



VCU

Virginia Commonwealth University
VCU Scholars Compass

Theses and Dissertations

Graduate School

2014

PARENTING PRACTICES AND PARENTING STRESS IN AFRICAN AMERICAN FAMILIES OF CHILDREN WITH AND WITHOUT ADHD

Annie Rabinovitch
Virginia Commonwealth University

Follow this and additional works at: <https://scholarscompass.vcu.edu/etd>



Part of the [Child Psychology Commons](#), and the [Clinical Psychology Commons](#)

© The Author

Downloaded from

<https://scholarscompass.vcu.edu/etd/3791>

This Thesis is brought to you for free and open access by the Graduate School at VCU Scholars Compass. It has been accepted for inclusion in Theses and Dissertations by an authorized administrator of VCU Scholars Compass. For more information, please contact libcompass@vcu.edu.

PARENTING PRACTICES AND PARENTING STRESS IN AFRICAN AMERICAN
FAMILIES OF CHILDREN WITH AND WITHOUT ADHD

A thesis submitted in partial fulfillment of the requirements for the degree of Master of Science
at Virginia Commonwealth University

By: ANNIE E. RABINOVITCH
Bachelor of Arts, University of Rochester, 2007
Master of Arts, Columbia University, 2012

Director: Heather A. Jones, Ph.D.
Assistant Professor
Department of Psychology

Virginia Commonwealth University
Richmond, Virginia
December, 2014

Acknowledgements

This thesis could not have been made possible without the continued support and guidance of my advisor, Dr. Heather Jones. I thank Dr. Jones for providing me with invaluable research opportunities and direction on the African American Parenting Study, examining differences in parenting between African American parents of children with and without ADHD. I would like to thank my thesis committee members, Drs. Bryce McLeod and Aashir Nasim, for their feedback, time, and expertise. Finally, I would like to thank the Center for ADHD Research, Education, and Service graduate students and faculty for their feedback and support on this manuscript.

Table of Contents

	Page
Acknowledgements	ii
List of Tables	iv
List of Figures	v
Abstract	vi
Introduction	1
Parenting Theory.....	5
Measuring the Parenting Behaviors of Parents of Children with ADHD.....	9
Empirical Literature on Parenting.....	12
Statement of the Problem.....	25
Study Aims and Hypotheses	27
Method	29
Participants.....	29
Measures	29
Procedure	34
Analytic Plan	37
Results	41
Sample Characteristics.....	42
Basic Group Differences in Parenting Practices	42
Relations Between Child ADHD and Parenting Practices While Controlling for Demographic Variables	43
Basic Group Differences in Relations Between Parenting Stress and Parenting Practices	44
Relations Between Child ADHD and Parenting Stress While Controlling for Demographic Variables	46
Discussion.....	47
Study Limitations.....	55
Future Research	56
List of References	60
Vita.....	76

List of Tables

	Page
Table 1. Measures Administered to Study Participants for the Present Investigation.....	30
Table 2. Sample Characteristics.....	30
Table 3. Means and Standard Deviations for Parent and Teacher-Reported ADHD Symptoms	31
Table 4. Means and Standard Deviations for Alabama Parenting Questionnaire Subscales	31
Table 5. Bivariate Correlations between Parenting Stress Variables and Alabama Parenting Questionnaire Subscales for Control Participants	35
Table 6. Bivariate Correlations between Parenting Stress Index Subscales and Alabama Parenting Questionnaire Subscales for Proband Participants.....	36

List of Figures

	Page
Figure 1. Parenting Styles Conceptualized along Continua of Responsiveness and Demandingness	33
Figure 2. Consort Diagram of Participant Data Collection	40

Abstract

PARENTING PRACTICES AND PARENTING STRESS IN AFRICAN AMERICAN FAMILIES OF CHILDREN WITH AND WITHOUT ADHD

By Annie E. Rabinovitch, M.A.

A thesis submitted in partial fulfillment of the requirements for the degree of Master of Science
at Virginia Commonwealth University

Virginia Commonwealth University, 2014

Major Director: Heather A. Jones
Assistant Professor
Department of Psychology

This study examined differences in parenting practices and parenting stress between 44 African American maternal caregivers of children ages 6-10 with Attention-Deficit/Hyperactivity Disorder (ADHD) and 25 caregivers of children without ADHD. Results indicated significant group differences on inconsistent discipline, as child ADHD significantly predicted this parenting construct. There were no mean group differences in positive parenting. Parenting stress was related to parenting practices for the caregivers of children without ADHD, but was unrelated to parenting practices among control caregivers. Child ADHD predicted several subscales of the Parenting Stress Index. However, child ADHD failed to be a significant

predictor when a comorbid disruptive behavior disorder was entered in the model as a covariate. As the presence of a comorbid disruptive behavior disorder predicted parenting stress better than child ADHD for African American caregivers, treatment for such families should include a component targeting parenting stress.

Parenting Practices and Parenting Stress in African American Families of Children with and without ADHD

Characterized by age-inappropriate levels of inattentiveness and/or hyperactivity and impulsivity, Attention-Deficit/Hyperactivity Disorder (ADHD) is among the most common psychological disorders of childhood (Salmeron, 2009). Findings from a nationally-representative study conducted by Froelich and colleagues (2007) indicate that approximately 8.7% of children 8-15 years of age meet DSM-IV diagnostic criteria for ADHD. Furthermore, rates of ADHD diagnoses have increased by nearly 28% over the past decade (Centers for Disease Control, 2003). Regarding gender differences in prevalence rates, in clinical samples, the ratio of boys to girls diagnosed with ADHD ranges from 6:1 to 9:1; in nonclinical samples, ratios shrink to 2:1 to 3:1 (Kerig & Wenar, 2005). Current diagnostic criteria for ADHD include a pattern of inattention and/or hyperactivity and impulsivity and presence of symptoms before age 12 in at least two settings (American Psychiatric Association, 2013). For children, their symptoms of ADHD are often impairing at school, with peers, and at home (Deault, 2010).

At school, children with ADHD evidence significant educational difficulties relative to controls. Compared to children without ADHD, such children not only experience academic underachievement (Hinshaw, 1992; Deshazo Barry, Lyman, & Klinger, 2002; Fergusson & Horwood, 1995; Fergusson, Horwood, & Lynsky, 1993), but they are also more likely to repeat academic grades (Loe & Feldman, 2007) and receive remedial services (Biederman et al., 1996). Additionally, children with ADHD receive more school-related discipline (i.e., suspensions and expulsions) when compared to children without ADHD. Longitudinal studies suggest that the academic difficulties faced by children with ADHD persist into adolescence and early adulthood (Weiss & Murray, 2003). In adolescence, youth with ADHD fail more classes, achieve lower

overall marks in school, and perform significantly worse on standardized tests relative to controls (Mannuzza, Klein, Bessler, Malloy, & Hynes, 1997). Youth with ADHD also take longer to graduate high school and have lower rates of college attendance (Manuzza, Klein, Bessler, Malloy, & LaPadula, 1985) and college graduation (Weiss, Hechtman, Milroy, & Perlam, 1985) compared to controls.

Not only do children with ADHD experience difficulties related to academics, they are also experience social deficits, impacting their relationships with peers. Research indicates that children with ADHD receive significantly lower social nominations relative to their peers without ADHD (Hoza et al., 2005). Likely the core symptoms of ADHD directly and negatively impact children's ability to establish and maintain peer relationships. For instance, study findings from Whalen and Henker (1992) indicated that the high levels of impulsivity and hyperactivity seen in youth with ADHD were aversive to peers and distanced such children from peer social networks. Likewise, symptoms of inattention make it difficult for youth with ADHD to acquire crucial social skills through observational learning (Cunningham, Siegel, & Offord, 1985), thus limiting their ability to engage in smooth social interactions.

Aside from at school and with peers, impairment in children with ADHD is seen in the home environment. Within the home environment, research suggests that ADHD negatively impacts the parent-child relationship and the overall functioning of the family (Harvey, Danforth, Eberhardt McKee, Ulaszek, & Friedman, 2003). Extant bodies of literature suggest that parents of children with ADHD report significantly higher levels of parenting stress relative to those parents of children without ADHD (Breen & Barkley, 1988; Gillberg, Carlstrom, & Rasmussen, 1983; Mash & Johnston, 1983a; Podolski & Nigg, 2001). Several studies have also indicated that child externalizing difficulties in particular (e.g., aggression, hyperactivity, impulsivity) are

potent predictors of parenting stress (Anastopoulos, Guevremont, Shelton, & DuPaul, 1992; Fischer, 1990; Mash & Johnston, 1990) among caregivers of children with ADHD. High levels of parenting stress for these families in turn compromise a caregiver's ability to engage in effective parenting strategies to manage their child's behavior (Anastopoulos, Shelton, DuPaul, Guevremont, 1993). Importantly, associations between high levels of parenting stress and engagement in suboptimal parenting strategies extends to nonclinical populations as well.

Not surprisingly, parent-child interactions for this population are often characterized by greater negative emotionality and coerciveness relative to controls dyads (DuPaul, McGoey, Eckert, & Van brakle, 2001). In examining families of children with ADHD, greater overall family discord (Wells et al., 2000), as well as higher rates of divorce (Wymbs, Pelham, Molina, Gnagy, Wilson, & Greenhouse, 2008) are also reported compared to families of children without ADHD.

Not only does ADHD have a direct and negative impact on outcomes among children with the disorder, it is also associated with higher rates of caregiver psychopathology. Within the parenting literature on families of children with ADHD, caregiver ADHD (Alberts-Corush, Firestone, & Goodman, 1986) and depression (Chronis et al., 2011) in particular are most widely-researched. The literature to date indicates that mothers of children with ADHD are at high risk for experiencing both depressive symptoms, as well as full-blown major depression episodes relative to mothers of control children (Chronis et al., 2003a). In regards to maternal ADHD, parents of children with ADHD are also more likely than parents of children without ADHD to themselves have a diagnosis of ADHD (e.g., Alberts-Corush et al., 1986). Moreover, maternal psychopathology can impact parenting practices (Chronis, Chacko, Fabiano, Wymbs, &

Pelham, 2004) as well as engagement in treatment for child ADHD (Weiss, Hechtman, & Weiss, 2000).

As described above, ADHD in childhood is associated with a range of negative outcomes across multiple domains. Complicating the clinical picture for youth with ADHD, is that comorbidity with other mental disorders is the rule rather than the exception. The most common comorbid disorders among children with ADHD are Oppositional Defiant Disorder (ODD) and Conduct Disorder (CD), two disorders characterized generally by patterns of anger, hostility, and/or aggression toward others (APA, 2013). Barkley (2003) found that by age seven, 54-67% of clinically-referred children with ADHD were also diagnosed with ODD. In a later study, Barkley and colleagues (2004) found that 20-50% of children with ADHD developed comorbid CD by middle childhood. Furthermore, such results indicated that by adolescence, 44-50% of clinically-referred youth with ADHD also met criteria for CD.

In addition to ODD and CD, ADHD also tends to be highly comorbid with anxiety and depressive disorders. According to Tannock (2000), between 10-40% of clinically-referred children with ADHD are diagnosed with an anxiety disorder. Unlike conduct problems, there is evidence to suggest that anxiety attenuates some of the problematic clinical features associated with ADHD (Jenson et al., 2001; Pliszka, 2000). For example, Pliszka (2000) found that among youth with comorbid ADHD and anxiety, less impulsivity was observed relative to children with ADHD alone. ADHD is also comorbid with depressive disorders (Daviss, 2008) with 20-30% percent of youth meeting diagnostic criteria for both ADHD and a depressive disorder at a given time point (Barkley et al., 2004). Research suggests that children with comorbid depression and ADHD experience more severe social and academic impairment relative to those children with ADHD alone (Blackman, Ostrander, & Herman, 2005). One plausible explanation for this

phenomenon is that social isolation and lack of motivation, two accompanying characteristics of depression, exacerbate existing social and academic impairment experienced by many children and adolescents with ADHD.

Finally, anywhere from 19-26% percent of children with ADHD are also diagnosed with a learning disorder (LD). When learning problems are defined broadly, an astonishing 80% of children with ADHD experience learning difficulties severe enough to cause these children to perform academically two years behind their classmates without ADHD (Barkley, 2003). It is likely that the academic underachievement so commonly observed among children with ADHD represents a natural consequence of the disorder. This may be particularly the case among children with high levels of inattentiveness, where some of the core symptoms (i.e., difficulty sustaining attention on tasks, distractibility, organizational deficits) significantly interfere with a child's ability to successfully engage in activities and complete schoolwork necessary to progress academically.

Parenting Theory

Given the symptoms, high rates of psychiatric comorbidity, and corresponding functional impairment experienced by children with ADHD, parents of children with ADHD are faced with unique challenges in managing their children's behavior. Accordingly, significant literature examines parenting practices and styles in parents of children with ADHD as well as in control samples (Barkley, Guevremont, Anastopoulos, & Fletcher, 1992; Ellis & Nigg, 2009; Hinshaw, 2000; Wells et al., 2000). Although the developmental literature regarding parenting¹ has arrived at several key conceptualizations and characteristics of parenting (e.g., Lewis, 1981; Maccoby & Martin, 1983), research often discusses parenting styles and related practices within the context

¹ In general, the parenting literature has solely utilized reports from mothers. Thus, there exists a paucity of research incorporating fathers' reports of parenting.

of *amount* and *quality* of three specific parenting domains: warmth, responsiveness, and control (Baumrind, 2005; Coolihan, McWayne, & Fantuzzo, & Grim, 2002; Lengua, Honorado, & Bush, 2007). Likewise the majority of parenting studies in the developmental psychology literature are guided by Baumrind's early parenting style typology (see Baumrind 1989; 1991; Huh, Tristan, Wade, & Stice, 2006 Maccoby & Martin, 1983; Steinberg et al., 1992), in which four primary parenting styles were identified: authoritative, permissive, authoritarian, and neglectful (Baumrind, 1967). These styles were derived from factor analyses of parents' behavior, yielding two dimensions: responsiveness and demandingness (See Figure 1), and they describe the manner in which parents reconcile a child's need for both limit-setting and nurturance (Baumrind, 1967). It should be noted, however, that later factor analyses failed to replicate a distinct dimension for neglectful parenting; thus this style was omitted from future conceptualizations (Baumrind, 1991).

		Demandingness	
		High	Low
Responsiveness	High	Authoritative parenting	Permissive parenting
	Low	Authoritarian parenting	Rejecting-neglecting parenting

Figure 1. Parenting Styles Conceptualized along Continua of Responsiveness and Demandingness.

Note. Adapted from “Developmental Psychopathology,” by C. Wenar and P. Kerig, 2005, p. 214. Copyright 2006 by McGraw-Hill Companies.

Authoritative parenting is characterized by high levels of warmth, parental involvement, bidirectional communication, firm limit-setting, and autonomy granting. Authoritative parents while assertive, tend not to be restrictive or intrusive. The methods of discipline employed by such parents are described as inductive rather than punitive (Baumrind, 1991; Maccoby & Martin, 1983; Steinberg et al., 1992). By contrast, authoritarian parenting is characterized by high demandingness and low responsiveness. Additionally, orders are often directed at children and expected to be obeyed without explanation. This style of parenting is also marked by clear rules, scrupulous monitoring (i.e., strict supervision of children’s activities, including school work and peer relations; Amato & Fowler, 2002), and harsh and/or punitive discipline strategies. Finally, permissive parenting is marked by high responsiveness and low demandingness. As such, this style of parenting is characterized by relatively few demands for “mature” (age-

appropriate) behavior and relatively unspecified rules as to how a child ought to behave (Baumrind, 1991).

Despite its widespread use in the parenting literature, Baumrind's parenting typologies grew out of research conducted with well-functioning, middle-class Caucasian families (Darling & Steinberg, 1993). For this reason, researchers examining parenting in families of disparate racial and socioeconomic backgrounds (e.g., Mason, Walker-Barnes, Tu, Simons, & Martinez, 2004; Tamis-Lemonda, Briggs, McClowry, & Snow, 2008), have questioned whether Baumrind's typology translates to more diverse populations. For instance, research has indicated that some parenting practices may convey different meanings in different cultures. Tamis-Lemonda and colleagues (2008) highlight that particularly among low-income African American families, harsh discipline, unidirectional (parent to child) communication, and scrupulous monitoring of a child's whereabouts may convey both caring and investment. Thus, the *definitions* of key parenting dimensions such as warmth and responsiveness which comprise to form Baumrind's parenting typologies may not be culturally relevant for some cultures. Although the cross-cultural validity of Baumrind's typologies has been questioned in some cases, research utilizing such typologies has consistently linked different parenting styles with distinct developmental outcomes for children (e.g., Amato & Fowler, 2002; Dornbusch, Ritter, Leiderman, Roberts, & Fraleigh, 1987; Hill & Bush, 2001; Steinberg, Elman, & Mounts, 1989).

As mentioned above, Baumrind's parenting typologies adopt a configurative approach to the study of parenting, categorizing constellations of parenting practices into distinct styles. Composite styles are subsequently used in the developmental literature to predict outcomes for children across a range of domains (e.g., social, emotional, cognitive). Another means of studying parenting is by adopting an ecological systems perspective (Bronfenbrenner, 1986a).

From this perspective, parenting practices as well as child outcomes are influenced by a variety of contexts, both proximal and distal (Kerig & Wenar, 2005). More specifically, family processes occur within the context of larger communities, cultures, and historical experiences (Jones, Forehand, Brody, & Armistead, 2003). Accordingly, caregivers adapt their child rearing styles to accommodate the context within which the family is embedded (Murray, Brody, Willert, & Stephens, 2001).

Measuring the Parenting Behaviors of Parents of Children with ADHD

The majority of research studies examining parenting among caregivers of children with ADHD utilize self-report methods (Johnston, 1996). Such measures typically provide a caregiver with a variety of statements describing parenting practices, and parents are instructed to indicate on a Likert-type scale how often he/she implements the particular practice. A variety of measures have been developed to assess parenting as a general construct. Some measures adopt a dimensional approach. That is, they assess broader parenting styles (e.g., authoritative, authoritarian, permissive). Such measures are often comprised of subscales that map directly onto such parenting styles. Other measures of parenting adopt a more narrow approach, focusing on specific parenting strategies utilized by caregivers.

Dimensional approach. A dimensional approach to measuring parenting places focus on broad parenting styles. A widely-used measure administered in the assessment of parenting styles, particularly among caregivers of children with ADHD, is the Parenting Styles and Dimensions Questionnaire (PSDQ; Robinson, Mandelco, Olson, & Hart, 2001). The PSDQ is a 58-item Likert-type measure used with parents of pre-school and school-age children, that categorizes parenting practices into one of the three global parenting styles originally delineated by Baumrind's (1967) typologies (i.e., authoritative, authoritarian, and permissive). Each of the

58 items map onto different stylistic dimensions, and the items are subsequently aggregated to create distinct scores for each of the three typologies. For instance, an endorsement of the sample question “I ignore our child’s misbehaviors” would contribute to the permissive dimension. Likewise, an endorsement of the question “I demand for our child to do things,” would be associated with the authoritarian dimension. Although the instrument lacks a specific classification scheme to determine a predominant parenting style, higher permissive aggregates would indicate a predominantly lenient style of parenting. Overall, the PSDQ has demonstrated strong psychometric properties. Robinson et al. (1995) reported good reliability, with Cronbach’s alphas for authoritative, authoritarian and permissive parenting of .91, .86 and .75, respectively. Thus, the PSDQ has been successful in identifying distinct broadband parenting styles.

Parenting practices approach. In contrast to a dimensional approach, a parenting practices approach to measuring parenting emphasizes specific parenting practices or techniques implemented by caregivers. Among the parenting measures designed to assess specific parenting practices in caregivers of children with ADHD are the Parenting Scale (PS; Arnold, O’Leary, Wolff, & Acker, 1993) and the Alabama Parenting Questionnaire (APQ; Shelton, Frick, & Wootton, 1996). The PS is a 30-item instrument, specifically designed to assess dysfunctional parenting strategies in discipline situations (Arnold, O’Leary, Wolff, & Acker, 1993), and yields three stable factors of dysfunctional discipline style, including: 1) Laxness; 2) Over-reactivity; and 3) Verbosity. Parents are provided with a variety of discipline strategies and asked to indicate their tendency to utilize a particular discipline strategy on a 7-point Likert scale (1 = high probability of using an alternate, effective discipline strategy; 7 = high probability of using ineffective discipline). With regard to psychometric properties of the measure, good internal consistency for all three subscales has been established, with Cronbach’s alphas of .87 for Over-

reactivity, .85 for Laxness and .84 for Verbosity subscales respectively (Harvey, Danforth, Ulaszek, & Eberhardt, 2001). In considering how subscales of this measure might map on to Baumrind's parenting typology, a permissive parent that makes few demands for mature (age-appropriate) behavior would be expected to score high on the Laxness subscale. By contrast, an authoritarian parent that is intrusive and overbearing in parent-child interactions would be expected to score high on the Verbosity subscale.

The APQ is a 42-item questionnaire that is designed to measure parenting among caregivers of children with behavior problems. More specifically, the APQ assesses five dimensions of parenting relevant to both the etiology and treatment of child behavior problems, including: 1) positive involvement with children; 2) supervision and monitoring; 3) use of positive discipline strategies; 4) consistency in the use of discipline; and 5) use of corporal punishment. Given that parenting self-report measures ideally derive from theoretical constructs of parenting, the amount and type of discipline employed by a caregiver should be theoretically relevant to Baumrind's initial parenting typology. For example, authoritarian parents, who make greater use of harsh discipline strategies and engage in less bi-directional communication with their children, would be expected to score higher on the APQ subscale of corporal punishment and lower on the APQ subscale of positive involvement. The APQ has evidenced good psychometric properties, including criterion validity in differentiating clinical from nonclinical samples (Dadds, Maujean, & Fraser, 2003). Furthermore, Frick and colleagues (1999) demonstrated a mean r^2 value of .24 across the APQ's five subscales for predicting ODD and CD symptoms in children. Despite its adequate psychometric properties, it should be noted that the APQ has in large measure been used with primarily middle-class Caucasian samples.

One might argue for the importance of utilizing self-report parenting measures examining both composite styles (dimensions) and specific parenting practices. The former holds predictive value in that the parenting literature to date correlates various parenting styles with differential child outcomes across a variety of domains (Kerig & Wenar, 2005). The latter has the potential to inform specific targets for parenting interventions (e.g., identify and alter ineffective discipline strategies). Furthermore, self-report parenting measures provide phenomenological data, or caregiver's self-perceptions as well as perceptions of their environment (McLeod, 1997), which could not be obtained through another means (Harre, 1974).

Empirical Literature on Parenting

Parenting in nonclinical samples. Not surprisingly, research has indicated that different parenting styles are associated with distinct social, emotional, and cognitive outcomes in youth (Kerig & Wenar, 2005). Research on parents and children in nonclinical samples has suggested that children raised in an authoritative style are more instrumentally and cognitively competent, more communally-oriented, experience greater academic achievement, and rate themselves higher on measures of self-efficacy relative to children reared by authoritarian and permissive parents respectively (Baumrind, 1987; Clark, 1983; Dornbusch et al., 1987; Steinberg et al., 1989). There is evidence in the developmental psychology literature that children raised in an authoritarian style exhibit greater aggression, less cooperation, and lower levels of initiative, self-esteem, as well as social competence (Patterson, Reid, & Dishion, 1992) relative to children raised by an authoritative parent. Finally, research also indicates that children raised in a permissive fashion are less socially, emotionally, and cognitively competent and mature, compared to children reared in either of the other two parenting styles (Lamborn, Mounts, Steinberg, & Dornbusch, 1991).

Although Baumind's distinct parenting styles have consistently been linked to child outcomes in a variety of domains (Baurmind, 1968; 1978; Darling & Steinberg, 1993; Maccoby & Martin, 1983; Rollins & Thomas, 1979), this research has a significant limitation. Specifically, most of the work described herein has disproportionately utilized middle-class, Caucasian samples. In examining parenting literature with racial and ethnic minorities, and with African Americans² in particular, different patterns with regard to parenting style and subsequent child outcomes emerge (Amato & Fowler, 2002; Hill & Bush, 2001; Tamis-Lemonda et al., 2008).

Baumrind (1967; 1972), in her relatively nascent research, found that African American caregivers are more often employ authoritarian parenting practices, including lower levels of warmth and higher levels of control relative to Caucasian caregivers. Similarly, research has indicated that Caucasian parents, particularly those of middle-class SES, employ parenting practices consistent with an authoritative parenting style (Baumrind, 1991). This pattern has been replicated by others (Abell & Clawson, 1996; Jones et al., 2009; Steinberg et al., 1992). Of great importance, significant associations between parenting style and child outcome observed among Caucasian families are not always paralleled among studies of African American families. Specifically, some research indicates that authoritarian parenting contributes to positive youth outcomes for African American children (Brody & Flor, 1998; Deater-Deckard & Dodge, 1997; Steinberg et al., 1992; Querido, Warner, & Eyberg, 2002). Furthermore, there is evidence suggesting that, relative to authoritarian parenting, authoritative parenting is associated with poorer outcomes among African American youth (Tamis-Lemonda et al., 2008). The latter finding is particularly pronounced among *low-income* African American families (e.g., Baldwin, Baldwin, & Cole, 1990).

² Consistent with federal guidelines for describing race versus ethnicity in the United States and the American Psychological Association's recommendations for reducing bias, African American and Caucasian will be described as "racial groups" in this manuscript.

Contrary to predominant literature examining Caucasian families, a large body of research indicates that among African American families, parenting strategies consistent with authoritarian parenting style are associated with a range of positive youth outcomes in behavioral, social, and academic realms. For instance, Baumrind (1972) found that, in stark contrast to a Caucasian sample, authoritarian parenting among African American families was *not* associated with behavioral noncompliance. Querido and colleagues (2002) similarly examined the impact of authoritarian parenting on child behavior outcomes in a sample of 108 African American female caregivers and their children ages three to six. Results indicated that African American caregivers that endorsed authoritarian parenting were less likely to report problem behaviors in their children relative to caregivers in the sample that self-identified as authoritative parents. Regarding social outcomes, Brody and Flor (1998) conducted a study with 156 African American school-age children and their mothers. Results indicated that parenting strategies consistent with an authoritarian style predicted strong social competence in children.

Within the academic domain (i.e., achievement and performance), different associations between parenting style and youth outcome are observed among African American families. For instance, Baldwin and colleagues (1990) found that among low-income, African American youth residing in single-parent households, parenting strategies consistent with authoritarian parenting were associated with the highest academic achievement relative to authoritative or permissive styles. Furthermore, Steinberg and colleagues (1992) examined the impact of authoritative parenting, parental involvement in schooling, and parental encouragement to succeed in school within a large sample of both African American and Caucasian youth. In contrast to the Caucasian subsample, parental involvement and encouragement were *not* associated with better school performance among African American youth.

Significant literature on racial differences in parenting strategies and subsequent child outcomes has focused specifically on physical discipline, a parenting practice associated with authoritarian parenting. Physical discipline has generated much controversy, given that within middle-class Caucasian samples, this practice has been linked to child maladjustment, including aggression and delinquency (e.g., Lansford, Deater-Deckard, Dodge, Bates, & Pettit, 2004). Racial differences in child outcomes associated with this parenting strategy are particularly pronounced. For instance, Deater-Deckard, Dodge, Bates, and Pettit (1996) gathered teacher and peer ratings of child externalizing difficulties and found an association between physical discipline and greater externalizing problems among Caucasian, but not among African American children. Similar findings have been demonstrated in subsequent studies. For instance, Gunnoe and Mariner (1997) found that mothers' use of spanking as a form of discipline predicted greater fights in school-aged Caucasian children. However, an inverse finding was detected for African American children, wherein spanking predicted *fewer* fights. This finding has also held in prospective research. Lansford and colleagues (2004) longitudinally examined associations between mothers' report of physical discipline and later youth externalizing behaviors and found that physical discipline was associated with higher externalizing behaviors among Caucasian, but not African American youth.

Although racial differences in specific parenting practices, general parenting styles and child outcomes have been well documented, a small number of studies have failed to detect such differences. For instance, Shumow, Vandell, and Posner (1998) longitudinally assessed both Caucasian and African American parents of school-age children. They found that, while African American parents reported greater harshness and less permissiveness in their caregiver-child interactions relative to Caucasian parents, harshness in both racial groups was associated with

child maladjustment. Furthermore, caregiver responsiveness was associated with positive outcomes, such as academic achievement among both racial groups. Relatedly, Whiteside-Mansell and colleagues (2003) examined self-report parenting measures assessing responsiveness, harshness, and intrusiveness, child problem behaviors (externalizing, internalizing), and child prosocial behavior (compliance, expressiveness) in a large sample of African American and Caucasian caregiver-child dyads. The authors detected identical patterns in both subsamples, whereby parental endorsement of responsive parenting was associated with greater child compliance, and fewer behavioral problems, while the endorsement of intrusive or harsh parenting was associated with greater problem behaviors. Thus, while most studies have found racial differences in parenting styles and associated child outcomes, a few others have not replicated these findings.

Researchers have proposed a range of hypotheses to elucidate contributing variables, as well as underlying processes and mechanisms that account for these findings. For instance, some parenting research has emphasized the unique impact that race and SES respectively have on parenting practices and child outcomes (e.g., Havighurst, 1976). Research indicates that low-income families, regardless of race or ethnicity, use more physical as well as psychological punishment and favor parenting strategies that maintain a strict power dynamic between parent and child relative to higher-income families. Such strategies emphasize child conformity and obedience (Hoff-Ginsberg & Tardiff, 1995; Pinderhughes, Dodge, Pettit, & Zelli, 2000). Of importance, African Americans disproportionately inhabit low socioeconomic strata relative to Caucasians (United States Census Bureau, 2011). Therefore, it is not surprising that the authoritarian parenting strategies associated with low income families have been observed more

often among African American than Caucasian families (Hill & Bush, 2001), thus illustrating the need to consider SES in analyses examining racial differences.

As described above, other lines of research adopt an ecological systems perspective (Bronfenbrenner, 1986a) specifically to explain the prevalence of abovementioned authoritarian parenting strategies utilized in African American samples. At the crux of the ecological systems approach is that family processes occur within the context of larger communities, cultures, and historical experiences (Jones, Forehand, Brody, & Armistead, 2003). As such, caregivers adapt their child rearing styles to accommodate the context within which the family is embedded (Murray, Brody, Willert, & Stephens, 2001). This perspective has been applied to the oft-cited harsh and power-assertive parenting strategies employed by many low-income African American families residing in crime-ridden neighborhoods (Romich, 2009). Specifically, such strategies are intended to keep children safe within the context of few economic resources and a perilous environment (Jarret, 1995). Scholars from disparate fields contend that African American caregivers' tendency to use power-assertive parenting tactics, as well as the value that African Americans place on obedience and respect, is related to African Americans' past experience of slavery (Wortman, 1981; Wright, 1982). Such research provides support for the utility of adopting an ecological systems perspective in understanding some aspects of parenting observed among African American families.

As mentioned above, different parenting styles have been linked to disparate developmental outcomes in children across a variety of domains. Additionally, different patterns of parenting styles and corresponding child outcomes are seen in comparing Caucasian and African American families. Research has also demonstrated that family-related variables, including birth order and number of children in the household contribute to parenting. In regards

to number of children in the household, research is largely rooted in economic theory, most notably Becker and Tomes' 1973 Quantity-Quality model. This model postulates that larger family sizes are associated with poorer developmental outcomes among children via so-called "resource dilution" (Becker & Tomes, 1973). That is, larger families require that resources be spread more sparsely across offspring, impacting child outcomes. Although significant research has bolstered this hypothesis (Forehand, Long, Brody, & Fauber, 1996; Polit & Falbo, 1998; Wagner, Schubert, & Schubert, 1985), research on how specific parenting behaviors might be affected by number of children in the home is scarce. One would hypothesize, however, that caregivers of several children would demonstrate less involvement and poorer monitoring of youth given low resources (e.g., time) to invest per child.

In regards to birth order, research indicates that in interacting with first-born children, caregivers tend to be more scrutinizing and restrictive of the child's activities compared to later-born children (Eisenberg, 1992). A study by Kalliopuska (1984) found that relative to later-born children, caregivers demonstrated greater parental involvement with first-born children. Furthermore, relationships between birth order and parenting practices translate into distinct developmental outcomes for youth. Specifically, first-born children have been found to excel more academically (Cherian, 1990) and achieve greater emotional maturity (Forehand et al., 1996) relative to their later-born siblings. Thus, may be that family size as well as birth order represent important family-related variables associated with parenting, requiring further investigation.

Parenting in ADHD samples. In considering parenting among parents of children with ADHD, the extant literature has underscored the importance of adopting a developmental psychopathology perspective (Coghill, Nigg, Rothenberger, Sonuga-Barke, & Tannock

2005; Jooper, Sengupta, & Boksa, 2005; Sonuga-Barke, Auerbach, Campbell, Daley, & Thompson, 2005). This framework considers transactions that occur between a child's individual characteristics and his or her environment over time. A developmental psychopathology perspective is particularly palatable when considering Belsky's (1984) model of parenting, wherein parenting practices are determined by parenting characteristics (e.g., psychopathology, socio-emotional adjustment), child characteristics (e.g., temperament, behavior), as well as the environment within which the parent-child relationship is rooted (Belsky, 1984). As such, findings from the literature on parenting and corresponding outcomes among families of children with ADHD are best conceptualized as the product of interactions or interrelations between abovementioned variables (McLaughlin & Harrison, 2006; Johnston & Jassy, 2007).

The literature on parent-child relationships among parents and their children with ADHD has provided ample evidence to support an array of specific parent and child characteristics (Mash & Johnston, 1983a) which interact, perpetuating such characteristics over time (Sameroff and Chandler, 1975). Compared to controls, children with ADHD are often less compliant with parental demands. They are also apt to display greater emotional negativity during parent-child interactions and engage in more oppositional and aggressive behaviors (Barkley et al., 1992) relative to children without ADHD. Compared to mothers of children without ADHD, mothers of children with ADHD give more directive commands and fewer rewards for compliance and tend to interact less with their children (Cunningham & Barkley, 1979; Mash & Johnston, 1982). Furthermore, the abovementioned findings are more prominent in parent-child relationships of younger children with ADHD (Mash & Johnston, 1982).

Webster-Stratton and Hammond (1990) posited that the problem behaviors observed among children with ADHD (i.e., excessive talking, difficulty following through on instructions)

elicit negative parenting practices. Likewise, suboptimal parenting strategies for managing a child's behavior negatively reinforce such behavior. It is difficult to establish directionality with regard to parent and child behaviors occurring within the parent-child relationship. However, several studies suggest that child behavior problems induce negative parenting strategies – not the inverse (Cunningham & Barkley, 1979; Pollard, Ward, & Barkley, 1984). Compelling evidence for this assertion comes from research findings indicating that subsequent to child reduction in noncompliance (via methylphenidate treatment), mothers' use of directive commands and negativity toward their children decreased (Cunningham & Barkley, 1979; Pollard et al., 1984).

Although parenting stress very common among caregivers of children with ADHD (cite) very few studies have linked specific facets of parenting stress (e.g., stress associated with conflicted parent-child interactions) to specific parenting practices (e.g., the use of inconsistent discipline strategies). Such information allows researchers and clinicians to pinpoint targets for intervention. A recent study conducted by Gerdes, Haack, & Schneider (2012) examined the impact of BPT on parenting practices and several domains of parenting stress among mothers and fathers of school-age children with ADHD. The authors found that at post-treatment, mothers reported lower levels of inconsistent discipline and corporal punishment. As well, results indicated that following treatment, mothers reported lower levels of parenting stress across several domains, including less dysfunctional parent-child interactions, less stress associated with perceptions of their child as difficult to parent, and less overall parenting stress.

Other treatment research has examined the effectiveness of behavioral parent training (BPT), a frontline psychosocial intervention used to address child behavior problems. BPT involves teaching parents strategies to more effectively manage their child's problem behavior

(Chronis et al., 2004). For instance, some researchers have found that following BPT, decreases in parent-reported child behavior problems, as well as observed negative parent and child behaviors were demonstrated (Barkley et al., 2000; Sonuga-Barke et al., 2001). Thus, it may be important to consider bi-directional and dynamic interactions between parenting strategies and child problem behaviors (e.g., Coghill et al., 2005; Joober et al., 2005; Sonuga-Barke et al., 2005).

As mentioned above, it is important to consider both parent and child behaviors within the context of the parent-child relationship. It is also worthwhile to isolate and measure specific parenting practices as a distinct construct given that our frontline psychosocial treatment for ADHD, behavioral parent training, involves adapting current parenting strategies, as well as teaching new strategies to more effectively manage child behavior problems (Ortiz & Del Vecchio, 2013). Accordingly, measures of self-reported parenting practices allow researchers and clinicians to identify maladaptive parenting strategies for targeted intervention and to assess the effectiveness of behavioral parent training over time (Stein, 2007).

The abovementioned APQ has been widely used in the study of parenting practices among primarily Caucasian parents of children with ADHD. Wells and colleagues (2000) utilized data from the Multimodal Treatment Study of Children with ADHD (MTA) in which families of children with ADHD were randomized to receive a variety of treatments (behavioral intervention, medication, behavioral treatment plus medication and treatment as usual). At post-treatment, the authors found that all three active treatments produced decreased levels of inconsistent discipline, as measured by the APQ. Similarly, Hinshaw (2002) measured treatment outcomes among families of pre-adolescent girls with ADHD. He found that among families, the success of such treatment was dependent upon changes in inconsistent discipline and positive

involvement. Finally, though not a treatment study, Ellis and Nigg (2009) compared families of children with and without ADHD on subscales of the APQ. The authors found that maternal inconsistent discipline was positively correlated with child diagnostic status. Thus, it seems that both inconsistent discipline and positive involvement may be salient parenting practices among families of children with ADHD.

Parenting African American children with ADHD. The research available on African American children with ADHD is limited. Literature to date for African American children with ADHD focuses almost exclusively on racial disparities in treatment utilization (Tamis-LeMonda et al., 2008) or the confounding relationship between race and SES. Low-income African Americans in particular are faced with a significant unmet need for ADHD treatment (Olaniyan et al., 2007). Although efficacious treatments for the disorder are available, including stimulant medication and psychosocial intervention (Chronis, Jones, & Raggi, 2006), there are mixed research results regarding access to such treatment for racial minority children in general and African Americans in particular. Earlier prominent studies (e.g., LeFever, Dawson, & Morrow, 1999; Zito, Safer, dosReis, & Riddle, 1997) have found that African American children with ADHD are half as likely to receive stimulant medication relative to Caucasian children with ADHD. Research has also indicated that such children are more likely to encounter issues regarding access to health services for ADHD (Bussing, Zima, Perwien, Belin, & Widawski, 1998). However, in a more recent study, Graves & Serpell (2013) found that among African American elementary-age children with a confirmed ADHD diagnosis, rates of access to pharmacological treatment were significantly higher than those rates documented by previous research (e.g., Bussing et al., 1998). Given that literature in the past has suggested that African American families prefer psychosocial over psychopharmacological intervention in addressing

child behavior problems (Bussing, Gary, Mills, & Garvan, 2003; DosReis, Zito, Safer, Soeken, Mitchell, & Ellwood, 2003), a worthwhile next step is to evaluate current rates of psychosocial treatment receipt among African American children.

Some literature in this area emphasizes the role that economic hardship, including poverty and lack of insurance coverage play in preventing African American children from receiving treatment for ADHD (Anderson, 1995). Other research highlights the importance of better understanding how African Americans' perceptions and knowledge of ADHD and its treatment present obstacles to receiving care (Olaniyan et al., 2007). For instance, Olaniyan and colleagues (2007) found that African American parents were reluctant to consult with medical or mental health professionals and relied on prayer as well as family and community members to address their children's behavior problems.

Other parenting research has emphasized the unique impact that race and SES may have on parenting practices and child outcomes (e.g., Havighurst, 1976). Research indicates that low-income families, regardless of race or ethnicity, use more physical as well as psychological punishment and favor parenting strategies that maintain a strict power dynamic between parent and child relative to higher-income families. Such strategies emphasize child conformity and obedience (Hoff-Ginsberg & Tardiff, 1995; Dodge, Pettit, & Zelli, 2000). These findings inform our understanding of treatment utilization and help-seeking behaviors, as well as the influence that SES has on parenting among African American families of children with ADHD. Such findings, however, tell us little about how child ADHD might relate to parenting for this understudied population.

Some of the limited knowledge of parenting among African American children with ADHD comes from large-scale treatment studies. The most notable of which is the

aforementioned MTA, the multi-site study designed to evaluate the frontline treatments for child ADHD (behavior therapy, medication, combined behavior therapy and medication, and a community control). Although primary post-treatment results were published 15 years ago (MTA Cooperative Group, 1999b), corresponding follow-up investigations are ongoing. Furthermore, unlike the majority of ADHD studies to date, the MTA included a large ($N = 579$), racially and ethnically diverse (Caucasian, African American, Latino, and Other) sample of children and their caregivers.

Utilizing data from the MTA, Jones and colleagues (2009) compared pre- and post-treatment parenting behaviors among racial and ethnic minority subsamples in the study. The authors detected significant racial differences in many parent and child behaviors. Specifically, parents in the Caucasian subsample demonstrated significantly higher levels of setting stage (e.g., parent prepares child for upcoming event by providing a summary of what is to occur as well as behavioral expectations for the child), positive reinforcement, and warmth relative to African American parents. This finding utilizing a clinical sample is consistent with past research on racial differences in parenting in nonclinical samples, suggesting that Caucasian parents are more likely to employ parenting strategies consistent with authoritative parenting relative to parents of other races (Abell & Clawson, 1996; Baumrind, 1991; McBride et al., 2001; Steinberg et al., 1992). In a similar vein, Jones and colleagues found that African American parents tended to make greater use of behavior management strategies (e.g., caregiver increases limits in the context of high levels of child negative behavior and decreases limits in response to appropriate child behavior) relative to Caucasian parents. High levels of structure combined with low levels of warmth, is also consistent with past literature suggesting that African American parents more often utilize authoritarian parenting strategies relative to Caucasians (Brody & Flor, 1998).

Statement of the Problem

Evidence-based psychosocial treatment for children with ADHD has been well-established with racially homogenous (primarily Caucasian) populations (Forehand & Kotchick, 1996; Ortiz & Del Vecchio, 2013) and primarily targets parenting behaviors. In examining the developmental literature, it is clear that racial differences in parenting are prominent (Baumrind 1967; 1972; Steinberg et al., 1992). Specifically, African American parents employ greater use of parenting practices consistent with authoritarian parenting style (e.g., scrupulous monitoring, harsh or punitive discipline strategies, uni-directional communication). By contrast, Caucasian parents implement parenting practices consistent with authoritative parenting style (e.g., bi-directional communication, parental involvement, autonomy-granting) (Steinberg et al., 1992).

The identification of differential associations between parenting style and child outcomes among African American families has been useful in that it has both facilitated greater cultural competence and has helped guide research and clinical work with African American families (Bluestone & Tamis-LeMonda, 1999). However, such work is tempered by methodological limitations. Firstly, as McLoyd and colleagues (2002) highlight, the majority of parenting literature has utilized middle-class Caucasian samples as a standard comparison group. Secondly, in conducting an exhaustive review of the parenting literature to date, in contrast to studies of Caucasian families, seminal research on African American families has often utilized unsystematic and/or non-comprehensive measures of parenting. Such literature has at times failed to control for SES (e.g., Caughy, Franzini, Windle, Dittus, & Cuccaro, 2012; Clincy & Mills-Koonce, 2013). Failing to control for SES makes it difficult to tease apart the relative contributions of race and SES. Furthermore, controlling for SES is particularly important in studies examining within-race differences in parenting among African American families as such literature is scarce (Hill & Bush, 2001). Finally, self-report measures used to study parenting

among African American families have often lacked psychometric soundness calling into question whether such measures accurately capture parenting constructions for this population.

For example, Brody and Flor (1998) solely measured “no nonsense” (i.e., authoritarian) parenting via caregivers’ self-report of items comprising Firm Parental Discipline and Parental Warmth subscales of the HOME inventory (Elardo & Bradley, 1981). Each subscale was comprised of only three items respectively, thus perhaps limiting the measure’s construct validity. The questionable psychometrics of this measure is further supported by low Cronbach’s alphas reported for both subscales (Firm Parental Discipline = .59, Parental Warmth = .76). Finally, in focusing singly on authoritarian parenting, the authors potentially failed to account for the presence of parenting strategies that depart from authoritarian parenting style (i.e., authoritative, permissive) among African American families. The authors’ findings would have been strengthened by administering a wider array of items tapping multiple dimensions of parenting or by measuring more specific parenting practices.

Amato and Fowler (2002) measured parenting by administering a small number of self-report items to caregivers that the authors believed measured relevant constructs, including parental support, monitoring and harsh punishment. Such items were selected from a large number of parenting questions administered to families participating in Wave One (1987-1988) of the National Survey of Families and Households (NSFH). The authors ran confirmatory factor analysis to determine factorial validity. It is laudable that the authors developed their own measure with a sample of African American caregivers rather than utilizing an established measure simply because adequate psychometric properties had been established with *Caucasian* samples. However, the small number of items included in the authors’ measure precludes a nuanced understanding of parenting in African American families. Specifically, it is difficult to

imagine that parenting among African American families is restricted to constructs of parental support, monitoring and harsh discipline.

The majority of studies that did utilize well-validated and psychometrically sound instruments to examine parenting among African Americans focused exclusively on broad parenting styles without attention to specific parenting strategies (e.g., Lansford et al., 2004; Querido et al., 2002). As discussed previously, parenting styles have been consistently linked to differential outcomes among children and thus hold predictive value. However, an understanding of specific parenting strategies utilized among African American caregivers of children with ADHD informs specific targets for parenting interventions.

Examining *within-race* differences in parenting practices among African American parents of children with as compared to without ADHD is a particularly worthwhile endeavor, as there is very little empirical knowledge regarding specific parenting practices implemented by African American parents of children with ADHD as compared to African American parents of children without ADHD. As detailed above, the literature to date suggests that parenting practices among Caucasian parents of children with versus those of children without ADHD differs drastically, with parents of children with ADHD exhibiting more directive commands, providing fewer rewards for behavioral compliance, and interacting less with their children relative to parents of control children (Cunningham & Barkley, 1979; Mash & Johnston, 1982). It is unclear whether we would observe similar within-race differences among African American parents of children with as compared to without ADHD as this hypothesis has yet to be studied empirically.

Study Aims and Hypotheses

The present study had two primary aims. The first aim was to examine whether child diagnostic status predicted parenting practices among African American maternal caregivers of children with ADHD as compared to those of children without ADHD, controlling for potential covariates. The second primary aim was to explore associations between parenting stress and parenting practices as well as the relationship between child ADHD and parenting stress in African American maternal caregivers.

Aim 1, hypothesis 1. It was hypothesized that diagnostic status would predict Inconsistent Discipline even after controlling for SES, child birth order, and number of children in the household.

Aim 1, hypothesis 2. It was hypothesized that diagnostic status would predict Positive Involvement even after controlling for SES, child birth order, and number of children in the household.

Aim 2 is exploratory with no specific hypotheses.

Method

Participants

The current study was part of a larger investigation of African American families of children with and without ADHD. Participants for this study were 69 African American maternal caregivers (M age = 35.59, SD = 6.87) and their children ages 6-10 (M = 7.67, SD = 1.38) (55.1% male, 44.9% female) residing in central Virginia. Forty four (63.8%) of the children met DSM-IV diagnostic criteria for ADHD, while 25 (36.2%) did not meet diagnostic criteria for ADHD. Child participants were included in the study if they: 1) identified as African American and had an African American maternal caregiver; 2) either met DSM-IV criteria for a diagnosis of ADHD or did not meet DSM-IV diagnostic criteria for ADHD according to informant reports and structured clinical interview; 3) had an estimated IQ above 70; 4) were between the ages of six and ten; and 5) resided with their maternal caregiver. Children were not eligible for the study if they met DSM-IV diagnostic criteria for a psychotic disorder, bipolar disorder, a pervasive developmental disorder, chronic tic disorder, or had a history of major neurological illness.

Measures

Demographics. In order to provide descriptive information about the sample, including possible covariates, information regarding SES (e.g., total family income), marital status, family composition (e.g., number of children living in household), current maternal and child age, as well as maternal level of education was gathered from all participants. This information is included in Table 2. The Education and Occupation scales of the Index of Social Status (Hollingshead, 1975) were used to assess SES. On this measure, the caregiver's occupational status was rated on a 9-point scale (1 = dependent on welfare or not regular occupation, 9 = higher executive or major professional). Likewise, a caregiver's educational attainment is rated

on a 7-point scale (0 = not applicable or unknown, 6 = standard college or university graduation). Scores on these two subscales were collapsed to form a composite SES rating. This index correlates highly with other indices of SES, including the widely-cited Duncan Socioeconomic Index ($r = .75$; Duncan, 1961). All measures administered to participants are included in Table 1.

Table 1.

Measures Administered to Study Participants for the Present Investigation

Construct	Measure	Informant(s)
Diagnostic Measures		
Symptoms	K-SADS-PL	Caregiver
Impairment	ADHD Rating Scale-IV	Caregiver, Teacher
Intelligence	Wechsler Abbreviated Scale of Intelligence	Child
Reported Parenting	Alabama Parenting Questionnaire	Caregiver
Parenting Stress	Parenting Stress Index-Short Form	Caregiver
Caregiver Levels of Psychopathology	Beck Depression Inventory, Connors' Adult ADHD Rating Scales	Caregiver
Demographic Information	SES, marital status, family composition, current maternal age, child age, child gender	Caregiver

Note. KSADS-PL = Schedule for Affective Disorders and Schizophrenia for School-age Children – Present and Lifetime Version; ADHD = Attention-Deficit/Hyperactivity Disorder; SES = socioeconomic status.

Diagnosis of child ADHD. Given that parent and teacher reports account for unique variance in identifying children with ADHD (Hart, Lahey, Loeber, & Hanson, 1994), both maternal caregiver and teacher rating scales assessing symptoms and impairment associated with ADHD were administered. Maternal caregivers and teachers completed the *ADHD-IV* (DuPaul et al., 1998), which is a symptom checklist for ADHD. Maternal caregivers completed this scale with a masters-level clinician over the phone when they called indicating interest on the study. Teachers were visited by undergraduate research assistants in order to complete the measure. On the ADHD-IV, maternal caregivers and teachers were asked to indicate the degree to which each DSM-IV symptom of ADHD is present, with symptoms rated “often” or “very often” considered present. The ADHD-IV has demonstrated good discriminant, predictive, and criterion-referenced validity over time (Pappas, 2006). It has also demonstrated strong internal consistency across settings (α home = .92; α school = .96).

Additionally, the *Schedule for Affective Disorders and Schizophrenia for School Age Children – Present and Lifetime – DSM IV Version* (K-SADS-PL; Kaufman et al., 1997) was administered to maternal caregivers to assess for possible child ADHD and to evaluate for comorbid diagnoses. The K-SADS is a semi-structured interview which assesses mental health disorders occurring within the past 12 months and current episode within a week prior to evaluation among children and adolescents. The reliability of this measure has been found to be acceptable (Ambrosini, 2000). The modules of this measure include: (a) behavioral disorders, (b) affective disorders, (c) anxiety disorders (including OCD), (d) psychoses, (e) obsessive compulsive disorder, and (f) physical disorders. The interviews were audiotaped, and 33% were reviewed by the study’s principal investigator (PI) to ensure inter-rater reliability of ADHD diagnostic status.

Cross-situational impairment was assessed using the parent and teacher forms of the *Impairment Rating Scale* (IRS; Fabiano et al., 2006). On the IRS, raters assess the child's impairment across multiple domains (e.g., family functioning, academic progress, self-esteem). On this measure, ratings were made on a 7-point scale, from 0 (no problem/definitely does not need treatment) to 6 (extreme problem/definitely needs treatment). The IRS has been found to demonstrate good concurrent, convergent, and discriminant validity and acceptable to excellent stability over time (Fabiano et al., 2006). The IRS has demonstrated respectable psychometric properties with strong internal consistency across domains (α parent = .95; α teacher = .97; Fabiano et al., 2006), moderate to high convergent validity scores with other measures of impairment (e.g., r of .77 between IRS overall impairment and Children's Global Assessment Scale; Fabiano et al., 2006) and is sensitive to change following treatment (Evans et al., 2004; Owens et al., 2008).

Although not an ADHD diagnostic tool, the *Wechsler Abbreviated Scale of Intelligence* (WASI; Wechsler, 1999) was administered to assess for cognitive impairment and to rule out children with an estimated IQ below 70.

Self-report of parenting behavior. Maternal caregivers completed the Alabama Parenting Questionnaire (APQ; Shelton, Frick, & Wooton, 1996), a 42-item measure on which caregivers were asked to indicate the frequency with which they implement the following parenting practices: Corporal Punishment, Inconsistent Discipline, Poor Monitoring/Supervision, Involvement, and Positive Parenting. Items were rated on a 5-point scale, ranging from 1 ("never") to 5 ("always"). Scores range from 1 to 15 on the Corporal Punishment subscale, 1 to 30 for Inconsistent Discipline, 1 to 50 for Poor Monitoring/Supervision, 1 to 50 for Positive Involvement, and from 1 to 30 on the Positive Parenting subscale. Internal consistency for all subscales is moderate to high (Shelton et al., 1996). The following Cronbach's alphas were

found in the current study for probands and controls (respectively): .765 and .726 for Positive Involvement, .553 and .672 for Inconsistent Discipline, .462 and .185 for Poor Monitoring, .399 and .459 for Corporal Punishment, and .814 and .787 for Positive Parenting. The intraclass correlation coefficient between the five APQ subscales was .604. Given their very low reliability, the Poor Monitoring and Corporal Punishment subscales were not included in analyses. In the current study, the APQ was used to examine potential within-race differences in self-reported parenting practices among maternal caregivers of children with and without ADHD.

Parenting stress. Maternal caregivers completed the *Parenting Stress Index – Short Form* (PSI-SF; Abidin, 1995). The PSI-SF is a 36-item self-report measure of stress in the parent-child relationship. Three subscales have been derived through factor analyses, including Parental Distress, Parent-Child Dysfunctional Interactions, and Difficult Child. The Parental Distress subscale measures the extent to which caregivers are experiencing stress in their role as a parent, tapping sense of parenting competence, stresses associated with restrictions on a caregiver's life, inter-parental conflict, social support, and depression. The Parent-Child Dysfunctional Interactions subscale measures the extent to which a caregiver believes that their child does not meet parental expectations and their interactions are unsatisfying. The Difficult Child subscale assesses how easy or difficult the caregiver perceives raising their child to be. Scores from each of these subscales are summed to create a Total Score. The measure has good internal consistency and test-retest reliability is satisfactory. The PSI-SF scales have correlated with family discord and child behavior problems (Abidin, 1995). The following Cronbach's alphas were found in the current study for probands and controls (respectively): .958 and .912 Total Score, .915 and .866 Difficult Child, .895 and .863 Parental Distress, and .917 and .854 Parent-Child Dysfunctional Interactions. For the current study, the Total Stress Score (which has

a range from 36 to 180) as well as scores for subscales were used to examine relationships between parenting stress and parenting practices in each group. The clinical cut-off for the PSI is above the 80th percentile. Means and standard deviations for the PSI for control and proband groups are presented in Table 2.

Table 2.

Means and Standard Deviations for Parenting Stress Index among Controls and Probands

	Proband	Control	<i>t</i> -value
<i>Total Parenting Stress</i>	88.91 (30.21)	69.00 (18.93)	-3.36*
<i>Parenting Stress Index Subscales</i>			
Parental Distress	29.82 (10.74)	25.44 (8.52)	-1.86
Parent Child Dysfunctional Interactions	24.36 (11.39)	18.84 (6.77)	-2.53*
Difficult Child	34.73 (11.86)	24.72 (8.65)	-4.02**

Note. * $p < .05$. ** $p < .01$.

Procedure

Maternal caregiver-child dyads were recruited into the study in several ways. First, fliers were posted in children’s organizations, primary care practices in the area, mental health clinics, low-income housing complexes, and local stores and libraries. Additionally, the study advertised in a mainstream newspaper and a free newspaper specifically targeting African Americans. Families interested in taking part in the study called the research laboratory via a main telephone number provided in all recruitment material. At that time, families were provided with a comprehensive description of the study, including goals of the study as well as study demands (i.e., duration of participation, nature of participation). If families remained interested in participating, they were formally screened by a research lab member to ascertain whether the

family met inclusion/exclusion criteria. Families that did not meet criteria were provided with community-based referrals. Families meeting criteria were administered the ADHD-IV over the phone and were scheduled for full diagnostic assessment. Further procedural information is presented in Figure 2.

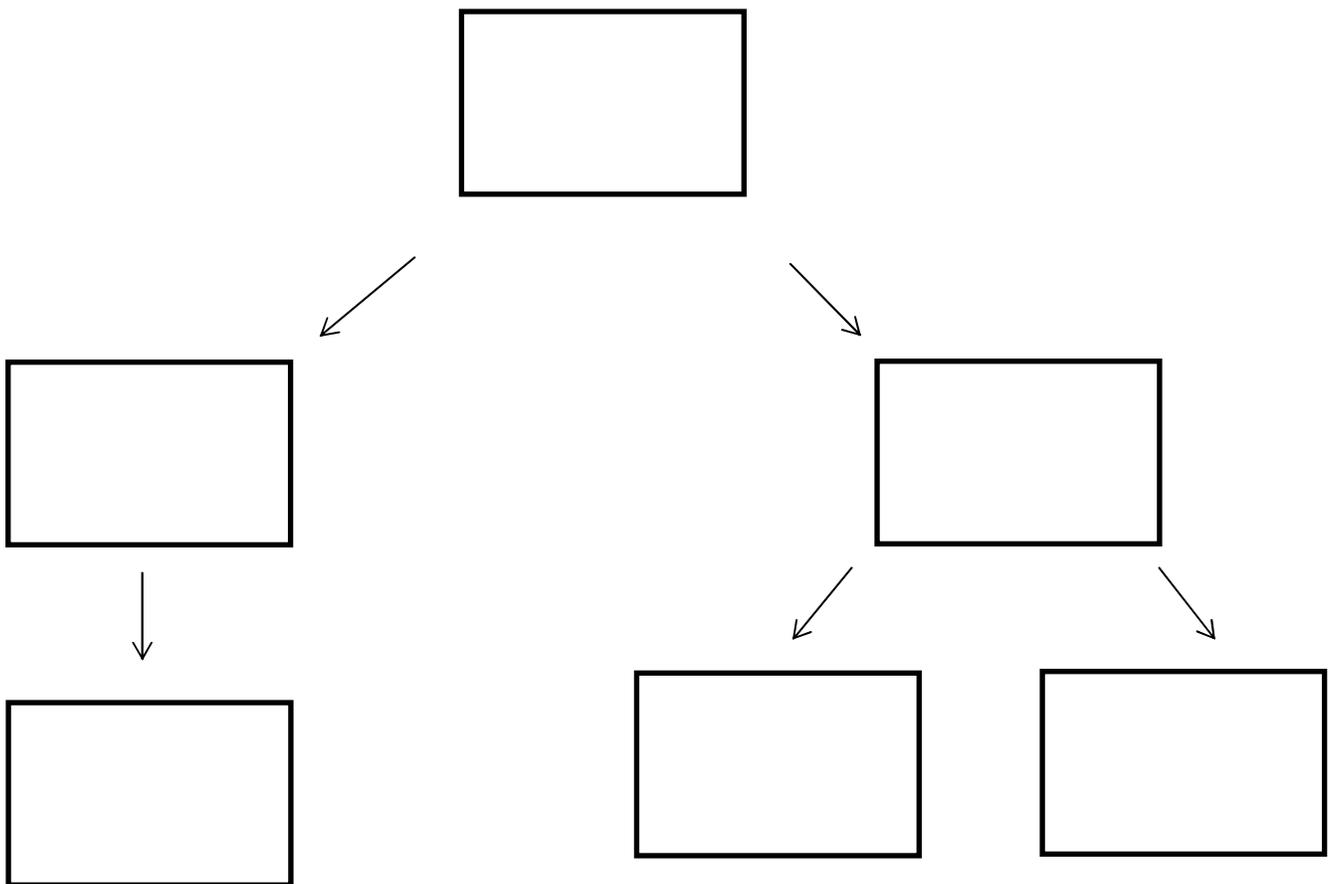


Figure 2. CONSORT Diagram of Participant Data Collection

Assessments lasted approximately three hours. At the time of assessment, children were administered the Wechsler Abbreviated Scale of Intelligence (WASI; Wechsler, 1999) by a masters-level clinician to assess for cognitive impairment and to rule out children with an estimated IQ below 70. Maternal caregivers were administered the Schedule for Affective Disorders and Schizophrenia for School Age Children – Present and Lifetime – DSM IV Version (K-SADS-PL) to verify ADHD diagnoses and to ascertain the presence of comorbid disorders. Additionally, maternal caregivers were asked to complete a packet of questionnaires about a variety of topics, including family demographics, parenting, child ADHD symptoms, and parenting stress. Participants received an incentive for participating in the study (\$60 for maternal caregivers, \$20 for teachers, and a small toy for children). The current study was approved by the university institutional review board.

Parent study. As part of their participation in a larger investigation, caregivers completed additional measures assessing parenting sense of competency (Being a Parent Scale; Johnston & Mash, 1989), African American ethnic identity (Multidimensional Inventory of Black Identity; Sellers, Rowley, Chavous, Shelton, & Smith, 1997), acceptability of behavior parent training options (measure adapted from the Treatment Evaluation Inventory; Newton & Sturmey, 2004), behavior parent training options (measure developed for the current study), caregiver levels of depressive symptoms (Beck Depression Inventory; Beck, Steer, & Brown, 1996), and caregiver levels of ADHD symptoms (Connors Adult ADHD Rating Scales; Connors, Erhardt, & Sparrow, 1999). Additionally, caregivers and children engaged in two six-minute dyadic interactions including an unstructured child-led free play activity and a structured caregiver-led clean-up task.

Analytic Plan

Data preparation. Prior to conducting analyses, means and standard deviations were estimated for each continuous variable, while frequencies were computed for each categorical variable. Means and standard deviations for continuous variables and frequencies for categorical variables can be found in Table 2. Data were also checked for outliers by generating histograms and scatterplots for continuous variables. Outliers were further examined for errors in coding and missingness of data. Histograms and scatterplots revealed “mild” (i.e., greater than 1.5 interquartile range, less than 3.0 interquartile range) outliers on Positive Parenting and Positive Involvement subscales of the APQ, as well as for total parenting stress. Such outliers were neither accounted for by errors in coding nor by data missingness. To ascertain whether outliers on subscales of the APQ as well as total parenting stress significantly altered analyses, outliers were removed and regression analysis were re-run. Results did not differ significantly ($p < .05$) upon removing outliers from analyses. Thus, outlying data points were retained for analyses.

Normality of the data was assessed by examining skewness and kurtosis statistics. Data was considered normal if these skewness and kurtosis statistics were found to be within the range of +1 to -1. The Positive Parenting subscale of the APQ and total parenting stress were found to be both skewed and kurtotic. Consistent with Douglas, Steel, Wood, and Hill (2005), to achieve normality of the data on the Positive Parenting subscale of the APQ, this variable was reflected and subsequently a log10 transformation was conducted, resulting in a normal distribution of the data. Homogeneity of variance of variables was assessed using the Levene’s test. Consistent with Pallant (2007), a significance value of .05 was used. Results of Levene’s tests indicated that the data was homoscedastic. Linearity was examined by generating a matrix of scatterplots between variables. Scatterplots indicated that the data were linearly distributed. Multicollinearity was assessed by examining bivariate correlations between dependent variables.

Table 3.

Sample Characteristics

	Probands	Controls
<i>Caregiver Characteristics</i>		
Age	35.73 (6.94)	35.36 (6.89)
Marital Status		
% Single	61.4	72.0
% Married	20.5	28.0
% Other	18.1	0.0
% Biological Mothers	.4	0.0
BDI Score	11.11 (9.98)	8.92 (8.85)
CAARS Score	24.78 (20.11)	17.12 (12.69)
<i>Child Characteristics</i>		
Age	7.59 (1.33)	7.80 (1.47)
Gender		
% Male	59.1	48.0
Birth Order		
% First-born	11.4	40.0
% Middle-born	31.8	20.0
% Last-born	43.2	32.0
% Only Child	13.6	8.0
# Children Meeting DSM-IV** Criteria for ODD or CD	15	1
Full Scale IQ	1.75 (.44)	1.78 (.42)
<i>Family Characteristics</i>		
Number of Children in Home	3.25 (1.64)	2.88 (1.36)
Hollingshead Class	3.36 (.94)	3.32 (1.11)

Note. Hollingshead Class is based upon the Hollingshead Index, a measure of socioeconomic status. BDI = Beck Depression Inventory. CAARS = Connors' Adult ADHD Rating Scales. CD = Conduct Disorder. ODD = Oppositional Defiant Disorder. * $p < .05$. ** $p < .01$.

To address Aim 1, mean group differences on the Inconsistent Discipline, Positive Involvement, and Positive Parenting subscales of the APQ were investigated via independent-samples *t*-tests. Those parenting subscales with significant group differences were retained for subsequent multiple regression analyses. As mentioned above, the Corporal Punishment and Poor Monitoring subscales of the APQ were removed from analyses given their low reliability (i.e., $\alpha < .05$) for both the proband and control groups. Seminal research in statistics (e.g., Cortina, 1993; Kline, 1999, & Field 2005) indicate that Cronbach's alpha values that fall below a range of .7-.8 suggest that a given scale lacks reliability. However, Fielding (2005) asserts that in cases when a variety of constructs within a single measure are being examined, it may be appropriate to interpret Cronbach's alphas between .6 and .7. For this reason, the Inconsistent Discipline subscale of the APQ with Cronbach's alphas below $\alpha = .7$ for the proband and control groups was retained for analyses.

Next, planned analyses were used to investigate whether diagnostic status accounted for significant variability in APQ subscales when SES, birth order, and number of children in the household were included in the model as covariates. For the multiple regression analyses, diagnostic status was entered in Step 1. SES, birth order, and number of children in the household were simultaneously entered in Step 2 of the model.

To assess Aim 2, parenting stress variables and self-reported parenting practices (for Inconsistent Discipline, Positive Parenting, and Positive Involvement subscales) by group were investigated via bivariate correlational analyses. Three multiple regression analyses were run with each of the PSI subscales as criterion variables. Diagnostic status was entered in Step 1 of the model, followed by SES, birth order, and number of children in the household in Step 2.

Results

In addition to examining mean group differences in ADHD symptoms, prior to conducting planned analyses, mean group differences on caregiver and child demographic variables, as well as levels of caregiver psychopathology (i.e., ADHD and depressive symptoms) were explored to establish homogeneity between proband and control groups. Independent-samples *t*-tests were conducted for continuous variables and chi-squared tests were conducted for categorical variables to ensure that the groups were equivalent on demographic characteristics. Results indicated that there were significant differences between the groups on number of children diagnosed with ODD or CD [$X^2(67) = 9.98, p = .002$]. Specifically, participants in the proband group demonstrated higher rates of each diagnosis compared to participants in the control group. There were no significant differences between groups on any demographic variables nor were there significant group differences in full scale IQ. There were also no significant group differences on measures of caregiver ADHD or depressive symptoms. Means and standard deviations for demographic variables, as well as caregiver levels of ADHD and depressive symptoms are presented in Table 2.

Sample Characteristics

To verify group un-equivalence, mean group differences in ADHD symptoms between the proband and control groups were examined by conducting independent-samples *t*-tests for caregiver and teacher-reported child inattentive, hyperactive/impulsive, and total ADHD symptoms. Results indicated that indeed probands manifested higher levels of ADHD symptomatology by both caregiver and teacher report. Mean comparisons are reported in Table 4.

Table 4.

Means and Standard Deviations for Parent and Teacher Reported ADHD Symptoms

	Probands	Controls	<i>t</i> -value
Parent-reported ADHD Symptoms			
Inattentive	17.4 (6.80)	5.80(6.02)	-7.11***
Hyperactive/Impulsive	16.77(6.71)	6.36(6.04)	-6.42***
Total	28.91(11.44)	15.00(10.42)	-7.20***
Teacher-reported ADHD Symptoms			
Inattentive	7.67(6.07)	15.16(6.59)	-4.61***
Hyperactive/Impulsive	7.33(5.89)	13.75(6.97)	-3.83***
Total	15.00(10.42)	28.91(11.44)	-4.94***

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

Basic Group Differences in Parenting Practices

In order to assess mean group differences in parenting practices, independent-samples *t*-tests were conducted with each the APQ subscales that demonstrated adequate reliability: Inconsistent Discipline, Positive Parenting, and Positive Involvement. Unfortunately, due to low internal consistency, the Corporal Punishment and Poor Monitoring subscales of the APQ were discarded from further analyses. Results indicated that there were significant mean group differences for Inconsistent Discipline [$t(67) = -2.59, p = .012$]. There were no differences between the groups on Positive Involvement [$t(67) = .001, p > .05$] or Positive Parenting [$t(67) = .417, p > .05$]. Means and standard deviations for each of the three APQ subscales included in analyses are presented in Table 5. To examine associations between subscales of the APQ for the proband and control groups respectively, correlations were calculated. For the proband group, Positive Involvement was positively related to Positive Parenting ($r = .496$). For the control group, Positive Involvement was significantly positively related to Positive Parenting. Given that

these two subscales were very highly correlated ($p = .932$), they likely represent singularity, or measurement of the same construct. However, as independent-samples t -tests did not reveal significant between-group differences for Positive Involvement or Positive Parenting (see above), these subscales were not included in subsequent regression analyses. Furthermore, while these subscales were significantly correlated in the control group, the degree of correlation was not strong enough to represent multicollinearity or singularity in the proband group.

Table 5.

Means and Standard Deviations for Alabama Parenting Questionnaire Subscales

	Proband	Control	t -value
<i>Alabama Parenting Questionnaire Subscales</i>			
Poor Monitoring	15.00 (3.71)	12.76 (2.35)	-3.06**
Inconsistent Discipline	14.48 (3.71)	12.08 (3.65)	-2.59*
Positive Involvement	42.36 (12.14)	41.16 (4.81)	.001
Positive Parenting	26.86 (3.20)	26.80 (2.78)	.417
Corporal Punishment	6.89 (1.69)	5.92 (1.58)	-2.34*

Note. * $p < .05$. ** $p < .01$.

Relations Between Child ADHD and Parenting Practices While Controlling for Demographic Variables

Given the literature linking SES, birth order, and number of children in a given household to variations in parenting, multiple regression analyses were run with these variables as covariates. Similarly, a diagnosis of ODD or CD was entered as a covariate given the literature linking the presence of these disorders to variations in parenting. For Inconsistent Discipline, the first model with child ADHD as a sole predictor was significant [$F(1, 67) = 6.73, p = .012, R^2 = .091$]. The second model, with the addition of SES, birth order, and number of children in the household was significant [$F(4, 64) = 2.64, p = .042, R^2 = .142$]. The third model with the

addition of a diagnosis of ODD or CD was also significant [$F(5, 63) = 5.84, p = .000, R^2 = .212$]. The third model accounted for 21.2% of the variance in Inconsistent Discipline and represents a “medium” effect size (Cohen, 1992). In the third model, only diagnosis of ODD or CD emerged as a significant predictor ($\beta = .439, p = .001$) of inconsistent parenting practices.

Basic Group Differences in Relations Between Parenting Stress and Parenting Practices

Bivariate correlations among PSI domains revealed that for both groups, Total Stress was significantly and positively related to Parental Distress, Parent-Child Dysfunctional Interactions, and Difficult Child subscales of the PSI. All correlation values approached or exceeded .80; therefore, Total Stress was excluded from the model in subsequent regression analyses for participants to address singularity (Tabachnick & Fidell, 2007).

Given the literature linking parenting stress to specific parenting practices (e.g., inconsistent discipline), associations between parenting stress and APQ subscales for both the proband and control groups were explored via bivariate correlations. For the proband group, Parent-Child Dysfunctional Interactions was positively related to Difficult Child and was not related to any of the APQ subscales. For the control group, Parent-Child Dysfunctional Interactions was positively related to Difficult Child and negatively related to both the Positive Involvement and Positive Parenting subscales of the APQ. Bivariate correlations between parenting stress and APQ subscales for the control group are presented in Table 6; correlations between parenting stress and APQ subscales for the proband group are presented in Table 7.

Table 6.

Bivariate Correlations among Parenting Stress Variables and Alabama Parenting Questionnaire Subscales for Control Participants

Variable	1.	2.	3.	4.	5.	6.	7.	8.
1. Parent-Child Dysfunctional Interactions	X	.504*	.510**	-.315	-.589	-.818	-.341	.243
2. Difficult Child		X	.321	-.626	-.172	-.120	-.234	.501
3. Parental Distress			X	-.845*	-.670	-.509	.488	.650
4. Poor Monitoring				X	.680	.552	-.473	-.374
5. Involvement					X	.932**	-.256	-.030
6. Positive Parenting						X	-.036	.015
7. Inconsistent Discipline							X	-.082
8. Corporal Punishment								X

Note. * $p < .05$. ** $p < .01$.

Table 7.

Bivariate Correlations among Parenting Stress Variables and Alabama Parenting Questionnaire Subscales for Proband Participants

Variable	1.	2.	3.	4.	5.	6.	7.	8.
1. Parent-Child Dysfunctional Interactions	X	.776**	.704**	.057	-.145	-.200	-.045	-.073
2. Difficult Child		X	.570**	.039	-.162	-.206	.230	.054
3. Parental Distress			X	.035	-.127	-.327	-.031	.071
4. Poor Monitoring				X	-.183	-.214	.333	.072
5. Involvement					X	.496*	-.269	.062
6. Positive Parenting						X	-.200	.057
7. Inconsistent Discipline							X	.417*
8. Corporal Punishment								X

Note. * $p < .05$. ** $p < .01$.

Relations Between Child ADHD and Parenting Stress While Controlling for Demographic Variables

Multiple regression analyses were run with Parent-Child Dysfunctional Interactions (PCDI), Difficult Child, and Parental Distress subscales as criterion variables. Child ADHD was entered as the predictor variable in Step 1, SES, birth order, and number of children in the household in Step 2, and an ODD or CD diagnosis in Step 3. For PCDI, the first model (with only child diagnostic status) was significant [$F(1, 67) = 4.88, p = .031, R^2 = .068$]. The second model, with the addition of SES, birth order, and number of children in the household was not significant [$F(4, 64) = 1.52, p = .207, R^2 = .087$]. The third model, with the inclusion of an ODD or CD diagnosis was significant [$F(5, 63) = 4.56, p = .001, R^2 = .270$]. In this model, only a diagnosis of ODD and CD emerged as a significant predictor ($\beta = -.524, p = .000$) of stress related to dysfunctional parent-child interactions.

For Difficult Child, the first model (with only child ADHD) was significant [$F(1, 67) = 13.63, p = .000, R^2 = .169$]. The second model with the addition of SES, birth order, and number of children in the household was also significant [$F(4, 64) = 3.54, p = .011, R^2 = .181$]. The third model with the addition of an ODD or CD diagnosis remained significant [$F(5, 65) = 7.39, p = .000, R^2 = .320$]. In the third model, only a diagnosis of ODD or CD emerged as a significant predictor ($\beta = -.532, p = .000$) of stress related to difficult child behavior.

For Parental Distress, the first model (with only child ADHD) was significant [$F(1, 67) = 1.62, p = .208, R^2 = .024$]. The second model with SES, birth order, and number of children in the household was also significant [$F(4, 64) = .809, p = .542, R^2 = .048$]. The third model with the addition of a diagnosis of ODD and CD was significant [$F(5, 63) = 2.82, p = .023, R^2 =$

.184]. In the third model, only a diagnosis of ODD or CD individually predicted stress related to a caregiver's role as a parent ($\beta = -.449, p = .002$).

Discussion

The purpose of the study described herein was to examine parenting practices and parenting stress among African American maternal caregivers of children with and without ADHD. Although I expected to run analyses with all subscales of the APQ, as mentioned above, reliability for the Poor Monitoring and Corporal Punishment subscales of the APQ was very low. For this reason, these subscales were excluded from subsequent analyses. The poor reliability obtained for these subscales is inconsistent with recent research that has used the APQ with primarily middle-class Caucasian caregivers of children with ADHD (e.g., Gerdes et al., 2012) and demonstrated adequate reliability across all five subscales of the measure. This discrepancy speaks to a larger issue in scientific research within the domain of parenting.

Specifically, the bulk of parenting studies have utilized middle-class Caucasian families as a standard comparison group to assess differences and similarities across racial groups. A notable problem with this practice is that it implies that there may be a "correct way to parent" and that other groups should be compared against the dominant racial group to examine their "deviation from the norm." Also, parenting strategies may be aimed at different parenting goals (Mason, Walker-Barnes, Tu, Simons, & Martinez, 2004). In fact, some research has indicated that particularly among low-income African American families, harsh discipline, unidirectional (parent to child) communication, and intensive monitoring of a youth's whereabouts convey parental caring and investment (Tamis-LeMonda et al., 2008). Furthermore, such practices are linked to positive outcomes among African American youth (Kerig & Wenar, 2005). Additionally, research has suggested that African Americans place greater value on

interdependence, group effort toward shared interests, perseverance in the face of adversity, and conformity relative to Caucasians (McAdoo & Crawford, 1991). As such, parenting strategies implemented by African American families reflect these parenting goals.

The well-documented racial differences mentioned above taken together with the notion that parenting practices may reflect disparate goals by race, underscores the need for a measure of parenting that can accurately capture and quantify parenting behaviors in African American families. The present study is the first to examine within-race differences in parenting among African American caregivers of children with ADHD and is also the first study to my knowledge to acknowledge this measurement issue within the ADHD parenting literature more broadly.

In comparing proband and control groups, there were differences in Cronbach's alpha values for Poor Monitoring (proband $\alpha = .462$; control $\alpha = .185$) and Corporal Punishment (proband $\alpha = .399$ control $\alpha = .459$) subscales of the APQ. The group differences in Cronach's alphas for these subscales as well as the very low values of such alphas suggest that these subscales of the APQ are likely not accurately capturing facets of "negative" parenting in a sample of African American caregivers. As mentioned above, interpretable Cronbach's alpha values should fall in the range of at least .6 to .7 (Fielding, 2005). For this reason, analyses from this study with Inconsistent Discipline, Positive Parenting, and Positive Involvement subscales of the APQ are indeed interpretable and may carry clinical implications and inform future research in this sparsely studied area (see below).

In examining the distributions of items on the APQ, responses for several of the items that map to the "negative" parenting subscales seemed to lack a pattern (i.e., frequencies for all five responses were roughly the same) and thus may not represent meaningful constructs for African American caregivers, undermining content validity of the measure (e.g., Kazdin 2003).

For instance, although item 22: “You let your child out of punishment early (like lift restrictions earlier than you originally said)” maps to Inconsistent Discipline, this item could be read in a variety of ways. One caregiver might construe the item to mean that a punishment has been lifted following child compliance or engagement in desired behavior, connoting a positive parenting strategy. Conversely, another caregiver may perceive herself to struggle in following through on a given punishment, connoting a negative or ineffective discipline strategy.

Another notable finding with the Inconsistent Discipline subscale is that while child ADHD was a significant predictor of Inconsistent Discipline when entered into the model on its own as a predictor, when covariates were entered in the model, it did not predict Inconsistent Discipline. In fact, only child ODD or CD uniquely predicted Inconsistent Discipline among caregivers. Past literature using primarily Caucasian samples has indicated that Child ADHD is a potent predictor of ineffective parenting practices generally (Mokrova, O’Brien, & Keane, 2010) and inconsistent discipline specifically (Chen & Johnston, 2007; Ellis & Nigg, 2009). Research has further shown that child ADHD and ODD or CD respectively contribute to the use of ineffective parenting strategies, including inconsistent discipline (e.g., Anastopoulos et al., 1992). However, the current study’s finding that ODD or CD predicts caregiver inconsistent discipline over and above child ADHD has not been documented in the literature utilizing primarily Caucasian samples and may be unique to African American families.

It is likely that the behaviors associated with ADHD (e.g., excessive movement, difficulty following instructions) are both difficult to manage and erode a caregiver’s ability to consistently engage in effective discipline tactics. Given the literature documenting greater negative-reactive responses to child behavior (Johnston, 1996), parental discipline for caregivers of children with ADHD may likewise be implemented in a variable emotion-driven and reactive manner rather

than a consistent one. For African American caregiver, child ODD may be more taxing than child ADHD, given predominant parenting practices in this population. Specifically, as noted earlier, African American parenting is often characterized as authoritarian (e.g., uni-directional communication, expectations that parental commands are not to be questioned). ODD or CD are disorders characterized by persistent patterns of rule-breaking, disregard for others, and disobedience of authority figures. Thus, parenting a child with ODD or CD, within the context of authoritarian parenting style, may erode a caregivers' ability to engage in effective parenting strategies over and above ADHD.

Contrary to what was hypothesized, there were not group differences in Positive Involvement between African American caregivers of children with ADHD as compared to children without ADHD. Such a finding runs contrary to previous literature documenting lower levels of positive involvement among caregivers of children with ADHD as compared to without ADHD (McLaughlin et al., 2006). There is literature to suggest that among Caucasian caregivers, child ADHD symptoms (e.g., excessive talking, interrupting or intruding on others) are associated with parental disengagement (Fischer, 1990). In comparing mean levels of Positive Involvement among caregivers of children with ADHD in the current sample to mothers of children with ADHD in a primarily Caucasian sample, the African American mothers in this study reported levels of Positive Involvement that were approximately 1.5 standard deviations above the primarily Caucasian sample in another study (Gerdes, Haack, & Schneider, 2010). There is some evidence that African American mothers may perceive themselves as more positively involved in their children's lives than Caucasian mothers. Hill and Craft (2003) compared maternal involvement among African American and Caucasian mothers of school-age children that did not have ADHD. Results indicated that African American mothers reported

higher levels parental involvement approximately one standard deviation higher than Caucasian caregivers within the school domain. It may be that the generally higher levels of positive involvement reported among African American as compared to Caucasian mothers partially buffers the impact of child ADHD on parental involvement. Thus, even when parenting a child with ADHD, African American caregivers report high levels of involvement.

The second aim of the present study consisted of two parts: 1) to explore interrelations between parenting stress and parenting practices among African American caregivers by group; and 2) to explore the prediction of parenting stress by child ADHD, while controlling for potential covariates including SES, birth order, number of children in the household, and a diagnosis of ODD or CD.

Correlations between subscales of the PSI and subscales of the APQ revealed that for the proband group, there were no significant associations between parenting stress and parenting practices among African American caregivers. This finding is inconsistent with the current literature with primarily Caucasian caregivers. For instance, in a Canadian sample of mothers, Johnston (1996) found that those reporting higher levels of parenting stress used more negative-reactive as opposed to positive parenting strategies. It may be that among African American caregivers of children with ADHD, parenting stress does not impact how caregivers report parenting their children in the way that it has been found to among Caucasian caregivers of children with ADHD, as caregivers in the current sample reported generally lower levels of parenting stress across PSI subscales relative to Caucasian samples (e.g., Anastopoulos et al., 1992). It is possible that other variables such as neighborhood climate (e.g., safe versus crime-ridden) are more strongly associated with self-reported parenting practices for this population. In clinical practice, it would therefore be useful to inquire of caregivers whether and in what ways

parenting stress impacts how they interact with their children. It would likewise be important to gather information about variables (e.g., family or neighborhood environment) that may more proximally relate to parenting practices for African American caregivers of children with ADHD.

For the control group, Parent-Child Dysfunctional Interactions was negatively related to both the Positive Involvement and Positive Parenting subscales of the APQ. It is possible that control caregivers lack an “explanation” (i.e., a diagnosis of ADHD) for their negative parent-child interactions, thus magnifying the conflict within such interactions. From this perspective, parenting stress specifically related to problems within the parent-child relationship may drive caregivers to disengage from aspects of their child’s life or utilize more negative parenting strategies with their children. Clinically, caregivers of children without ADHD or another mental health disorder may not receive the same types of resources (e.g., supportive services in school) and treatment (e.g., psychotherapy, pharmacotherapy) relative to caregivers of children with mental health conditions.

However, my findings suggest that the current study’s sample of African American caregivers of children without ADHD is not only reporting higher mean levels of parenting stress relative to Caucasian samples (cited above), but also that parenting stress is more strongly associated with parenting practices utilized. Given that children regardless of mental health status annually visit a primary care doctor, training primary care physicians in screening for parenting stress among caregivers and providing caregivers with suggestions for ameliorating parenting stress (e.g., carving out time for one’s own recreational activities, engaging in social support networks) would be an important clinical endeavor.

Multiple regressions analyses indicated that child ADHD when entered alone in the model significantly predicted PCDI. However, when a diagnosis of ODD/CD was entered into the third step of the model, child ADHD was no longer significant, with ODD/CD strongly predicting PCDI. The PCDI subscale measures quality of the parent-child relationship including attachment. This finding is consistent with past literature. Specifically, Johnston (1996) found that parenting stress across all subscales of the PSI was greater for caregivers of children with ADHD relative to children without ADHD. Further, she found that parenting stress across subscales of the PSI was highest among caregivers of children with comorbid ADHD and ODD.

This subscale likely reflects in part parenting stress associated with managing a child with a disorder. For instance, caregivers hold pre-conceived notions about how their child should behave, such as minding instructions and commands and remaining seated when appropriate (Anastopoulos et al., 1992). The core symptoms of ADHD hinder children from meeting such expectations. For instance, although a parent may expect their young child to independently clean their room, this task proves incredibly difficult for many children with ADHD. Thus, when children with ADHD fail to meet such expectations, increased parent-child conflict occurs (Theule, Wiener, Tannock, & Jenkins, 2013), in turn increasing parenting stress in this domain. Similarly, given that child misbehavior is associated with more conflicted parent-child exchanges, it may be that over time, caregivers in general come to find interacting with their child with ADHD to be highly onerous and unsatisfying.

Child ADHD also significantly predicted the DC subscales of the PSI when entered as the sole predictor. However, as with PCDI, child ADHD was no longer a significant predictor of the criterion variable when diagnosis of ODD or CD was entered into the model as a covariate. ODD or CD significantly predicted the DC subscale. This finding is also in line with past literature

documenting higher levels of parenting stress, specifically in the domain of DC, among caregivers of children with ADHD relative to children without ADHD, and the highest stress in this domain among caregivers of children with comorbid ADHD and ODD (Johnston, 1996; Theule et al., 2013).

The Difficult Child subscale assesses caregivers' attitudes toward their child's behaviors. A sample item on this subscale reads "My child smiles much less than I expected." It may be that the parenting stress experienced by African American caregivers is associated with negative perceptions of their child's dispositions and not necessarily with their ability to parent (i.e., low levels of perceived parenting competence). This notion is upheld by literature. Specifically, Bussing and colleagues (2005) found that African Americans of children with ADHD symptomatology were apt to attribute misbehavior to their child's disposition rather than to external causes (e.g., deficits in parenting, disorders such as ADHD).

Findings for the PD subscale of the PSI parallel results from PCDI and DC subscales. Specifically, while child ADHD as the sole independent variable significantly predicted PD, child ADHD did not significantly predict this variable when covariates including ODD or CD diagnosis were entered in the model. For the PD subscale, only ODD or CD diagnosis uniquely predicted PD in the overall model. The PD subscale taps the extent to which a caregiver is experiencing stress in their role as a parent, including sense of parenting competency, stresses associated with restrictions on the caregiver's life, inter-parental conflict, social support and depression (Abidin, 1995). It is highly likely that the symptoms associated with ADHD and ODD/CD taken together, are difficult to manage and serve to erode a caregiver's sense of parenting competency. Although ADHD did not uniquely predict PD in the overall model, it contributed to the amount of variance (18.4%) in the dependent variable accounted for by the

overall model. From this perspective, and consistent with the literature documenting associations between child ADHD (Breen & Barkley, 1987) and ODD (Ross, Blanc, McNeil, Eyberg, & Hembree-Kigin, 1998) respectively and elevated scores on the PD subscale of the PSI (Johnston, 1996), the cumulative effect of these two disorders is especially taxing for caregivers, contributing to impairment outside the domain of parenting (e.g., social support deficits, marital strain).

Study Limitations

There are a number of limitations to the present study. First, although the APQ has been widely-used with Caucasian samples, a comprehensive search revealed a relative paucity of studies utilizing this instrument with African American caregivers both in the ADHD literature as well as in other areas of research. Furthermore, among studies of African American caregivers that did make use of the APQ, most collapsed subscales to form broader composites of parenting practices (e.g., Elmore & Gaylord-Harden, 2013; Gaylord-Harden, Elmore, & de Oca, 2013). Though not stated explicitly, collapsing subscales was likely done in previous research to increase reliability. However, in collapsing subscales to form “positive” and “negative” parenting composites and calculating reliability for the present sample, results indicated low reliability for the negative parenting composite in particular for both the proband and control groups ($\alpha < .6$). This is contrary to other studies with primarily Caucasian samples that *have* achieved adequate reliability by collapsing subscales to form negative and positive parenting constructs (e.g., Badder & Barry, 2014; Chronis-Tuscano et al., 2011; Li & Lee, 2012). My results would therefore suggest that the APQ subscales, in particular those that map to “negative” parenting constructs, may not accurately capture parenting in African American families as evidenced by the very low reliability. While the Inconsistent Discipline subscale and both

subscales mapping to “positive” parenting constructs evidenced adequate to good reliability, the Corporal Punishment and Poor Monitoring subscales perhaps should not be interpreted as valid measures of parenting for African American caregivers.

The current study is also limited by the sole use of self-report in measuring parenting behaviors among participants. As mentioned above, it is possible that information obtained from the APQ was colored by social desirability (Paulhus, 1991) and self-report (Podsakoff, MacKenzie, & Podsakoff, 2003) bias. The incorporation of an observational measure of parenting practices would have counterbalanced such a bias and provided an objective evaluation of parenting practices among caregivers. Indeed, McLeod and colleagues (2007) found that self-report methods of measuring parenting relative to observational methods yielded different findings. Specifically, the former yielded a weaker relationship between parenting practices and child psychopathology relative to the latter. Thus, the method by which parenting is measured contributes uniquely to relations detected between parenting practices and child outcomes.

Future Research

The literature on parenting children with ADHD compared to those without ADHD in Caucasian samples is large and nuanced with well-documented trends. By contrast, this is the first study to examine within-race differences in parenting among African American caregivers of children with ADHD as compared to without ADHD. This study points to a number of next steps as researchers attempt to better understand parenting in these families.

The measurement of parenting in African American families both in the general and ADHD literature has utilized instruments with poor psychometric properties. Furthermore, while the APQ has been shown to adequately measure parenting practices among Caucasian caregivers, this is not the case among African American caregivers. Researchers should

investigate African American parenting of children with ADHD to identify culturally-relevant parenting constructs to target in treatment. For instance, McLeod and colleagues (2014) highlight that the development of culturally-sensitive measurement tools require establishing construct validity equivalence. That is, determining that the same underlying constructs of a measure are consistent across racial/ethnic groups and that the items carry the same semantic-linguistic meaning across cultures. As well, there is a need to understand both items in a measure as well as constructs underlying a measure as embedded within the cultural context of the population under investigation. At present, it is unclear whether construct validity equivalence exists in applying the same measures of parenting developed with Caucasians to African American samples. The very poor reliability for several subscales of the APQ in the current study would indeed suggest construct validity *inequivalence*, at least for some facets of “negative” parenting.” Moreover, without an understanding of the “norm” or baseline measurement of parenting across multiple constructs, it remains unclear whether BPT is an appropriate match for African American families of children with ADHD.

A comprehensive search of the empirical literature on parenting in African American families from 2005 to present revealed that there is no single measure or measure(s) commonly used to capture parenting in this population. Consistent with recommendations from Kazdin (2003), because the cultural relevance of established self-report parenting measures has not before been examined for African Americans, it is suggested that a culturally sensitive measure be developed that accurately reflects parenting among African American caregivers. The development of such a measure should begin by conducting focus groups on parenting with a diverse and nationally-representative sample of African American primary caregivers to generate relevant themes. Subsequently, a pool of items should be created. Confirmatory factor analysis

(CFA) should be used to establish underlying factor structures for the measure. Although it would have been useful to conduct CFA with the current study, the size of the sample was not sufficiently large to conduct such analyses.

Parenting stress has garnered significant research attention within the ADHD parenting literature with primarily Caucasian samples. It has also been conceptualized as a primary outcomes measure of both psychosocial and pharmacological treatment for child ADHD. Results from the present study suggest that parenting stress may not be as strongly associated with parenting practices among African American caregivers. Importantly, future research with African American caregivers of children with ADHD should investigate other variables that may be more proximally related to parenting practices for this population to guide future intervention work. Investigations of correlates of specific parenting practices in African American families should guide research in this area. For instance, researchers have documented associations between maternal social support and parenting among African American caregivers (Brody & Flor, 1998). Other research has linked maternal religiosity both to parenting practices as well as youth outcomes for African American families (Abar, Carter, & Winsler, 2009). Given the current study's finding that parenting stress was *not* associated with parenting practices for the proband group, an examination of such variables may help inform tailoring of evidence-based treatment for this population.

The present study is the first to examine within-race differences in parenting practices between African American caregivers of children with ADHD compared to without ADHD. Findings suggest that it is in fact the presence of ODD or CD that best accounts for variability in different types of parenting stress for this population. Although there are some limitations to this study, there are significant implications for clinical work and future research in this area. In

regards to future directions, perhaps most notably, although the APQ has often been used to measure parenting among Caucasian caregivers both in the general parenting literature as well as in ADHD-specific research, the utility of all subscales on this measure with African American families is highly questionable given the low reliability of two subscales. Importantly, a measure that accurately captures parenting for this population is sorely needed to inform intervention efforts for African American children with ADHD. As mentioned above, a frontline psychosocial intervention for child ADHD is BPT, a treatment that is in line with the tenants of authoritative parenting (e.g., teaching parents to provide frequent praise and attention for appropriate behaviors and nonphysical discipline in response to undesired behaviors). Without a psychometrically sound measure with which to qualify parenting in African American caregivers of children with ADHD, it remains unclear whether BPT, as it is currently structured, is an appropriate treatment for this disorder in African American families.

List of References

List of References

- Abell, E., Clawson, M., Washington, W. N., Bost, K. K., & Vaughn, B. E. (1996). Parenting values, attitudes, behaviors, and goals of African American mothers from a low-income population in relation to social and societal contexts. *Journal of Family Issues, 17*, 593-613. doi: 10.1177/019251396017005002.
- Alberts-Corush, J., Firestone, P., Goodman, J. T. (1986). Attention and impulsivity characteristics of biological and adoptive parents of hyperactive and normal children. *American Journal of Orthopsychiatry, 56*, 413-423.
- Amato, P. R., & Fowler, F. (2002). Parenting practices, child adjustment, and family diversity. *Journal of Marriage and Family, 64*, 703-716. doi: 10.1111/j.1741-3737.2002.00703.
- Ambrosini, P. J. (2000). Historical development and present status of the schedule for affective disorders and schizophrenia for school-age children (K-SADS). *Journal of the American Academy of Child and Adolescent Psychiatry, 39*, 49-58. doi: 10.1097/00004583-200001000-00016.
- American Psychiatric Association. (2000). *Diagnostic and Statistical Manual for Mental Disorders* (4th ed., text revision). Washington, DC: American Psychiatric Association.
- American Psychiatric Association. (2013). *Diagnostic and Statistical Manual of Mental Disorders* (5th ed.). Arlington, VA: American Psychiatric Association.
- Andersen, R. M. (1995). Revisiting the behavioral model and access to medical care: Does it matter? *Journal of Health and Social Behavior, 36*, 1-10. doi:10.1186/1754-9493-8-7.
- Anastopoulos, A. D., Guevremont, D. C., Shelton, T. L., & DuPaul, G. J. (1992). Parenting stress among families of children with attention deficit hyperactivity disorder. *Journal of Abnormal Child Psychology, 20*, 503-520.
- Anastopolous, A. D., Shelton, T. L., DuPaul, G. L., & Guevremont, D. C. (1993). Parent training for attention-deficit hyperactivity disorder: Its impact on parent functioning. *Journal of Abnormal Child Psychology, 21*, 581-96. doi: 00910627/92/1000-0503506.501.
- Arnold, D. S., O'Leary, S. G., Wolff, L. S., & Acker, M. M. (1993). The parenting scale: A measure of dysfunctional parenting and discipline situations. *Psychological Assessment, 5*, 137-44. doi: 10.1037/1040-3590.5.2.137.

- Baldwin, A. L., Baldwin, C., & Cole, R. E. (1990). Stress-resistant families and stress-resistant children. In Rolf, J., Masten, A. S., Cicchetti, D., Nuechterlein, K. H., & Weintraub, S. (Eds.), *Risk and Protective Factors in the Development of Psychopathology* (pp. 257-280). Cambridge: Cambridge University Press.
- Barkley, R. A., Guevremont, D. C., Anastopoulos, A. D., & Fletcher, K. E. (1992). A comparison of three family therapy programs for treating family conflicts in adolescents with attention deficit hyperactivity disorder. *Journal of Consulting and Clinical Psychology, 60*, 450-462. doi: 10.1037/0022-006X.60.3.450.
- Barkley, R. A. (2003). Attention-deficit/hyperactivity disorder. In: Mash, E. J., & Barkley, R. A. (Eds.), *Child Psychopathology* (2nd ed.) (pp. 75-173). New York, NY: Guilford.
- Barkley, R. A., Fischer, M., Smallish, L., & Fletcher, K. (2004). Young adult follow-up of hyperactive children: Antisocial activities and drug use. *Journal of Child Psychology and Psychiatry, 45*, 195-211. doi: 10.1097/01.chi.0000189134.97436.e2.
- Baumrind, D. (1967). Effects of authoritative parental control on child behavior. *Child Development, 37*, 887-907.
- Baumrind, D. (1987). A developmental perspective on adolescent risk-taking behavior in contemporary America. In Damon, W. (Ed.), *New directions for Child Development: Adolescent Health and Social Behavior* (pp. 93-126). San Francisco, Jossey-Bass.
- Baumrind, D. (1989). Rearing competent children. In Damon, W. (Ed.), *Child Development Today and Tomorrow* (pp. 349-378). San Francisco: Jossey-Bass.
- Baumrind, D. (1972). An exploratory study of socialization effects on black children: Some black-white comparisons. *Child Development, 43*, 261-276. doi: 10.2307/1127891.
- Baumrind, D. (1991). The influence of parenting style on adolescent competence and substance abuse. *Journal of Early Adolescence, 11*, 56-95. doi: 10.1177/02724316911111004.
- Baumrind, D. (2005). Patterns of parental authority and adolescent autonomy. *New Directions for Child and Adolescent Development, 108*, 61-69. doi: 10.1002/cd.128.
- Biederman, J., Faraone, S., Milberger, S., Curtis, S., Chen, L., Marris, A., Oullette, C.,..., & Spencer, T. (1996). Predictors of persistence and remission of ADHD into adolescence: Results from a four-year prospective follow-up study. *Journal of the American Academy of Child and Adolescent Psychiatry, 35*, 343-351. doi: 10.1097/00004583-199603000-00016.
- Becker, G. S., & Lewis, G. H. (1973). On the interaction between the quantity and quality of children. *Journal of Political Economy, S239-288*.
- Belsky, J. (1984). The determinants of parenting: A process model. *Child Development, 55*, 83-

96. doi:10.2307/1129836.

- Blackman, G. L., Ostrander, R., & Herman, K. C. (2005). Children with ADHD and depression: A multisource, multimethod assessment of clinical, social, and academic functioning. *Journal of Attention Disorders, 8*, 195-207. doi: 10.1177/1087054705278777.
- Bluestone, C., & Tamis-LeMonda, C. S. (1999). Correlates of parenting styles in predominately working- and middle-class African American mothers. *Journal of Marriage and the Family, 61*, 881-893. doi: 10.2307/354010.
- Breen, M. J., & Barkley, R. A. (1988). Child psychopathology and parenting stress in girls and boys having attention deficit disorder with hyperactivity. *Journal of Pediatric Psychology, 13*, 265-80. doi: 10.1093/jpepsy/13.2.265.
- Bronfenbrenner, U. (1979). *The Ecology of Human Development: Experiments by Nature and Design*. Cambridge: Harvard University Press.
- Bronfenbrenner, U. (1986a). Ecology of the family as a context for human development: Research perspectives. *Developmental Psychology, 22*, 723-742. doi: 10.1037/0012-1649.22.6.723.
- Brody, G. H., & Flor, D. L. (1998). Maternal resources, parenting practices, and child competence in rural, single-parent African American families. *Child Development, 69*, 803-816. doi: 10.1111/j.1467-8624.1998.tb06244.
- Bronfenbrenner, U. (1989). Ecology systems theory. In Vasta, R. (Ed.). *Six Theories of Child Development: Revised Formulations and Current Issues*. Greenwich, Connecticut: JAI Press.
- Burke, J. D., Pardini, D. A., Loeber, R. (2008). Reciprocal relationships between parenting behavior and disruptive psychopathology from childhood through adolescence. *Journal of Abnormal Child Psychology, 36*, 679-692.
- Bussing, R., Schoenberg, N. E., & Perwien, A. R. (1998). Knowledge and information about ADHD: Evidence of cultural differences among African American and White parents. *Social Science Medicine, 46*, 919-928. doi: 10.1016/S0277-9536(97)00219-0.
- Bussing, R., Zima, B. T., Perwien, A. R., Belin, T. R., & Widawski, M. (1998). Children in special education programs: Attention deficit hyperactivity disorder, use of services, and unmet needs. *American Journal of Public Health, 88*, 880-886. doi: 10.2105/AJPH.88.6.880.
- Bussing, R., Gary, F., Mills, T., & Garvan, C. (2003). Parental explanatory models of ADHD gender and cultural variations. *Social Psychiatry and Psychiatric Epidemiology, 38*, 563-575. doi:10.1007/s00127-003-0674-8.

- Caughy, M. O., Franzini, L., Windle, M., Dittus, P., & Cuccaro, P. (2012). Social competence in late elementary school: Relations to parenting and neighborhood context. *Journal of Youth and Adolescence, 41*, 1613-1627. doi: 10.1007/s10964-012-9779-2.
- Centers for Disease Control and Prevention. (2003). Prevalence of diagnosis and medication treatment for attention-deficit/hyperactivity disorder-United States. *Morbidity and Mortality Weekly Report, 54*, 842-847.
- Chronis, A. M., Jones, H. A., & Raggi, V. L. (2006). Evidence-based psychosocial treatments for children and adolescents with attention-deficit/hyperactivity disorder. *Clinical Psychology Review, 26*, 486-502. doi: 10.1016/j.cpr.2006.01.002.
- Chronis, A. M., Gamble, S. A., Roberts, J. E., & Pelham, W. E. (2006). Cognitive-behavioral depression treatment for mothers of children with Attention Deficit/Hyperactivity Disorder. *Behavior Therapy, 37*, 143-158.
- Clark, R. (1983). *Family Life and School Achievement: Why Poor Black Children Succeed or Fail*. Chicago: University of Chicago Press.
- Clincy, A. R., & Mills-koonce, W. R. (2013). Trajectories of intrusive parenting during infancy and toddlerhood as predictors of rural, low-income African American boys' school-related outcomes. *The American Journal of Orthopsychiatry, 83*, 194-206. doi: 10.1111/ajop.12028.
- Coghill, D., Nigg, J., Rothenberger, A., Sonuga-Barke, E., & Tannock, R. (2005). Whither causal models in the neuroscience of ADHD? *Developmental Science, 8*, 105-114. doi: 10.1111/j.1467-7687.2005.00397.
- Cohen, J. (1992). "A power primer." *Psychological Bulletin, 112*, 155-159. doi:10.1037/0033-2909.112.1.155
- Coolihan, McWayne, Fantuzzo, & Grim (2002). Validation of a multidimensional assessment of parenting styles for low-income African American families with preschool children. *Early Childhood Research Quarterly, 17*, 356-373. doi: doi.org/10.1016/S0885-2006(02)00169-2.
- Chronis, A. M., Fabiano, G. A., Gnagy, E. M., Wymbs, B. T., Burrows-MacLean, L., & Pelham, W. E. (2001). Comprehensive, sustained behavioral and pharmacological treatment for attention deficit hyperactivity disorder: A case study. *Cognitive and Behavioral Practice, 8*, 346-359.
- Chronis, A. M., Chacko, A., Fabiano, G. A., Wymbs, B. T., & Pelham, W. E. (2004). Enhancements to the behavioral parent training paradigm for families of children with ADHD: Review and future directions. *Clinical Child and Family Psychology Review, 7*, 1-27.
- Cunningham, C. E., & Barkley, R.A. (1979). The interactions of hyperactive and normal

- children with their mothers during free play and structured tasks. *Child Development*, 50, 217-224. doi: 10.2307/1129059.
- Cunningham, C. E., Siegel, L. S., & Offord, D. R. (1985). A developmental dose-repose analysis of the effects of methylphenidate on the peer interactions of attention deficit disorder boys. *Journal of the American Academy of Child and Adolescent Psychiatry*, 35, 978-98. doi: 10.1111/j.1469-7610.1985.tb00609.
- Dadds, M. R., Maujean, A., & Fraser, J. A. (2003). Parenting and conduct problems in children: Australian data and psychometric properties of the Alabama Parenting Questionnaire. *Australian Psychologist*, 38, 238-241. doi: 10.1080/00050060310001707267.
- Darling, N., & Steinberg, L. (1993). Parenting style as context: An integrative model. *Psychological Bulletin*, 113, 487-496. doi: 10.1037/0033-2909.113.3.487.
- Daviss, W. B. (2008). A review of co-morbid depression in pediatric ADHD: Etiologies, phenomenology, and treatment. *Journal of Child and Adolescent Psychopharmacology*, 18, 565-571. doi: 10.1089/cap.2008.032.
- Deater-Deckard, K., & Dodge, K. A. (1997). Externalizing behavior problems and discipline revisited: Nonlinear effects and variation by culture, context, and gender. *Psychological Inquiry*, 8, 161-175. doi: 10.1207/s15327965pli0803_1.
- Deault, L. C. (2010). A systematic review of parenting in relation to the development of comorbidities and functional impairments in children with attention-deficit/hyperactivity disorder (ADHD). *Child Psychiatry and Human Development*, 2, 168-182. doi: 10.1007/s10578-009-0159-4.
- DeShazo Barry, T., Lyman, R. D., & Klinger, L. (2002). Academic underachievement and attention deficit/hyperactivity disorder: The negative impact of symptom severity on school performance. *Journal of School Psychology*, 40, 259 – 283. doi: 10.1016/S0022-4405(02)00100-0.
- Dornbusch, S. M., Ritter, P. L., Leiderman, P. H., Roberts, D. F., & Fraleigh, M. J. (1987). The relation of parenting style to adolescent performance. *Child Development*, 58, 1244-1257. doi: 10.2307/1130618.
- DosReis, S., Zito, J. M., Safer, D. J., Soeken, K. L., Mitchell, J. W, Jr, & Ellwood, L. C. (2003). Parental perceptions and satisfaction with stimulant medication for attention-deficit hyperactivity disorder. *Journal of Developmental and Behavioral Pediatrics*, 24, 155–162. doi:10.1097/00004703-200306000-00004.
- Douglas, R. J., Steele, A. G., Wood, B. M., & Hill, K. D. (2005). A useful reflection. *Metrologia*, 42, 35-39.

- Duncan, O. D. (1961). A socioeconomic index for all occupations. In Reiss, A. J. (Ed.), *Occupations and Social Status* (pp.109-138). New York: Free Press.
- DuPaul, G. J., Power, T. J., Anastopoulos, A. D., & Reid, R. (1998). *ADHD Rating Scale-IV: Checklists, Norms, and Clinical Interpretation*. New York, NY: Guilford Press.
- DuPaul, G. J., McGoey, K. E., Eckert, T. L., & Van Brakle, J. V. (2001). Preschool children with ADHD: Impairments and behavioral, social and school functioning. *Journal of the American Academy of Child and Adolescent Psychiatry*, *40*, 508-515. doi: 10.1016/S0387-7604(02)00152-3.
- Eiraldi, R. B., Mazzuca, L. B., Clarke, A. T., & Power, T. J. (2006). Service utilization among ethnic minority children with ADHD: A model of help-seeking behavior. *Administration and Policy in Mental Health*, *33*, 607-622.
- Eisenman, R. (1992). Birth order, development and personality. *International Association for Child Psychiatry and Allied Professionals*, *55*, 25-27.
- Elardo, R., & Bradley, R. (1981). The home observation for measurement of the environment: A review of research. *Developmental Review*, *1*, 113-145. doi: 10.1016/0273-2297(81)90012-5.
- Ellis, B., & Nigg, J. (2009). Parenting practices and attention-deficit/hyperactivity disorder: New findings suggest partial specificity of effects. *Journal of the American Academy of Child and Adolescent Psychiatry*, *48*, 146-54. doi: 10.1097/CHI.0b013e31819176d0.
- Fabiano, G. A., Pelham, W. E. Jr., Waschbusch, D. A., Gnagy, E. M., Lahey, B. B., Chronis, A. M., Onyango, A. N.,..., & Burrows-Maclean, L. (2006). A practical measure of impairment: Psychometric properties of the impairment rating scale in samples of children with attention deficit hyperactivity disorder and two school-based samples. *Journal of Clinical Child and Adolescent Psychology*, *35*, 369-385. doi: 10.1207/s15374424jccp3503_3.
- Fergusson, D. M., Horwood, L. J., & Lynskey, M. T. (1993). The effects of conduct disorder and attention deficit in middle childhood on offending and scholastic ability at age 13. *Journal of Child Psychology and Psychiatry*, *34*, 899-916. doi: 10.1111/j.1469-7610.1993.tb01097.
- Fergusson, D. M., & Horwood, L. J. (1995). Early disruptive behavior, IQ, and later school achievement and delinquent behavior. *Journal of Abnormal Child Psychology*, *23*, 183 – 199. doi: 0091-0627/95/0400-0183\$07.50.
- Fischer, M. (1990). Parenting stress and the child with attention-deficit hyperactivity disorder. *Journal of Clinical Child Psychology*, *19*, 337-346. doi: 10.1207/s15374424jccp1904_5.

- Fischer, M., Barkley, R. A., Smallish, L., & Fletcher, K. R. (2002). Young adult outcome of hyperactive children: Self-reported psychiatric disorders, comorbidity, and the role of childhood conduct problems. *Journal of Abnormal Child Psychology*, *30*, 463-475. doi: 0091-0627/02/1000-0463/0.
- Forehand, R., & Kotchick, B. A. (1996). Cultural diversity: A wake-up call for parent training. *Behavior Therapy*, *27*, 187-206. doi: 10.1016/S0005-7894(96)80014-1.
- Frick, P. J., Christian, R. E., & Wootton, J. M. (1999). Age trends in the association between parenting practices and conduct problems. *Behavior Modification*, *23*, 106-123. doi: 10.1177/0145445599231005.
- Froehlich, T. E., Lanphear, B. P., Epstein, J. N., Barbaresi, W. J., Katusic, S. K., & Kahn, R. S. (2007). Prevalence, recognition, and treatment of attention-deficit/hyperactivity disorder in a national sample of U.S. children. *Archives of Pediatric and Adolescent Medicine*, *161*, 857-864. doi: 10.1001/archpedi.161.9.857.
- Garcia, C., Meyer, E., & Brillon, L. (1995). Ethnic and minority parenting. In Bornstein, M. H. (Ed.). *Handbook of Parenting: Biology and Ecology of Parenting* (pp. 189-209). Mahwah, NJ: Erlbaum.
- Gershoff, E. T., & Bitensky, S. H. (2007). The case against corporal punishment of children: Converging evidence from social service research and internal human rights law and implications for U.S. public policy. *Psychology, Public Policy, and Law*, *13*, 231-272.
- Gillberg, C., Carlstrom, G., & Rasmussen, P. (1983). Hyperkinetic disorders in seven-year-old children with perceptual, motor and attentional deficits. *Journal of Child Psychology and Psychiatry*, *24*, 233-46. doi: 10.1111/j.1469-7610.1983.tb00572.
- Graham, S. (1992). Most of the subjects were white and middle-class: Trends in published research on African Americans in selected APA journals, 1970-1989. *American Psychologist*, *44*, 629-639. doi: 10.1037/0003-066X.47.5.629.
- Graves, S. L., & Serpell, Z. (2013). Racial differences in medication use in a national sample of children with ADHD enrolled in special education. *School Mental Health*, *5*, 157-182. doi: 10.1007/s12310-013-9105-5.
- Gunnoe, M. L., & Mariner, C. L. (1997). Toward a developmental-contextual model of the effects of parental spanking on children's aggression. *Archives of Pediatrics and Adolescent Medicine*, *151*, 768-775. doi: 10.1001/archpedi.1997.02170450018003.
- Hamner, T. J., & Turner, P. H. (1990). *Parenting in Contemporary Society*. Englewood Cliffs, New Jersey: Prentice Hall.
- Harre, R. (1974). Blueprint for a new science. In Nigel, A. (Ed.), *Reconstructing Social Psychology* (pp. 219-230). Baltimore: Penguin Books.

- Hart, E. L., Lahey, B. B., Loeber, R., & Hanson, K. S. (1994). Criterion validity of informants in the diagnosis of disruptive behavior disorders in children: A preliminary study. *Journal of Consulting and Clinical Psychology, 62*, 410–414. doi: 10.1037/0022-006X.62.2.410.
- Harvey, E., Danforth, J. S., Eberhardt McKee, T. E., Ulaszek, W. R., & Friedman, J. L. (2003). Parenting children with attention-deficit/hyperactivity disorder (ADHD): The role of parental ADHD symptomatology. *Journal of Attention Disorders, 7*, 31-42. doi: 10.1177/108705470300700104.
- Havighurst, R. J. (1976). The relative importance of social class and ethnicity on human development. *Human Development, 19*, 56-64. doi: 10.1159/000271515.
- Hill, N. E., & Bush, K. R. (2001). Relationships between parenting environment and children's mental health among African American and European American mothers and children. *Journal of Marriage and Family, 63*, 954-966. doi: 10.1111/j.1741-3737.2001.00954.
- Hill, N. E., McBride Murry, V., & Anderson, V. D. (2005). Sociocultural contexts of African American families. In Mcloyd, V. C., Hill, N. E., & Dodge, K. A. (Eds.), *African American Family Life: Ecological and Cultural Diversity* (pp. 21-44). New York: Guilford Press.
- Hinshaw, S. P. (1992). Externalizing behavior problems and academic underachievement in childhood and adolescence: Causal relationships and underlying mechanisms. *Psychological Bulletin, 111*, 127 – 155. doi: 10.1037/0033-2909.111.1.127.
- Hinshaw, S. P. (2002). Preadolescent girls with attention-deficit/hyperactivity disorder: Background characteristics, comorbidity, cognitive and social functioning, and parenting practices. *Journal of Consulting and Clinical Psychology, 70*, 1086-1098. doi: 10.1037/0022-006X.70.5.1086.
- Hoff-Ginsberg, E., & Tardiff, T. (1995). Socioeconomic status and parenting. In Bornstein, M. H. (Ed.), *Handbook of Parenting: Biology and Ecology of Parenting*. Mahwah, NJ: Erlbaum.
- Hollingshead, A. A. (1975). *Four-factor index of social status*. Unpublished manuscript. New Haven, CT: Yale University.
- Hoza, B., Gerdes, A. C., Mrug, S., Hinshaw, S. P., Bukowski, W. M., Golder, J. A., Arnold, L. E., ..., & Wigal, T. (2005). Peer-assessed outcomes in the multimodal treatment study of children with attention deficit hyperactivity disorder. *Journal of Clinical Child and Adolescent Psychology, 34*, 74-86. doi: 10.1207/s15374424jccp3401_7.
- Huh, D., Tristan, J., Wade, E., & Stice, E. (2006). Does problem behavior elicit poor parenting?: A prospective study of adolescent girls. *Journal of Adolescent Research, 21*, 185-204. doi: 10.1177/0743558405285462.

- Jaradat, A. M. (2012). Sociodemographic factors predicting perceived parenting style: Implications for counselors. *Arab Journal of Psychiatry*, 23, 169-174.
- Jarret, R. L. (1995). Growing up poor: The family experiences of socially mobile youth in low-income African American neighborhoods. *Journal of Adolescent Research*, 10, 111-135. doi: 10.1177/0743554895101007
- Jenson, P. S., Hinshaw, S. P., Kraemer, H. C., Lenora, N., Newcorn, J. H., Abikoff, H. B., Marsh, J. S.,..., & Vitiello, B. (2001). ADHD comorbidity findings from the MTA study: Comparing comorbid subgroups. *Journal of the Academy of Child and Adolescent Psychiatry*, 40, 147-58. doi: 10.1097/00004583-200102000-00009.
- Johnston, C. (1996). Parent characteristics and parent-child interactions in families of nonproblem children and ADHD children with higher and lower levels of oppositional-defiant behavior. *Journal of Abnormal Child Psychology*, 24, 85-104.
- Johnston, C., & Jassy, J. S. (2007). Attention-Deficit/Hyperactivity Disorder and oppositional/conduct problems: Links to parent-child interactions. *Journal of Canadian Academy of Child and Adolescent Psychiatry*, 16, 74-79. doi: 0091-0627/96/0200-0085.
- Jones, H. A., Epstein, J. N., Hinshaw, S. P., Owens, E. B., Chi, T. C., Arnold, L. E., Hoza, B.,..., & Wells, K. C. (2009). Ethnicity as a moderator of the treatment effects on parent-child interaction for children with ADHD. *Journal of Attention Disorders*, 13, 592-600. doi: 10.1177/1087054709332158.
- Joober, R., Sengupta, S., & Boksa, P. (2005). Genetics of developmental psychiatric disorders: Pathways to discovery. *Journal of Psychiatry and Neuroscience*, 30, 349-354. doi: 10.1111/j.1467-8624.1992.tb01647.
- Kalliopuska, M. (1984) Empathy and birth order. *Psychological Reports*, 55, 115-118.
- Kaufman, J., Birmaher, B., Brent, D., Rao, U., Flynn, C., Moreci, P., Williamson, D.,..., & Ryan, N. (1997). Schedule for affective disorders and schizophrenia for school-age children - present and lifetime version (KSADS-PL): Initial reliability and validity data. *Journal of the American Academy of Child and Adolescent Psychiatry*, 36, 980-988. doi: 10.1097/00004583-199707000-00021.
- Kelley, M. L., Power, T. G., & Wimbush, D. D. (1992). Determinants of disciplinary practices in low-income Black mothers. *Child Development*, 63, 573-582. doi: 10.1111/j.1467-8624.1992.tb01647.
- Kerig, P. K., & Wenar, C. (2005). *Developmental Psychopathology: From Infancy through Adolescence* (5th ed.). Maidenhead, United Kingdom: McGraw-Hill.

- Lamborn, S. D., Mounts, N. S., Steinberg, L. D., & Dornbusch, S. M. (1991). Patterns of competence and adjustment among adolescents from authoritative, authoritarian, indulgent, and neglectful families. *Child Development, 62*, 1049-1065. doi: 10.1111/j.1467-8624.1991.tb01588.
- Lamborn, S. D., Dornbusch, S. M., & Steinberg, L. (1996). Ethnicity and community context as moderators of the relations between family decision making and adolescent adjustment. *Child Development, 67*, 283-301. doi: 10.2307/1131814.
- Lansford, J. E., Deater-Deckard, K., Dodge, K. A., Bates, J. E., & Pettit, G. S. (2004). Ethnic differences in the link between physical discipline and later adolescent externalizing behaviors. *Journal of Child Psychology and Psychiatry, 45*, 801-812. doi: 10.1111/j.1469-7610.2004.00273.
- Lefever, G. B., Dawson, K. V., & Morrow, A. L. (1999). The extent of drug therapy for attention deficit-hyperactivity disorder among children in public schools. *American Journal of Public Health, 89*, 1359-64. doi: 10.2105/AJPH.89.9.1359.
- Lengua, L. J., Honorado, E., & Bush, N. R. (2007). Contextual risk and parenting as predictors of effortful control and social competence in preschool children. *Applied Developmental Psychology, 28*, 40-55. doi: 10.1016/j.appdev.2006.10.001.
- Lewis, C. C. (1981). The effects of parental firm control: A reinterpretation of findings. *Psychological Bulletin, 90*, 547-63. doi: 10.1037/0033-2909.94.1.132.
- Lindahl, K. (1988). Family process variables and children's disruptive behavior problems. *Journal of Family Psychology, 12*, 420-436. doi: 10.1037/0893-3200.12.3.420
- Loe, I. M., & Feldman, H. M. (2007). Academic and educational outcomes of children with ADHD. *Ambulatory Pediatrics, 7*, 82-90. doi: 10.1093/jpepsy/jsl054.
- Loney, J. (1987). Hyperactivity and aggression in the diagnosis of attention deficit disorder. In Lahey, B. B., & Kazdin, A. E., *Advances in Clinical Child Psychology* (pp. 99-135). New York: Plenum Press.
- Maccoby, E. E., & Martin, J. A. (1983). Socialization in the context of the family: Parent-child interaction. In Mussen, P. H., & Hetherington, E. M. (Eds.), *Handbook of Child Psychology: Socialization, Personality, and Social Development* (pp. 1-101). New York: Wiley.
- Mannuzza, S., Klein, R. G., Bessler, A., Malloy P., & LaPadula, M. (1985). Adult outcome of hyperactive boys. Educational achievement, occupational rank, and psychiatric status. *Archives of General Psychiatry, 50*, 565-576. doi: 10.1001/archpsyc.1993.01820190067007.

- Mannuzza, S., Klein, R. G., Bessler, A., Malloy, P., & Hynes, M. E. (1997). Educational and occupational outcome of hyperactive boys grown up. *Journal of the American Academy for Child and Adolescent Psychiatry*, *36*, 1222-1227. doi: 10.1097/00004583-199709000-00014.
- Mash, E. J., & Johnston, C. (1982). A comparison of the mother-child interactions of younger and older hyperactive and normal children. *Child Development*, *53*, 1371-1381. doi: 10.2307/1129028.
- Mash, E. J., & Johnston, C. (1983a). Parental perceptions of child behavior problems, parenting self-esteem, and mothers' reported stress in younger and older hyperactive and normal children. *Journal of Consulting and Clinical Psychology*, *51*, 86-99. doi: 0022-006X/83/5101-0086.
- Mash, E. J., & Johnston, C. (1990). Determinants of parenting stress: Illustrations from families of hyperactive children and families of physically abused children. *Journal of Clinical Child Psychology*, *19*, 313-328. doi: 10.1207/s15374424jccp1904_3.
- Mason, C.A., Cauce, A.M., Gonzales, N., & Hiraga, Y. (1996). Neither too sweet nor too sour: Problem peers, maternal control, and problem behavior in African-American adolescents. *Child Development*, *67*, 2115-2130. doi: 10.1111/j.1467-8624.1996.tb01847.
- Mason, C. A., Walker-Barnes, C. J., Tu, S., Simons, J., & Martinez-Arrue, R. (2004). Ethnic differences in the affective meaning of parental control behaviors. *Journal of Primary Prevention*, *25*, 59-79. doi: 0278-095X/04/0900-0059/0.
- McAdoo, H. P., & Crawford, V. (1991). The Black church and family support programs: The limits of individual efforts. *Journal of Health and Social Behavior*, *25*, 406-423.
- McLeod, B. D., Wood, J. J., & Weisz, J. R. (2007). Examining the association between parenting and childhood anxiety: A meta-analysis. *Clinical Psychology Review*, *27*, 155-172.
- McLaughlin, D. P., & Harrison, C. A. (2006). Parenting practices of mothers of children with ADHD: The role of maternal and child factors. *Child and Adolescent Mental Health*, *11*, 82-88.
- McLeod, J. D., Kruttschnitt, C., & Dornfeld, M. (1994). Does parenting explain the effects of structural conditions on children's antisocial behavior? A comparison of Blacks and Whites. *Social Forces*, *73*, 575-604. doi: 10.1111/j.1475-3588.2005.00382.
- McLeod, J. (1997). *Narrative and Psychotherapy*. London: Sage Publications, Inc.
- McLoyd, V. C., & Smith, J. (2002). Physical discipline and behavior problems in African American, European American, and Hispanic children: Emotional support as a moderator. *Journal of Marriage and Family*, *64*, 40-53. doi: 10.1111/j.1741-3737.2002.00040.

- MTA Cooperative Group (1999). A 14-month randomized clinical trial of treatment strategies for Attention-Deficit/Hyperactivity Disorder. *Archives of General Psychiatry*, *56*, 1073-86. doi: doi:10.1001/archpsyc.56.12.1073.
- Olaniyan, O., dosReis, S., Garriett, V., Mychailyszyn, M. P., Anixt, J., Rowe, P., & Cheng, T. (2007). Community perspective of childhood behaviors problems and ADHD among African American Parents. *Ambulatory Pediatrics*, *7*, 226-231. doi: 10.1016/j.ambp.2007.02.002.
- Oquendo, M. A., Ellis, S. P., Greenwald, S., Malone, K. M., Weissman, M. M., & Mann, J. J. (2001). Ethnic and sex differences in suicide rates relative to major depression in the United States. *American Journal of Psychiatry*, *158*, 1652-1658.
- Ortiz, C., & Del Vecchio, T. (2013). Cultural diversity: Do we need a new wake-up call for parent training? *Behavior Therapy*, *44*, 443-458. doi: 0005-7894/44/443-458.
- Pallant, J. (2007). *SPSS Survival Manual: A Step by Step Guide to Data Analysis Using SPSS for Windows* (3rd ed.). Berkshire, United Kingdom: Open University Press.
- Pappas, D. (2006). ADHD rating scale-IV: Checklists, norms, and clinical interpretation. *Journal of Psychoeducational Assessment*, *24*, 172-178.
- Patterson, G. R., Reid, J. B., & Dishion, T. J. (1992). *A Social Learning Approach: Antisocial Boys*. Eugene, OR: Castalia.
- Paulhus, D.L. (1991). Measurement and control of response biases. In J.P. Robinson et al. (Eds.), *Measures of personality and social psychological attitudes*. San Diego: Academic Press
- Pinderhughes, E. E., Dodge, K. A., Pettit, J. E., & Zelli, A. (2000). Discipline responses: Influences of parents' socioeconomic status, ethnicity, beliefs about parenting, stress, and cognitive emotional functioning. *Journal of Family Psychology*, *14*, 380 – 400. doi: 10.1037/0893-3200.14.3.380.
- Pliszka, S. R. (2000). Patterns of psychiatric comorbidity and attention-deficit/hyperactivity disorder. *Child and Adolescent Clinics of North America*, *9*, 525-540. doi: 10.1176/appi.ajp.162.9.1621.
- Podsakoff, P. M., MacKenzie, S. B., Lee, J., & Podsakoff, N. P. (2003). Common method biases in behavioral research: A critical review of the literature and recommended remedies. *Journal of Applied Psychology*, *88*, 879-903.
- Pollard, S., Ward, E. M., Barkley, R. A. (1984). The effect of parent training and ritalin on the parent-child interactions of hyperactive boys. *Child and Family Behavior Therapy*, *5*, 51-89. doi: 10.1300/J019v05n04_04.

- Querido, J. G., Warner, T. D., & Eyberg, S. M. (2002). Parenting styles and child behavior in African American families of preschool age children. *Journal of Clinical Child Psychology, 31*, 272-277. doi: 10.1207/S15374424JCCP3102_12.
- Robinson, C., Mandleco, B., Olsen, S. F., & Hart, C. H. (2001). The Parenting Styles and Dimension Questionnaire (PSDQ). In Perlmutter, B. F., Touliatos, J., & Holden, G. W. (Eds.), *Handbook of Family Measurement Techniques: Instruments and Index* (pp. 319-321). Thousand Oaks, CA: Sage.
- Rollins, B. C., & Thomas, D. L. (1979). Parental support, power, and control techniques in the socialization of children. In Burre, W. R., Hill, R., Nye, F. I., & Reiss, I. L. (Eds.), *Contemporary Theories about the Family: Research-based Theories* (pp. 317-364). New York: Free Press.
- Romich, J. (2009). Trying to keep children out of trouble: Child characteristics, neighborhood quality, and within-household resource allocation. *Child Youth Services Review, 31*, 338-345. doi: 10.1016/j.chilyouth.2008.08.002
- Ross C. N., Blanc, H. M., McNeil, C. B., Eyberg, S. M., & Hembree-Kigin, T. L. (1998). Parenting stress in mothers of young children with oppositional defiant disorder and other severe behavior problems. *Child Study Journal, 28*, 93-110.
- Salmeron, P. A. (2009). Childhood and adolescent attention-deficit hyperactivity disorder: Diagnosis, clinical practice guidelines, and social implications. *Journal of the American Academy of Nurse Practitioners, 21*, 488-497. doi: 10.1111/j.1745-7599.2009.00438.
- Sameroff, A., & Chandler, M. (1975). Reproductive risk and the continuum of caretaker casualty. In Horowitz, F. D., Hetherington, M., Scarr-Salapatek, S., & Sigel, G. (Eds.) *Review of Child Development Research* (pp. 187-244). Chicago: Chicago University Press.
- Shelton, K. K., Frick, P. J., & Wootten, J. (1996). Assessment of parenting practices in families of elementary school-age children. *Journal of Clinical Child Psychology, 25*, 317-329. doi: 10.1207/s15374424jccp2503_8.
- Shumow, L., Vandell, D. L., & Posner, J. K. (1998). Harsh, firm, and permissive parenting in low-income families: Relations to children's academic achievement and behavioral adjustment. *Journal of Family Issues, 19*, 483-507. doi: 10.1177/019251398019005001.
- Sonuga-Barke, E. S., Auerbach, J., Campbell, S. B., Daley, D., & Thompson, M. (2005). Varieties of preschool hyperactivity: Multiple pathways from risk to disorder. *Developmental Science, 8*, 141-150. doi: 10.1111/j.1467-7687.2005.00401.
- Stein, R. K. (2007). Measurement of ADHD outcomes: Implications for the future. *Journal of Pediatric Psychology, 32*, 728-731. doi: 10.1093/jpepsy/jsm006.

- Steinberg, L., Elmen, J. D., & Mounts, N. S. (1989). Authoritative parenting, psychosocial maturity, and academic success among adolescents. *Child Development, 60*, 1424-1436. doi: 10.2307/1130932.
- Steinberg, L., Lamborn, S. D., Dornbusch, S. M., & Darling, N. (1992). Impact of parenting practices on adolescent achievement: Authoritative parenting, school involvement, and encouragement to succeed. *Child Development, 63*, 1266-1281. doi: 10.1111/j.1467-8624.1992.tb01694.
- Tabachnick, B. G. & Fidell, L. S. (2007). *Using Multivariate Statistics* (5th ed.). Boston, MA: Allyn & Bacon.
- Tamis-Lemonda, C. S., Briggs, R. D., McClowry, S. G., & Snow, D. L. (2008). Challenges to the study of African American parenting: Conceptualization, sampling, research approaches, measurement, and design. *Parenting: Science and Practice, 8*, 319-358. doi: 10.1080/15295190802612599.
- Tannock, R. (2000). Attention deficit disorders with anxiety disorders. In Brown, T. E. (Ed.), *Subtypes of Attention Deficit Disorders in Children, Adolescents and Adults*. Washington, D.C.: American Psychiatric Press.
- Webster-Stratton, C. W., & Hammond, M. (1990). Predictors of treatment outcome in parent training for families with conduct problem children. *Behavior Therapy, 21*, 319-337. doi: 10.1016/S0005-7894(85)80048-4.
- Weiss, G., Hechtman, L., Milroy, T., & Perlman, T. (1985). Psychiatric status of hyperactives as adults: A controlled prospective 15 year follow up of 63 hyperactive children. *Journal of the American Academy of Child Psychiatry, 24*, 211-220. doi: 10.1016/S0002-7138(09)60450-7.
- Weiss, M., & Murray, C. (2003). Assessment and management of attention-deficit hyperactivity disorder in adults. *Canadian Medical Association Journal, 168*, 715-722.
- Wells, K. C., Epstein, J. N., Hinshaw, S. P., Conners, C. K., Klaric, J., Abikoff, H. B.,..., & Wigal, T. (2000). Parenting and family stress treatment outcomes in Attention Deficit Hyperactivity Disorder (ADHD): An empirical analysis in the MTA study. *Journal of Abnormal Child Psychology, 28*, 543-553. doi: 0091-0627/00/1200-0543.
- Whalen, C. K., & Henker, B. (1992). The social profile of attention deficit-hyperactivity disorder. *Child and Adolescent Psychiatric Clinics of North America, 1*, 395-410.
- Whiteside-Mansell, L., Bradley, R. H., Tresch Owen, M., Randolph, S. M., & Cauce, A. M. (2003). Parenting and children. *Parenting: Science and Practice, 3*, 197-234. doi: 10.1207/S15327922PAR0303_02.

Wymbs, B. T., Pelham, W. E., Molina, B. S., Gnagy, E. M., Wilson, T. K., & Greenhouse, J. B. (2008). Rate and predictors of divorce among parents of youths with ADHD. *Journal of Consulting and Clinical Psychology, 76*, 735-44. doi: 10.1037/a0012719.

Zito, J. M., Safer, D. J., dosReis, S., Magder, L. S., & Riddle, M. A. Methylphenidate patterns among medicaid youths. *Psychopharmacology Bulletin, 33*, 143-47.

Vita

Annie Rabinovitch was born on February 14, 1985, in Newton, Massachusetts and is an American citizen. She graduated from Newton North High School, Newton, Massachusetts in 2003. She received a Bachelor of Arts in English from the University of Rochester, Rochester, New York in 2007 and a Master of Arts in Personality and Psychopathology from Columbia University, New York, New York. Subsequently she worked for five years in a variety of research and clinical capacities for the New York State Psychiatric Institute, Columbia University, New York, New York.