during the preschool years (AAP, 2011;

Applegate et al., 1997). The results of this study suggest that assessing not only maternal but also paternal depression may be a key part of early behavior assessments, and may be the first place to turn when trying to understand why two informants provide different ratings. When practitioners are faced with discrepant ratings that may be accounted for by parental depression, obtaining additional informant and/or observational data may be useful. Clinical observations of parent-child interactions may be particularly helpful for determining whether depression is biasing parents' perceptions of their children, or whether children are reacting to their parents' depression by acting out in their presence.

The results of this study also suggest that when parent-teacher discrepancies arise for African American and Latino children, a more thorough evaluation may be needed to understand parents' beliefs and values with respect to child behavior, and to determine the extent to which the child in fact behaves differently for parents versus teachers. Furthermore, examiners and teachers need to be aware of how their own cultural background may be influencing their perceptions of observed child behavior (Harvey et al., 2009). Practitioners may also need to explore whether certain ethnic groups within the community they serve may be at risk for overdiagnosis or underdiagnosis, and how such patterns may be counteracted at a systemic level. Finally, our study suggests that attention problems may be more likely to go unnoticed at preschool in children with more advanced academic skills. It remains unclear whether children with more advanced academic skills who display attention problems at home but not at school are in fact at risk for future attention problems in school when academics become more challenging. If they are, then examination of such children in both academic and nonacademic settings may be useful in identifying attention problems.

Limitations

Results should be interpreted in the context of several study limitations. First, the findings of this study may not generalize to children who possess characteristics different from those in the present study, including children of different ages and ethnic backgrounds. Similarly, inclusion criteria for this study were primarily based on mothers' reports of the presence or absence of behavior problems and children with behavior problems were oversampled; results may therefore be less generalizable to children without behavior problems. The fact that the pattern of discrepancies between mothers and fathers in the present study differed from that of the normative sample for the BASC-PRS, but was similar to that found in other studies of children with behavior problems (Langberg et al., 2010), suggests that the nature of informant discrepancies may in fact differ for children with behavior problems. Second, Latino parents were predominantly Puerto Rican, but this study did not have sufficient power to examine whether findings generalized to families from other Latin countries. Third, data were not available on teacher ethnicity which limits interpretation of our findings. Fourth, relations between predictor variables and informant discrepancies may result from differential relations between predictor variables and different informants. Statistically speaking, regression models using discrepancy scores are equivalent to regression models using each informant's ratings separately (Laird & Weems, 2011). Fifth, ADHD/ODD diagnoses were made 3 years after informant ratings were assessed in this study, because diagnoses were not available at age 3. Although there is growing evidence for the stability of diagnoses from preschool to school-age, particularly for ADHD (Riddle et al., 2013), research is needed to replicate the findings of the present study using earlier diagnoses. Furthermore, there was not sufficient power to examine different subtypes of ADHD separately, because only a small number of children met criteria for ADHD predominantly inattentive type or ADHD predominantly hyperactive/impulsive type, so it is unclear whether the current findings would be found for all three subtypes. Finally, although this sample was ethnically diverse, because many children did not have teachers' or fathers'

ratings, the number of African American and Latino children who had both fathers and teachers was small. Because ethnic effects were large, we were able to nonetheless detect effects, but future research with a larger sample of ethnically diverse fathers is needed.

Conclusion

Despite these limitations, the present study adds to our knowledge regarding which factors play an important role in how different informants rate preschoolers' attention and disruptive behavior problems, which may inform early assessment of behavior problems. This study also advances our understanding of the role of paternal factors in informant discrepancies. Finally, by examining an ethnically diverse sample, this study provides an important step in understanding the role that ethnicity plays in informant discrepancies.

Further research is needed to determine whether predictors of informant discrepancies lead to different perceptions of the same behavior or to actual differences in children's behavior across settings. A small body of research has examined different raters of the same child behavior (Harvey et al., 2009), which provides an important step toward teasing apart differences in perception from differences in behavior. Research should build on these studies and examine a broad range of predictors of differences in informants' perceptions. Efforts should also focus on more generally understanding the process by which the factors identified in the present study lead to informant discrepancies. Such research may provide important insights that can guide practitioners and researchers when they encounter discrepant reports of child behavior.

Acknowledgments

This research was supported by a grant from the National Institutes of Health (MH60132) awarded to Elizabeth A. Harvey.

References

- Achenbach TM, McConaughy SH, Howell CT. Child/adolescent behavioral and emotional problems: Implications of cross-informant correlations for situational specificity. *Psychological Bulletin*. 1987; 101:213–232.10.1037/0033-2909.101.2.213 [PubMed: 3562706]
- Achenbach, TM.; Resclora, LA. Multicultural understanding of child and adolescent psychopathology: Implications for mental health assessment. New York, NY: Guilford Press; 2007.
- American Academy of Pediatrics. AAP expands ages for diagnosis and treatment of ADHD in children [press release]. 2011. Retrieved from <http://www2.aap.org/pressroom/adhd.pdf>
- Applegate B, Lahey BB, Hart EL, Biederman J, Hynd GW, Barkley RA, Shaffer D. Validity of the age-of onset criterion for ADHD: A report from the DSM-IV field trials. *Journal of the American Academy of Child & Adolescent Psychiatry*. 1997; 36:1211–1221.10.1097/00004583-1999709000-00013 [PubMed: 9291722]
- Barbarin OA, Downer J, Odom E, Head D. Home–school differences in beliefs, support, and control during public pre-kindergarten and their link to children's kindergarten readiness. *Early Childhood Research Quarterly*. 2010; 25:358–372.10.1016/j.ecresq.2010.02.003
- Barkley, RA.; Murphy, KR. Attention-deficit hyperactivity disorder: A clinical workbook. New York, NY: Guilford; 1998.
- Belsky J, Pluess M. Beyond diathesis stress: Differential susceptibility to environmental influences. *Psychological Bulletin*. 2009; 135:885–908.10.1037/a0017376 [PubMed: 19883141]
- Betancourt H, Lopez SR. The study of culture, ethnicity, and race in American psychology. *American Psychologist*. 1993; 48:629–637.10.1037/0003-066X.48.6.629
- Bussing R, Zima BT, Gary FA, Garvan CW. Barriers to detection, help-seeking, and service use for children with ADHD symptoms. *The Journal of Behavioral Health Services & Research*. 2003; 30:176–189.10.1007/BF02289806 [PubMed: 12710371]

- Campbell SB. Behavior problems in preschool children: A review of recent research. *Journal of Child Psychology and Psychiatry*. 1995; 36:113–149.10.1111/j.1469-7610.1995.tb01657.x [PubMed: 7714027]
- Cano A, Johansen AB, Franz A. Multilevel analysis of couple congruence on pain, interference, and disability. *Pain*. 2005; 118:369–379.10.1016/j.pain.2005.09.003 [PubMed: 16289795]
- Carlson DL, Ogles BM. Age, gender, and ethnicity effects on parent–child discrepancy using identical item measures. *Journal of Child and Family Studies*. 2009; 18:125–135.10.1007/s10826-008-9213-2
- Carlson GA, Blader JC. Diagnostic implications of informant disagreement for manic symptoms. *Journal of Child and Adolescent Psychopharmacology*. 2011; 21:399–405.10.1089/cap.2011.0007 [PubMed: 22040185]
- Chi TC, Hinshaw SP. Mother-child relationships of children with ADHD: The role of maternal depressive symptoms and depression-related distortions. *Journal of Abnormal Child Psychology*. 2002; 30:387–400.10.1023/A:1015770025043 [PubMed: 12109489]
- Chilcoat HD, Breslau N. Does psychiatric history bias mothers' reports? An application of a new analytic approach. *Journal of the American Academy of Child & Adolescent Psychiatry*. 1997; 36:971–979.10.1097/00004583-199707000-00020 [PubMed: 9204676]
- Christensen A, Margolin G, Sullaway M. Interparental agreement on child behavior problems. *Psychological Assessment*. 1992; 4:419–425.10.1037/1040-3590.4.4.419
- Collishaw S, Goodman R, Ford T, Rabe-Hesketh S, Pickles A. How far are associations between child, family and community factors and child psychopathology informant-specific and informant-general? *Journal of Child Psychology & Psychiatry*. 2009; 50:571–580.10.1111/j.1469-7610.2008.02026.x [PubMed: 19207620]
- Conrad M, Hammen C. Role of maternal depression in perceptions of child maladjustment. *Journal of Consulting and Clinical Psychology*. 1989; 57:663–667.10.1037/0022-006X.57.5.663 [PubMed: 2794188]
- Crane J, Mincic M, Winsler A. Parent-teacher agreement and reliability on the Devereux Early Childhood Assessment (DECA) in English and Spanish for ethnically diverse children living in poverty. *Early Education and Development*. 2011; 22:520–547.10.1080/10409289.2011.565722
- Dave S, Nazareth I, Senior R, Sherr L. A comparison of father and mother report of child behaviour on the Strengths and Difficulties Questionnaire. *Child Psychiatry & Human Development*. 2008; 39:399–413.10.1007/s10578-008-0097-6 [PubMed: 18266104]
- De Los Reyes A. Introduction to the special section. More than measurement error: Discovering meaning behind informant discrepancies in clinical assessments of children and adolescents. *Journal of Clinical Child and Adolescent Psychology*. 2011; 40:1–9.10.1080/15374416.2011.533405 [PubMed: 21229439]
- De Los Reyes A, Goodman KL, Kliewer W, Reid-Quinones K. Whose depression relates to discrepancies? Testing relations between informant characteristics and informant discrepancies from both informants' perspectives. *Psychological Assessment*. 2008; 20:139–149.10.1037/1040-3590.20.2.139 [PubMed: 18557691]
- De Los Reyes A, Henry DB, Tolan PH, Wakschlag LS. Linking informant discrepancies to observed variations in young children's disruptive behavior. *Journal of Abnormal Child Psychology*. 2009; 37:637–652.10.1007/s10802-009-9307-3 [PubMed: 19247829]
- De Los Reyes A, Kazdin AE. Measuring informant discrepancies in clinical child research. *Psychological Assessment*. 2004; 16:330–334.10.1037/1040-3590.16.3.330 [PubMed: 15456389]
- De Los Reyes A, Kazdin AE. Informant discrepancies in the assessment of childhood psychopathology: A critical review, theoretical framework, and recommendations for further study. *Psychological Bulletin*. 2005; 131:483–509.10.1037/0033-2909.131.4.483 [PubMed: 16060799]
- De Los Reyes A, Youngstrom EA, Pabón SC, Youngstrom JK, Feeny NC, Findling RL. Internal consistency and associated characteristics of informant discrepancies in clinic referred youths age 11 to 17 years. *Journal of Clinical Child & Adolescent Psychology*. 2011; 40:36–53.10.1080/15374416.2011.533402 [PubMed: 21229442]

- Dinnebeil LA, Sawyer BE, Logan J, Dynia JM, Cancio E, Justice LM. Influences on the congruence between parents' and teachers' ratings of young children's social skills and problem behaviors. *Early Childhood Research Quarterly*. 2013; 28:144–152.10.1016/j.ecresq.2012.03.001
- Domínguez de Ramírez R, Shapiro ES. Effects of student ethnicity on judgments of ADHD symptoms among Hispanic and White teachers. *School Psychology Quarterly*. 2005; 20:268–287.10.1521/scpq.2005.20.3.268
- Duhig AM, Renk K, Epstein MK, Phares V. Interparental agreement on internalizing, externalizing, and total behavior problems: A meta-analysis. *Clinical Psychology: Science and Practice*. 2000; 7:435–453.10.1093/clipsy.7.4.435
- Dumenci L, Achenbach TM, Windle M. Measuring context-specific and cross-contextual components of hierarchical constructs. *Journal of Psychopathology & Behavioral Assessment*. 2010; 33:3–10.10.1007/s10862-010-9187-4 [PubMed: 21358856]
- Edelbrock CS, Costello AJ, Dulcan MK, Conover NC, Kala R. Parent-child agreement on child psychiatric symptoms assessed via structured interview. *Journal of Child Psychology & Psychiatry*. 1986; 27:181–190. [PubMed: 3958075]
- Epstein JN, Willoughby M, Valencia EY, Abikoff HB, Arnold EL, Hinshaw SP. The role of children's ethnicity in the relationship between teacher ratings of Attention-Deficit/Hyperactivity Disorder and observed classroom behavior. *Journal of Consulting and Clinical Psychology*. 2005; 73:424–434.10.1037/0022-006X.73.3.424 [PubMed: 15982140]
- Gagnon C, Vitaro F, Tremblay RE. Parent-teacher agreement on kindergartners' behavior problems: A research note. *Journal of Child Psychology & Psychiatry & Allied Disciplines*. 1992; 33:1255–1261.10.1111/j.1469-7610.1992.tb00944.x
- Grills AE, Ollendick TH. Issues in parent-child agreement: The case of structured diagnostic interviews. *Clinical Child and Family Psychology Review*. 2002; 5:57–83.10.1023/A:1014573708569 [PubMed: 11993545]
- Gross D, Fogg L, Garvey C, Julion W. Behavior problems in young children: An analysis of cross-informant agreements and disagreements. *Research in Nursing & Health*. 2004; 27:413–425.10.1002/nur.20040 [PubMed: 15514961]
- Harvey E, Friedman-Weieneth J, Miner A, Bartolomei R, Youngwirth S, Hashim R, Arnold D. The role of ethnicity in observers' ratings of mother-child behavior. *Developmental Psychology*. 2009; 45:1497–1508.10.1037/a0017200 [PubMed: 19899909]
- Harvey EA, Metcalfe LA, Herbert SD, Fanton JH. The role of family experience and ADHD in the early development of oppositional defiant disorder. *Journal of Consulting and Clinical Psychology*. 2011; 79:784–795.10.1037/a0025672 [PubMed: 21942501]
- Harwood, R.; Leyendecker, B.; Carlson, V.; Asencio, M.; Miller, A. Parenting among Latino families in the U.S. In: Bornstein, MH., editor. *Handbook of parenting*. 2. Vol. 4. Mahwah, NJ: Erlbaum; 2002. p. 21-46.
- Heiervang E, Stevenson J, Lund A, Hugdahl K. Behaviour problems in children with dyslexia. *Nordic Journal of Psychiatry*. 2001; 55:251–256.10.1080/080394801681019101 [PubMed: 11839115]
- Hill SA. Class, race, and gender dimensions of child rearing in African American families. *Journal of Black Studies*. 2001; 31:494–508.10.1177/002193470103100407
- Hughes EK, Gullone E. Discrepancies between adolescents, mother, and father reports of adolescent internalizing symptom levels and their association with parent symptoms. *Journal of Clinical Psychology*. 2010; 66:978–995.10.1002/jclp.20695 [PubMed: 20694961]
- Jensen PS, Rubio-Stipec M, Canino G, Bird HR, Dulcan MK, Schwab-Stone ME, Lahey BB. Parent and child contributions to diagnosis of mental disorder: Are both informants always necessary? *Journal of the American Academy of Child & Adolescent Psychiatry*. 1999; 38:1569–1579.10.1097/00004583-199912000-00019 [PubMed: 10596258]
- Jensen PS, Xenakis SN, Davis H, Degroot J. Child psychopathology rating scales and interrater agreement: II. Child and family characteristics. *Journal of the American Academy of Child & Adolescent Psychiatry*. 1988; 27:451–461.10.1097/00004583-198807000-00013 [PubMed: 3182601]
- Kaplan, RM.; Saccuzzo, DP. *Psychological testing: Principles, applications, and issues*. 7. Belmont, CA: Wadsworth; 2009.

- Kaufman, AS.; Kaufman, NL. Manual for the Kaufman Survey of Early Academic and Language Skills. Circle Pines, MN: American Guidance Service; 1993.
- Kolko DJ, Kazdin AE. Emotional/behavioral problems in clinic and nonclinic children: Correspondence among child, parent and teacher reports. *Journal of Child Psychology and Psychiatry*. 1993; 34:991–1006.10.1111/j.1469-7610.1993.tb01103.x [PubMed: 8408380]
- Kraemer HC, Measelle JR, Ablow JC, Essex MJ, Boyce WT, Kupfer DJ. A new approach to integrating data from multiple informants in psychiatric assessment and research: Mixing and matching contexts and perspectives. *American Journal of Psychiatry*. 2003; 160:1566–1577.10.1176/appi.ajp.160.9.1566 [PubMed: 12944328]
- Kuo M, Mohler B, Raudenbush SL, Earls FJ. Assessing exposure to violence using multiple informants: Application of hierarchical linear model. *Journal of Child Psychology and Psychiatry*. 2000; 41:1049–1056.10.1111/1469-7610.00692 [PubMed: 11099121]
- Laird RD, De Los Reyes A. Testing informant discrepancies as predictors of early adolescent psychopathology: Why difference scores cannot tell you what you want to know and how polynomial regression may. *Journal of Abnormal Child Psychology*. 2013; 41:1–14.10.1007/s10802-012-9659-y [PubMed: 22773360]
- Laird RD, Weems CF. The equivalence of regression models using difference scores and models using separate scores for each informant: Implications for the study of informant discrepancies. *Psychological Assessment*. 2011; 23:388–397.10.1037/a0021926 [PubMed: 21319905]
- Langberg JM, Epstein JN, Simon JO, Loren RE, Arnold LE, Hechtman L, Wigal T. Parent agreement on ratings of children's attention deficit/hyperactivity disorder and broadband externalizing behaviors. *Journal of Emotional and Behavioral Disorders*. 2010; 18:41–50.10.1177/1063426608330792 [PubMed: 21691457]
- Lau A, Garland AF, Yeh M, McCabe KM, Wood PA, Hough RL. Race/ethnicity and inter-informant agreement in assessing adolescent psychopathology. *Journal of Emotional and Behavioral Disorders*. 2004; 12:145–156.10.1177/10634266040120030201
- Little TD, Cunningham WA, Shahar G, Widaman KF. To parcel or not to parcel: Exploring the question, weighing the merits. *Structural Equation Modeling*. 2002; 9:151–173.10.1207/S15328007SEM0902_1
- Lyons KS, Zarit SH, Sayer AG, Whitlatch CJ. Caregiving as a dyadic process: Perspectives from caregiver and receiver. *Journal of Gerontology: Psychological Sciences*. 2002; 57:195–204.10.1093/geronb/57.3.P195
- Maguire MC. Treating the dyad as the unit of analysis: A primer on three analytic approaches. *Journal of Marriage and Family*. 1999; 61:213–223.10.2307/353895
- Mesman J, Koot HM. Child-reported depression and anxiety in preadolescence: I. Associations with parent- and teacher-reported problems. *Journal of the American Academy of Child & Adolescent Psychiatry*. 2000; 39:1371–1378.10.1097/00004583-200011000-00011 [PubMed: 11068892]
- Muthén, LK.; Muthén, BO. *Mplus user's guide*. 6. Los Angeles, CA: Muthén & Muthén; 1998–2010.
- Neal LI, McCray AD, Webb-Johnson G, Bridgest ST. The effects of African American movement styles on teachers' perceptions and reactions. *The Journal of Special Education*. 2003; 37:49–57.10.1177/00224669030370010501
- Pagano, ME.; Hirsch, BJ.; Deutsch, NL.; McAdams, DP. The transmission of values to school-age and young adult offspring: Race and gender differences in parenting. In: Zimmerman, TS., editor. *Integrating gender and culture in parenting*. New York, NY: Haworth Press; 2002. p. 13-36.
- Pascoe EA, Smart Richman L. Perceived discrimination and health: A meta-analytic review. *Psychological Bulletin*. 2009; 135:531–54.10.1037/a0016059 [PubMed: 19586161]
- Phillips BM, Lonigan LJ. Child and informant influences on behavioral ratings of preschool children. *Psychology in the Schools*. 2010; 47:374–390.10.1002/pits.20476
- Radloff LS. The CES-D scale: A self-report depression scale for research in the general population. *Applied Psychological Measurement*. 1977; 1:385–401.10.1177/014662167700100306
- Renk K, Phares V. Cross-informant ratings of social competence in children and adolescents. *Clinical Psychology Review*. 2004; 24:239–254.10.1016/j.cpr.2004.01.004 [PubMed: 15081518]
- Reynolds, CR.; Kamphaus, RW. *Behavior Assessment System for Children manual*. Circle Pines, MN: American Guidance Service; 1992.

- Richters JE. Depressed mothers as informants about their children: A critical review of the evidence for distortion. *Psychological Bulletin*. 1992; 112:485–499.10.1037/0033-2909.112.3.485 [PubMed: 1438639]
- Riddle MA, Yershova K, Lazzaretto D, Paykina N, Yenokyan G, Greenhill L, Posner K. The preschool attention-deficit/hyperactivity disorder treatment study (PATs) 6-year follow-up. *Journal of the American Academy of Child and Adolescent Psychiatry*. 2013; 52:264–278e2.10.1016/j.jaac.2012.12.007 [PubMed: 23452683]
- Rogosa D, Brandt D, Zimowski M. A growth curve approach to the measurement of change. *Psychological Bulletin*. 1982; 92:726–748.10.1037/0033-2909.92.3.726
- Rowland A, Umbach D, Stallone L, Naftel J, Bohlig M, Sandler D. Prevalence of medication treatment for attention deficit-hyperactivity disorder among elementary school children in Johnston County, North Carolina. *American Journal of Public Health*. 2002; 92:231–234.10.2105/AJPH.92.2.231 [PubMed: 11818297]
- Sarason IG, Johnson JH, Siegel JM. Assessing the impact of life changes: Development of the life experiences survey. *Journal of Consulting and Clinical Psychology*. 1978; 46:932–946.10.1037//0022-006X.46.5.932 [PubMed: 701572]
- Schmitz MF, Velez M. Latino cultural differences in maternal assessments of attention deficit/hyperactivity symptoms in children. *Hispanic Journal of Behavioral Sciences*. 2003; 25:110–122.10.1177/0739986303251700
- Sims D, Lonigan CJ. Multi-method assessment of ADHD characteristics in preschool children: Relations between measures. *Early Childhood Research Quarterly*. 2012; 27:329–337.10.1016/j.ecresq.2011.08.004 [PubMed: 22518069]
- Stephenson M. Development and validation of the Stephenson Multigroup Acculturation Scale. *Psychological Assessment*. 2000; 12:77–88.10.1037//1040-3590.12.1.77 [PubMed: 10752366]
- Stewart PE. Afrocentric approaches to working with African American families. *Families in Society*. 2004; 85:221–228.
- Treutler CM, Epkins CC. 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*. 2003; 31:13–27.10.1023/A:1021765114434 [PubMed: 12597696]
- Triandis HC, Bontempo R, Villareal MJ, Asai M, Lucca N. Individualism and collectivism: Cross-cultural perspectives on self-in group relationships. *Journal of Personality and Social Psychology*. 1988; 54:323–338.10.1037/0022-3514.54.2.323
- van der Ende J, Verhulst FC, Tiemeier H. Agreement of informants on emotional and behavioral problems from childhood to adulthood. *Psychological Assessment*. 2012; 24:293–300.10.1037/a0025500 [PubMed: 21928910]
- Van der Oord S, Prins PJM, Oosterlaan J. The association between parenting stress, depressed mood and informant agreement in ADHD and ODD. *Behavior Research and Therapy*. 2006; 44:1585–1595.10.1016/j.brat.2005.11.011
- Weissman MM, Sholomskas D, Pottenger M, Prusoff BA, Locke B. Assessing depressive symptoms in five psychiatric populations: A validation study. *American Journal of Epidemiology*. 1977; 106:203–214. [PubMed: 900119]
- Winsler A, Wallace GL. Behavior problems and social skills in preschool children: Parent-teacher agreement and relations with classroom observations. *Early Education & Development*. 2002; 13:41–58.10.1207/s15566935eed1301_3
- Youngstrom E, Loeber R, Stouthamer-Loeber M. Patterns and correlates of agreement between parent, teacher, and male adolescent ratings of externalizing and internalizing problems. *Journal of Consulting and Clinical Psychology*. 2000; 68:1038–1050.10.1037//0022-006X.68.6.1038 [PubMed: 11142538]

Highlights

- We examined factors that predicted discrepancies between raters of child behavior
- Ethnicity predicted discrepancies between parents and teachers
- Parent depression partially mediated relations between ethnicity and discrepancy
- ADHD/ODD diagnoses, family size, and academic skills also predicted discrepancy

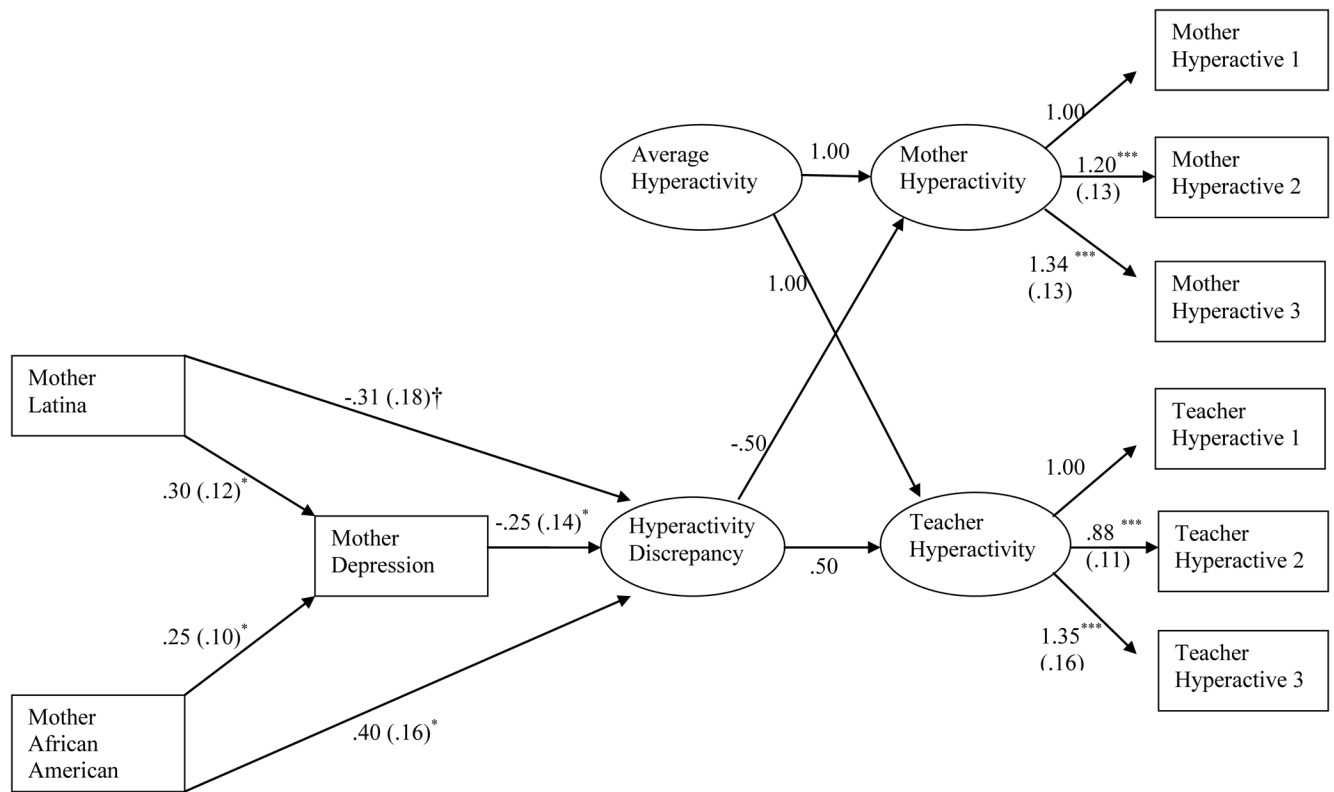


Figure 1.

Model testing path from ethnicity to maternal depression to hyperactivity discrepancy. Unstandardized path coefficients are presented. Paths from ethnicity and depression to average hyperactivity were also estimated but are not shown here for readability. Family SES was entered as a control but those paths are also not shown here. Model fit indices showed good fit, $X^2/df = 1.65$, CFI = .96, RMSEA = .07, and SRMR = .04.

$^\dagger p < .10$, $^* p < .05$, $^{**} p < .01$, $^{***} p < .001$

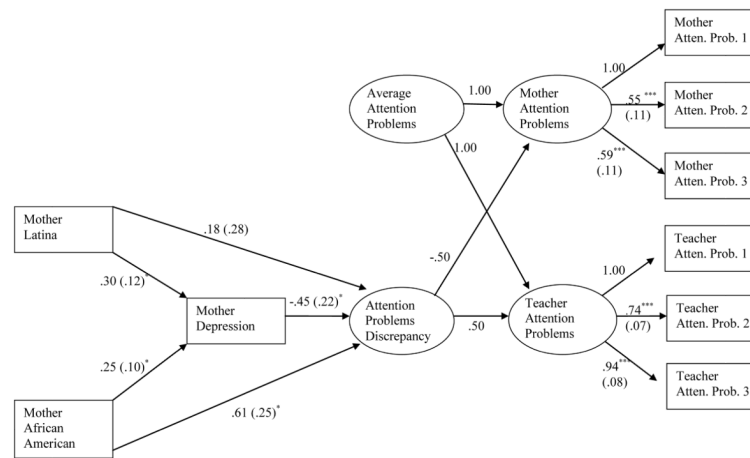


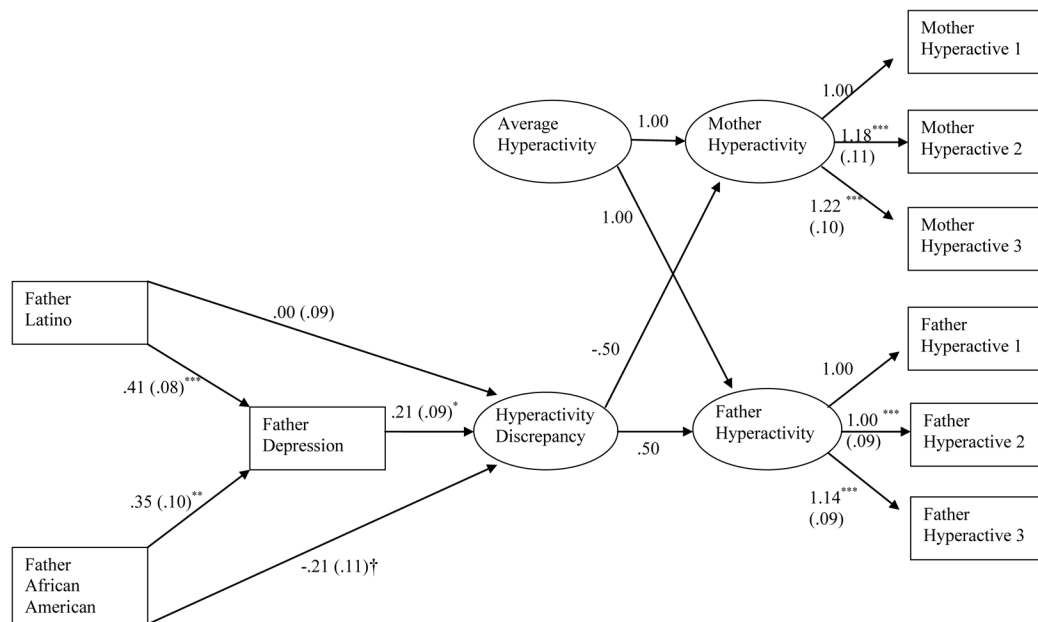
Figure 2.

Model testing path from ethnicity to maternal depression to attention problems discrepancy.

Unstandardized path coefficients are presented. Paths from ethnicity and depression to average attention problems were also estimated but are not shown here for readability.

Family SES was entered as a control but those paths are also not shown here. Model fit indices showed moderate fit, $X^2/df = 2.06$, CFI = .93, RMSEA = .09, and SRMR = .06.

* $p < .05$, ** $p < .01$, *** $p < .001$

**Figure 3.**

Model testing path from ethnicity to paternal depression to hyperactivity discrepancy. Unstandardized path coefficients are presented. Paths from ethnicity and depression to average hyperactivity were also estimated but are not shown here for readability. Family SES was entered as a control but those paths are also not shown here. Model fit indices showed good fit, $X^2/df = 1.54$, CFI = .98, RMSEA = .06, and SRMR = .03.

† $p < .10$, * $p < .05$, ** $p < .01$, *** $p < .001$

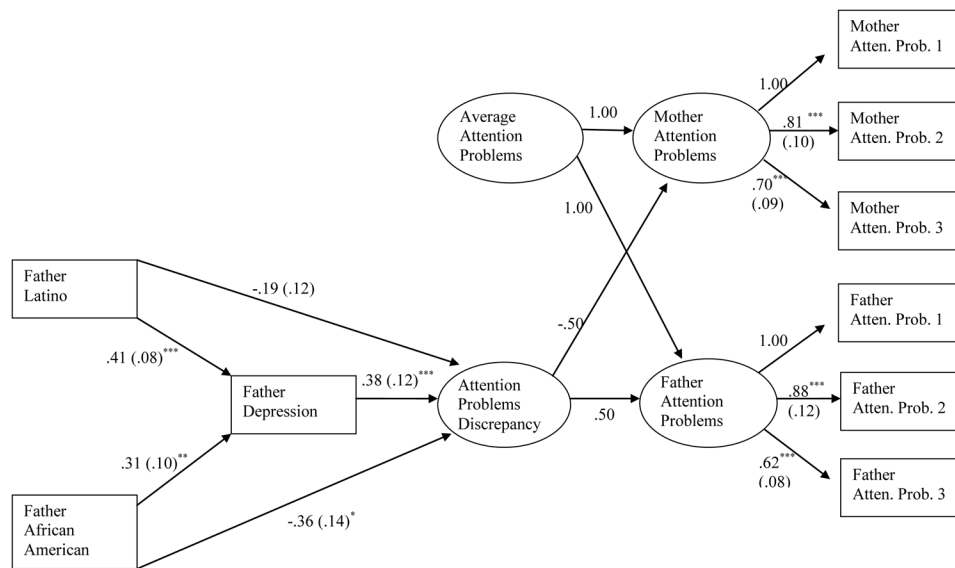


Figure 4.

Model testing path from ethnicity to paternal depression to attention problems discrepancy. Unstandardized path coefficients are presented. Paths from ethnicity and depression to average attention problems were also estimated but are not shown here for readability. Family SES was entered as a control but those paths are also not shown here. Model fit indices showed good fit, $\chi^2/df = 2.17$, CFI = .93, RMSEA = .09, and SRMR = .05
 $\dagger p < .10$, * $p < .05$, ** $p < .01$, *** $p < .001$

Table 1
Means and Intercorrelations Among Informant Ratings of Hyperactivity, Attention Problems, and Aggression

Hyperactivity measure	Mother-Father Dyads			Father-Teacher Dyads			Mother-Teacher Dyads			Factor Intercorrelations	
	T Score M (SD)	Raw score M (SD)		T Score M (SD)	Raw score M (SD)		T Score M (SD)	Raw score M (SD)		1	2
1. BASC hyperactivity mother	58.04 (12.87)	2.45 (0.51)					57.88 (12.55)	2.45 (0.51)			
2. BASC hyperactivity father	53.84 (12.98)	2.27 (0.51)	52.92 (12.14)	2.22 (0.47)					.74***		
3. BASC hyperactivity teacher			50.78 (9.52)	1.84 (0.52)	51.04 (9.42)	1.86 (0.51)			.32**	.19	
Attention problems measure											
1. BASC attention mother	54.23 (12.01)	2.03 (0.45)					54.21 (12.33)	2.05 (0.45)			
2. BASC attention father	52.86 (11.63)	1.98 (0.43)	52.41 (11.32)	1.97 (0.43)					.58***		
3. BASC attention teacher			48.29 (10.12)	1.87 (0.58)	48.55 (10.83)	1.89 (0.62)			.20*	.10	
Aggression measure											
1. BASC aggression mother	56.07 (13.15)	1.88 (0.43)					56.00 (12.48)	1.88 (0.41)			
2. BASC aggression father	52.10 (11.95)	1.74 (0.39)	51.36 (10.97)	1.72 (0.36)					.64***		
3. BASC aggression teacher			51.76 (9.36)	1.68 (0.47)	52.63 (10.38)	1.72 (0.51)			.31**	.22*	

Note. $n = 196$ for mothers, 162 for fathers, and 125 for teachers

* $p < .05$,

**

$p < .01$,

$p < .001$

Table 2

Intercorrelations Among Predictor Variables

	M (SD) or %	1	2	3	4	5	6	7	8	9	10	11
1. Female child	42%											
2. T4 ADHD/ODD diagnosis	40%	-.09										
3. Pre-academic skills	106.99 (17.63)	-.05	-.18*									
4. Mother African American	11%	-.04	.07	-.18*								
5. Mother Latina	15%	.10	.09	-.26***	-.15*							
6. Maternal depression	1.50 (0.43)	.11	.23**	-.25**	.09	.30***						
7. Paternal depression	1.43 (0.42)	-.04	.29***	-.20*	.12	.36***	.21**					
8. Maternal negative life events	2.16 (1.39)	.06	.24**	-.11	.08	.17*	.41***	.11				
9. Paternal negative life events	1.78 (1.07)	-.10	.22**	.01	-.03	.15	.06	.28**	.15			
10. Family SES	0.00 (0.81)	-.11	.29***	.35***	-.14*	-.29***	-.31***	-.30***	-.19**	-.04		
11. Number of children	2.38 (1.16)	.10	.07	-.37***	.05	.03	-.01	.22**	-.05	.11	-.09	
12. Single parent (1=intact, 0 = single)	25%	.03	-.17*	.23**	-.40***	.09	-.37***	-.25*	.03	-.01	.35***	.14*

Note. T4 = Time 4; ADHD = attention-deficit hyperactivity disorder; ODD = oppositional defiant disorder; SES = socioeconomic status

*
p < .05,

**
p < .01,

p < .001

Table 3**Predictors of Mother-Father Discrepancies**

Predictor	Model 1 B (SE)	Model 2 B (SE)	Model 3 B (SE)	Trimmed B (SE)	Single Predictor B (SE)
Hyperactivity					
<u>Child characteristic</u>					
Female child	-0.021 (0.061)	-0.021 (0.061)	-0.021 (0.062)		-0.011 (0.062)
T4 ADHD/ODD diagnosis	-0.113 (0.070)	-0.107 (0.069)	-0.136 (0.073) [†]	-0.137 (0.069) [*]	-0.105 (0.069)
Pre-academic skills	-0.001 (0.002)	-0.001 (0.002)	0.000 (0.002)		-0.001 (0.002)
<u>Cultural</u>					
Mother African American		-0.164 (0.110)	-0.198 (0.111) [†]	-0.199 (0.108) [†]	-0.178 (0.111)
Mother Latina		0.003 (0.089)	-0.036 (0.097)	-0.061 (0.089)	-0.005 (0.087)
Father African American		-0.130 (0.101)	-0.188 (0.105) [†]	-0.187 (0.102) [†]	-0.159 (0.102)
Father Latino		0.078 (0.088)	0.002 (0.098)	0.003 (0.089)	0.044 (0.084)
<u>Family functioning</u>					
Maternal depression			0.082 (0.089)		-0.004 (0.077)
Paternal depression			0.198 (0.085) [*]	0.222 (0.082) ^{**}	0.152 (0.078) [*]
Maternal negative life events			-0.023 (0.028)		-0.029 (0.026)
Paternal negative life events			0.013 (0.032)		0.009 (0.032)
Family SES			0.040 (0.042)		0.036 (0.038)
Number of children			0.043 (0.027)		0.041 (0.026)
Attention Problems					
<u>Child characteristic</u>					
Female child	-0.035 (0.074)	-0.038 (0.072)	-0.042 (0.072)		-0.028 (0.070)
T4 ADHD/ODD diagnosis	-0.065 (0.088)	-0.066 (0.084)	-0.118 (0.088)		-0.052 (0.086)
Pre-academic skills	0.000 (0.002)	-0.001 (0.002)	0.001 (0.003)		0.000 (0.002)
<u>Cultural</u>					
Mother African American		-0.350 (0.131) ^{**}	-0.437 (0.133) ^{**}	-0.401 (0.125) ^{**}	-0.331 (0.124) ^{**}
Mother Latina		0.089 (0.101)	-0.033 (0.111)	-0.025 (0.098)	0.091 (0.094)
Father African American ^a		-0.175 (0.121)	-0.328 (0.125) ^{**}	-0.306 (0.125) [*]	-0.171 (0.115)
Father Latino ^a		0.014 (0.104)	-0.156 (0.115)	-0.155 (0.115)	0.009 (0.093)
<u>Family functioning</u>					
Maternal depression			0.009 (0.104)		0.033 (0.088)
Paternal depression			0.317 (0.101) ^{**}	0.303 (0.093) ^{***}	0.263 (0.009) ^{**}
Maternal negative life events			0.001 (0.033)		-0.004 (0.028)
Paternal negative life events			-0.017 (0.037)		0.007 (0.034)
Family SES			-0.049 (0.049)		-0.046 (0.046)
Number of children			0.019 (0.033)		0.016 (0.030)
Aggression					

Predictor	Model 1 B (SE)	Model 2 B (SE)	Model 3 B (SE)	Trimmed B (SE)	Single Predictor B (SE)
<u>Child characteristic</u>					
Female child	-0.073 (0.054)	-0.071 (0.054)	-0.071 (0.055)		-0.069 (0.053)
T4 ADHD/ODD diagnosis	-0.031 (0.062)	-0.027 (0.063)	-0.043 (0.067)		-0.019 (0.062)
Pre-academic skills	-0.001 (0.002)	-0.001 (0.002)	0.000 (0.002)		-0.001 (0.002)
<u>Cultural</u>					
Mother African American		-0.060 (0.097)	-0.075 (0.098)		-0.049 (0.095)
Mother Latina		-0.042 (0.078)	-0.053 (0.086)		-0.037 (0.074)
Father African American ^a		-0.098 (0.090)	-0.119 (0.093)		-0.104 (0.088)
Father Latino ^a		0.056 (0.078)	0.027 (0.087)		0.051 (0.072)
<u>Family functioning</u>					
Maternal depression			0.077 (0.081)		-0.004 (0.067)
Paternal depression			0.035 (0.077)		0.052 (0.067)
Maternal negative life events			-0.038 (0.026)	-0.030 (0.022)	-0.030 (0.022)
Paternal negative life events			0.040 (0.029)		0.025 (0.027)
Family SES			0.001 (0.037)		0.007 (0.033)
Number of children			0.027 (0.025)		0.024 (0.022)

Note. T4 = Time 4; ADHD = attention-deficit hyperactivity disorder; ODD = oppositional defiant disorder; SES = socioeconomic status. Analyses are based on 162 mother-father dyads. More positive discrepancy scores indicate mothers' tendency to give lower ratings than fathers. Unstandardized coefficients are presented.

^aMother and father ethnicity were highly related; Model 3 was first run entering mother ethnicity and then rerun entering father ethnicity.

[†] $p < .10$,

* $p < .05$,

** $p < .01$,

*** $p < .001$

Table 4**Predictors of Father-Teacher Discrepancies**

Predictor	Model 1 B (SE)	Model 2 B (SE)	Model 3 B (SE)	Trimmed B (SE)	Single Predictor B (SE)
Hyperactivity					
<u>Child characteristic</u>					
Female child	-0.100 (0.128)	-0.059 (0.121)	-0.088 (0.120)		-0.082 (0.128)
T4 ADHD/ODD diagnosis	-0.070 (0.139)	-0.073 (0.135)	-0.096 (0.129)		-0.048 (0.139)
Pre-academic skills	-0.004 (0.004)	-0.002 (0.004)	-0.005 (0.004)		-0.003 (0.004)
<u>Cultural</u>					
African American		0.750 (0.239) **	0.820 (0.234) ***	0.838 (0.231) ***	0.764 (0.237) **
Latino		-0.162 (0.234)	0.045 (0.240)	0.019 (0.224)	-0.164 (0.219)
<u>Family functioning</u>					
Paternal depression			-0.066 (0.174)		-0.100 (0.175)
Paternal negative life events			-0.070 (0.060)	-0.081 (0.059)	-0.081 (0.063)
Family SES			0.008 (0.082)		0.005 (0.084)
Number of children			-0.143 (0.067) *	-0.121 (0.064) †	-0.122 (0.065) †
Attention Problems					
<u>Child characteristic</u>					
Female child	-0.025 (0.159)	0.013 (0.156)	0.044 (0.164)		0.013 (0.155)
T4 ADHD/ODD diagnosis	-0.218 (0.176)	-0.202 (0.175)	-0.237 (0.183)		-0.206 (0.174)
Pre-academic skills	-0.004 (0.005)	-0.004 (0.005)	-0.005 (0.005)		-0.004 (0.005)
<u>Cultural</u>					
African American		0.677 (0.317) *	0.731 (0.325) *	0.650 (0.310) *	0.666 (0.298) *
Latino		-0.199 (0.306)	-0.050 (0.330)	-0.240 (0.280)	-0.544 (0.252) *
<u>Family functioning</u>					
Paternal depression			0.154 (0.254)		0.079 (0.225)
Paternal negative life events			-0.040 (0.085)		-0.039 (0.077)
Family SES			0.148 (0.118)		0.098 (0.105)
Number of children			-0.050 (0.096)		0.001 (0.082)
Aggression					
<u>Child characteristic</u>					
Female child	0.064 (0.117)	0.118 (0.114)	0.098 (0.111)		0.083 (0.118)
T4 ADHD/ODD diagnosis	-0.138 (0.127)	-0.129 (0.125)	-0.195 (0.119)	-0.205 (0.119) †	-0.158 (0.126)
Pre-academic skills	0.001 (0.004)	0.001 (0.004)	0.000 (0.004)		0.001 (0.004)
<u>Cultural</u>					
African American		0.693 (0.230) **	0.646 (0.221) ***	0.628 (0.220) **	0.670 (0.227) **
Latino		-0.308 (0.226)	-0.253 (0.230)	-0.266 (0.229)	-0.217 (0.195)
<u>Family functioning</u>					

Predictor	Model 1 B (SE)	Model 2 B (SE)	Model 3 B (SE)	Trimmed B (SE)	Single Predictor B (SE)
Paternal depression			0.270 (0.172)	0.241 (0.169)	0.144 (0.164)
Paternal negative life events			-0.080 (0.060)	-0.085 (0.059)	-0.066 (0.060)
Family SES			-0.099 (0.078)	-0.114 (0.076)	-0.086 (0.078)
Number of children			-0.123 (0.063) [†]	-0.118 (0.060) [*]	-0.120 (0.060) [*]

Note. T4 = Time 4. ADHD = attention-deficit hyperactivity disorder; ODD = oppositional defiant disorder; SES = socioeconomic status. Analyses are based on 91 father-teacher dyads. More positive discrepancy scores indicate fathers' tendency to give lower ratings than teachers. Unstandardized coefficients are presented.

[†]
 $p < .10,$

^{*}
 $p < .05,$

^{**}
 $p < .01,$

^{***}
 $p < .001$

Table 5

Predictors of Mother-Teacher Discrepancies

Predictor	Model 1 B (SE)	Model 2 B (SE)	Model 3 B (SE)	Trimmed B (SE)	Single Predictor B (SE)
Hyperactivity					
<u>Child characteristic</u>					
Female child	-0.047 (0.098)	0.013 (0.094)	0.020 (0.094)		-0.030 (0.099)
T4 ADHD/ODD diagnosis	-0.143 (0.102)	-0.158 (0.099)	-0.128 (0.100)		-0.129 (0.101)
Pre-academic skills	-0.001 (0.003)	0.000 (0.003)	-0.003 (0.003)		-0.001 (0.003)
<u>Cultural</u>					
African American		0.350 (0.156) *	0.416 (0.167) *	0.385 (0.149) *	0.304 (0.149) *
Latina		-0.388 (0.158) *	-0.335 (0.170) *	-0.326 (0.162) *	-0.408 (0.157) *
<u>Family functioning</u>					
Maternal depression			-0.180 (0.140)	-0.194 (0.139)	-0.246 (0.129) †
Maternal negative life events			-0.065 (0.044)	-0.076 (0.045) †	-0.069 (0.045)
Family SES			0.000 (0.068)		0.052 (0.062)
Single parent (1=intact, 0 = single)			0.049 (0.123)		-0.020 (0.108)
Number of children			-0.087 (0.056)	-0.074 (0.052)	-0.053 (0.055)
Attention Problems					
<u>Child characteristic</u>					
Female child	0.072 (0.117)	0.104 (0.119)	0.099 (0.118)		0.119 (0.116)
T4 ADHD/ODD diagnosis	-0.213 (0.132)	-0.236 (0.132) †	-0.220 (0.132)	-0.220 (0.130) †	-0.186 (0.132)
Pre-academic skills	-0.009 (0.004) *	-0.008 (0.004) *	-0.010 (0.004) *	-0.009 (0.004) *	-0.009 (0.003) **
<u>Cultural</u>					
African American		0.339 (0.197) †	0.440 (0.212) *	0.401 (0.199) *	0.328 (0.188) †
Latina		-0.056 (0.199)	0.073 (0.215)	0.070 (0.204) †	0.015 (0.196)
<u>Family functioning</u>					
Maternal depression			-0.419 (0.186) *	-0.367 (0.171) *	-0.219 (0.161)
Maternal negative life events			0.044 (0.057)		0.000 (0.054)
Family SES			-0.010 (0.086)		-0.021 (0.073)
Single parent (1=intact, 0 = single)			0.080 (0.157)		-0.019 (0.128)
Number of children			-0.069 (0.071)		0.005 (0.065)
Aggression					
<u>Child characteristic</u>					
Female child	-0.066 (0.099)	-0.024 (0.099)	-0.027 (0.098)		-0.043 (0.099)
T4 ADHD/ODD diagnosis	-0.135 (0.106)	-0.140 (0.105)	-0.132 (0.104)		-0.122 (0.105)
Pre-academic skills	-0.002 (0.003)	-0.001 (0.003)	-0.004 (0.003)		-0.001 (0.003)
<u>Cultural</u>					

Predictor	Model 1 B (SE)	Model 2 B (SE)	Model 3 B (SE)	Trimmed B (SE)	Single Predictor B (SE)
African American		0.252 (0.161)	0.316 (0.173) [†]	0.301 (0.154) [†]	0.234 (0.152)
Latina		-0.224 (0.167)	-0.193 (0.179)	-0.139 (0.169) ^a	-0.246 (0.165)
<u>Family functioning</u>					
Maternal depression			-0.159 (0.153)	-0.219 (0.144)	-0.142 (0.135)
Maternal negative life events			-0.038 (0.047)		-0.031 (0.046)
Family SES			-0.026 (0.071)		-0.004 (0.063)
Single parent (1=intact, 0 = single)			0.102 (0.129)		-0.023 (0.107)
Number of children		-0.153 (0.059) **	-0.159 (0.058) **	-0.126 (0.054) *	-0.117 (0.054) *

Note. T4 = Time 4; ADHD = attention-deficit hyperactivity disorder; ODD = oppositional defiant disorder; SES = socioeconomic status. Analyses are based on 125 mother-teacher pairs. More positive discrepancy scores indicate mothers' tendency to give lower ratings than teachers. Unstandardized coefficients are presented.

^aThe Latina variable was kept in the model even though $p > .20$ because including this variable is essential for the interpretation of the African American variable which approached significant.

[†] $p < .10$,

* $p < .05$,

** $p < .01$,

*** $p < .001$.

Table 6

Summary of Findings for Trimmed Models

Predictor	Summary	Hyperactivity	Attention Problems	Aggression
<u>Mother-Father</u>				
Child ADHD/ODD at Time 4	Mothers of children with ADHD/ODD at Time 4 were more likely to give higher ratings than fathers.	✓		
African American	African American mothers were more likely to give higher ratings than fathers.		✓	
Paternal Depression	Fathers with lower depression were more likely to give lower ratings than mothers.	✓	✓	
<u>Father-Teacher</u>				
African American	African American fathers were more likely to give lower ratings than teachers.	✓	✓	✓
Number of Children	Fathers with more children were more likely to give higher ratings than teachers.			✓
<u>Mother-Teacher</u>				
Pre-academic skills	Children with higher pre-academic skills were more likely to be rated lower by teachers than by mothers.		✓	
African American	African American mothers were more likely to rate their children lower than teachers.	✓	✓	
Latina	Latina mothers were more likely to rate their children higher than teachers.	✓		
Maternal depression	Mothers with greater depression were more likely to give higher ratings than teachers.		✓	
Number of children	Mothers with more children were more likely to give higher ratings than teachers.			✓