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An Exploratory Study of Fathers' Parenting Stress and Toddlers' Social Development in Low-Income African American Families

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Abstract

The present study tested Abidin's (1992) parenting stress model in a sample of low-income African American fathers and their toddlers, specifically examining the mediation effect of fathers' engagement (self-report and observed) on the association between parenting stress and children's social competence and problem behavior. We found that fathers reported moderate levels of parenting stress, but we found no evidence of a direct effect of stress on children's social development. However, parenting stress predicted more engagement in management, which predicted children's increased problem behaviour. These findings highlight the effect of fathering stress on specific forms of father engagement that affect toddlers' social development.

Keywords

low-income; minority; parenting stress; engagement; social development

Introduction

Parenting stress, defined as parents' perception of lack of support (e.g., spousal support), children's difficult behavior, and feelings of incompetence in the parenting role (Abidin, 1992), has been linked to negative parenting behaviors (e.g., less nurturance) and children's delayed social competence and increased internalizing problems (Anthony et al., 2005). Most studies of the effects of stress in the parenting role on the well being of parents and children have focused on middle class samples (Crnic & Greenberg, 1990; Deater-Deckard & Scarr, 1996) with a few exceptions, which mostly consider parenting stress among low-income mothers (Ritchie & Holden, 1998). Part of the reason for this omission might be the assumption that fathers are less involved in the daily routines of parenting. However, emerging research has shown that fathers' engagement in caregiving has increased overtime (Bianchi, 2006; Yeung, Sandberg, Davis-Kean, & Hofferth, 2001) and consequently they, too, may experience parenting stress. Parenting stress, resulting from the day-to-day demands of parenting and how it might influence low-income fathers' parenting behaviors and child outcomes is not well understood. In the current study, we address this gap by testing whether *fathers'* parenting stress affects their parenting (i.e., engagement with child) and whether father engagement, in turn, affects child social development in a sample of low-income, African American fathers and their toddlers.

Abidin's Parenting Stress Model

Abidin's (1992) parenting stress model postulates that high levels of parental distress, perceived child difficulty, and parent-child dysfunctional interactions, as measured by the Parenting Stress Index (PSI; Abidin, 1990), lead to increases in negative parenting (Abidin,

1990; Vondra & Belsky, 1993). Negative parenting (e.g., physical discipline), in turn, has a direct and negative effect on children's behavior (Deater-Deckard & Scarr, 1996; Patterson, Reid, & Dishion, 1992). Abidin's model has been used to explain the negative effect of parenting stress on children in both clinical and nonclinical populations as well as in minority, low-income samples (Abidin, 1983; Reitman, Currier, & Stickle, 2002). Parents who experience stress in their parenting role tend to display more negative and harsh parenting, less supportive and nurturing interactions with their children, and report more child behavior problems than parents who experience less stress (Emery & Tuer, 1993; Whiteside-Mansell et al., 2007). For example, mothers who report higher parent-child dysfunction are more punitive, less cognitively stimulating, and less emotionally responsive to their 2 year-olds (Whiteside-Mansell et al., 2007).

Although Abidin's model is not parent gender-specific, it has been mostly tested with mothers, perhaps reflecting the belief that because mothers do the bulk of caregiving and spend more time with children they are more likely to experience parenting stress. In recent years, however, both scholarship and programs have focused on the role that fathers play in families, in particular low-income minority men's involvement with their children (Cabrera, Tamis-LeMonda, Bradley, Hofferth, & Lamb, 2000). This emerging research has shown that among two-parent residential couples fathers' engagement in caregiving has increased over time (Bianchi, 2006; Yeung et al., 2001) and that among low-income fathers, the majority, even nonresident low-income fathers, are involved and engaged in their children's lives (Cabrera, Ryan, Mitchell, Shannon, & Tamis-LeMonda, 2008). Consequently, fathers who are involved in their children's lives and participate in the daily routines of parenting may experience similar parenting stress as that reported by mothers. In the current study, we test Abidin's model in a sample of low-income, mostly residential, African American fathers.

African American Fathers' Parenting

Early research portrayed African American fathers as generally absent or uninvolved in their children's lives (McAdoo, 1993; Smith, Krohn, Chu, & Best, 2005), "invisible" and "deviant" (Rasheed & Rasheed, 1999). In contrast, more recent findings on African American fathers paint a different picture. This research shows that African American fathers, across SES and residency statuses, are involved with and interested in their children, and can be nurturing and sensitive to their needs (Ahmeduzzaman & Roopnarien, 1992; Cabrera, Ryan, Mitchell, Shannon, & Tamis-LeMonda, 2008; Hossain & Roopnarine, 1994). Studies of resident African American fathers show that, compared to white fathers, African Americans spend equivalent time in direct activities with their children and monitor their children more (Hofferth 2003; Hossain & Roopnarine, 1994). Other more nuanced findings show that fathers spend less time with their children during the week than during the weekend, and Black fathers have been found to spend more time on weekends relative to White fathers (Yeung, Sandberg, Davis-Kean, & Hofferth, 2001). The total amount of time spent with children and how it is divided across the days of the week may be less more important for children's outcomes than the sensitivity and responsiveness of fathers during their time together (Tamis-LeMonda et al., 2002).

The bulk of the research on the antecedents of negative parenting among fathers, in particular low-income minority men, has focused on structural variables such as men's mental health, income, and education and process variables such as partner conflict. Less attention has been paid to how fathers' are influenced by the actual process of parenting, which can be joyful but also stressful if parents lack spousal support and feel incompetent in their parenting role.

Fathers' Parenting Stress

Although not extensive, research on parenting stress that includes fathers focuses primarily on the differences in mothers' and fathers' response to stressors and how these may differentially influence marital satisfaction, parenting and child behavior (Gable, Belsky, & Crnic, 1992; McBride, Schoppe, & Rane, 2002). Overall, these studies find that mothers and fathers who are involved in their children's lives are also likely to experience stress in their parental role (McBride et al., 2002). Middle class fathers who report higher parent-child dysfunction are more authoritarian and have children who misbehave more often than their counterparts (Deater-Deckard & Scarr, 1996). A study of mostly residential, professional fathers in Finland found that those who reported more parenting stress were less engaged with or available to their preschool-age children (Halme, Tarkaa, Nummi & Åstedt-Kurki, 2006). We know only of one study of parenting stress among low-income fathers, which found that adolescent fathers who reported high parenting stress were less engaged in caregiving for their infants (Fagan, Bernd, & Whiteman, 2007).

According to Abidin's stress model, the effect of parenting stress on child behavior is mediated by negative parenting behavior. Research with mothers across ethnic groups shows that parental sensitivity and responsiveness benefit children, whereas over-controlling and punitive behaviors adversely affect developmental outcomes, including social and emotional competencies (Bridges, Grolnick, & Connell, 1997; Brooks-Gunn & Markman, 2005; Burchinal, Campbell, Bryant, Wasik, & Ramey, 1997; Webster-Stratton & Hammond, 1988). For example, parents who use harsh modes of physical discipline (e.g., spanking or hitting) have children who are more likely to become more aggressive than children whose parents do not (Bates, Pettit, & Dodge, 1995; Baumrind, Larzelere, & Cowan, 2002; Deater-Deckard, Dodge, Bates, & Pettit, 1998; Straus, 2001). Studies of older children show that negative father engagement may also have deleterious impacts on their children's behaviors (Amato, 1998; Jaffee, Moffit, Caspi, & Taylor, 2003). This literature would suggest that fathers who exhibit negative paternal behaviors have children with increased problem behavior and decreased social competence.

However, it is worth noting that studies of the effects of low-income father involvement on children's development are mixed; some studies report direct effects of positive and negative father involvement (Cabrera & Shannon, 2006; Tremblay, 2000), whereas others report only indirect effects (Lamb, 1987; Parke, 1995). A possible explanation might be the issue of measurement. Studies that rely on self-report measures of involvement do not find significant direct effects, whereas studies that use videotaped father-child interactions do (Cabrera, Shannon, & Tamis-LeMonda, 2007; Ryan, Martin, & Brooks-Gunn, 2006). Hence, in the current study we test our hypotheses with two measures of father engagement, self-report of father engagement and observed father-child interactions.

Empirical findings on whether parenting mediates the association between parenting stress and children's social and emotional development are also mixed, especially for fathers (Anthony et al., 2005; Jackson, 2000). Denham and colleagues (1997) suggest that parenting stress is part of parents' overall negative affective tone that can be transmitted to children outside of direct parent-child interactions and, thus, directly affects children's social development. Deater-Deckard and Scarr (1996) reported small effects of parenting stress on parenting behaviors in a sample of middle-class parents, but the authors did not examine potential direct effects of parenting stress on children's behaviors or the mediating effect of parenting. Whether parenting behaviors explain how the stress experienced low-income fathers in their parenting role influences children's social development is an open question that has not yet been addressed in the literature and is the focus of the present study.

To elucidate the unique effects of parenting stress, distinct from other sources of stress (e.g., marital discord), and paternal behavior, in the current study we control for several variables that have been found to predict children's social development. Child problem behavior has been linked to father characteristics (e.g., age, education, race), having children from other unions, family structure, father-mother relationship quality, and child characteristics (e.g., gender, health, and temperament; Cote & Azar, 1997; McBride, Schoppe, Ho, & Rane, 2004). Because our sample is homogenous in terms of racial composition, income levels, and education we do not control for fathers' resources. However, we control for father residency and mother-father relationship quality, which have been linked to parenting and children's social development (Lamb, 1987). While recent evidence indicates non-resident, minority fathers can be frequently involved in their children's lives (Cabrera et al., 2008), not residing with one's child reduces caregiving demands and potentially the level of parenting stress non-resident fathers experience. Marital conflict and disharmony have been strongly linked to negative parenting, especially for fathers (Gavin et al., 2002; Harper & Fine, 2006; McBride et al., 2004), and to children's display of fewer social competence skills (Anthony et al., 2005) and more behavior problems (Cummings, Davies, & Campbell, 2000). Fathers who report more conflict with their partners, may not be as engaged with them (e.g., not eating dinner together, and not helping with homework) or may be more intrusive (e.g., over-controlling), which can lead to more behavior problems and lower ratings of sociability for children (Cabrera & Shannon, 2006; Hanson, McLanahan, & Thomson, 1997; Mosely & Thompson, 1995).

Research goals and hypotheses

The primary goal of our study was to test Abidin's (1992) parenting stress model by examining the potential mediating effect of father engagement on the association between fathers' parenting stress and toddlers' social competence and problem behavior in a sample low-income, African American fathers whose children are enrolled in Early Head Start. Based on evidence of direct effects of parenting stress on child behavior (Anthony et al., 2005), our *first hypothesis* is that fathers who report high levels of parenting stress will have toddlers who display fewer social competence skills and more problem behaviors than fathers reporting less parenting stress. Our *second hypothesis*, based on evidence that parenting stress is associated with more negative parenting behavior among middle class fathers (Deater-Deckard & Scarr, 1996), is that low-income fathers who experience more parenting stress will be less positively engaged with their toddlers than their counterparts. Although evidence from studies using differing methodologies is mixed, our theory-driven *third hypothesis* is that low-income fathers who are more positively engaged with their children will have children who display more social competence skills and fewer behavior problems than fathers who are less positively engaged. Also guided by Abidin's model, our *fourth hypothesis* is that fathers' engagement with their children will mediate the association between parenting stress and toddlers' social competence and problem behaviors.

Method

Participants

To address our research questions we draw on data from the HAPPI Father Study (Cabrera, et al., 2005). Fifty-three fathers (biological and father figure) and their toddlers enrolled in Early Head Start programs in Washington, DC participated in the HAPPI Father Study. These men were recruited from an ongoing study of mothers and their children who participated in an intervention program (see Jones Harden, 2004). Of the 141 mothers who identified living fathers, approximately one third ($n = 46$) refused to give consent for researchers to contact the fathers, and another four fathers were not able to speak and understand English at least "pretty well". Out of the remaining 91 identified eligible fathers 17 could not be reached, 19 refused

to participate mostly due to time constraints, and 2 withdrew before completing the baseline visit. Four fathers reported monthly incomes greater than two standard deviations above the sample mean ($M = \$2204.71$, $SD = \$2494.95$), so they were not included in this study.

The remaining 49 fathers participating in the study were mostly African American (94%) and employed (78%). The majority of participants were in romantic relationships with their child's mother (27% married, 31% cohabiting, 16% visiting), and the remaining were either no longer romantically involved (12%) or relatives of the child's mother (7%). Most (76%) fathers were currently living with their child. Fathers' ages ranged from 17 to 58 years old ($M = 31.9$, $SD = 10.7$). Approximately a third (29%) had less than a high school diploma; 51% graduated from high school; and 20% had some college education or beyond. Fathers' average monthly incomes were low ($M = \$1,407$, $SD = \$1,237$). Children were between 4.4 and 36.3 months of age ($M = 20.8$, $SD = 9.2$), and approximately half were male (55%). See Table 1 for participant demographics.

Using available mother-reported family demographic information (Jones Harden, 2004), a selection bias analysis was conducted to determine whether participating fathers were significantly different from fathers who did not participate. Results of one-way ANOVAs revealed no significant differences in father or child age between participants and non-participants. Results of logistic regressions predicting demographic characteristics from participation status revealed that non-participating fathers were significantly more likely than participating fathers to be of a race other than African American ($\chi^2 = 7.18$, $p < .01$) probably because participants were required to be English proficient. Also, non-participants were significantly less likely to be in romantic relationships with their children's mothers than participants ($\chi^2 = 6.27$, $p < .05$). Finally, fathers who did not participate were significantly less likely than participating fathers to see their child almost every day or more ($\chi^2 = 7.71$, $p < .01$), and there was a trend suggesting non-participating fathers were less likely to live with their children than participating fathers ($\chi^2 = 3.68$, $p = .06$). Overall, the fathers who participated in this study were more involved in their children's and their partners' lives than the fathers who did not participate.

Procedure

The overarching recruitment strategy adopted in this study was to work with mothers who were participating in another study to identify fathers for study inclusion. Mothers were recruited from local Head Start Centers to participate in an intervention study entitled Healthy Attachment Promotion for Parents and Infants (HAPPI; Jones Harden, 2004). Mothers were chosen as the source for recruitment because one of the goals of the study was to link father involvement to children's outcomes. Without mother permission, it would have not been possible to get outcome data on the children. Mothers in the HAPPI study were asked for permission to contact their child's father (defined as 'man who plays a unique fathering role in your child's life'). At the point of identification, fathers were contacted and informed of the study.

Interested fathers were interviewed and videotaped with their children at a time and place convenient to the family. Visits with fathers consisted of a 30-minute videotaped semi-structured father-child interaction, an approximately 60-minute in-person interview, and standardized questionnaires regarding children's behavior. The quantitative father interview was a comprehensive measuring covering family demographics, mother-father relationship quality, family history, father involvement, health and well-being, employment and income, child support, household composition, and child care. Interview items were drawn from national studies involving fathers such as the Early Head Start Research and Evaluation Project, the Fragile Families and Child Well-Being Study, and the Early Childhood Longitudinal Study – Birth Cohort (Cabrera et al, 2004). Extensive attempts were made to conduct interviews in

a private area where the interviewer read all questionnaire items and response options aloud and noted the father's verbal response.

A team of two trained graduate students conducted the visits during which the interviewer gave instructions for the father-child interaction while the assistant operated the video camera. The video-taped interactions included three tasks: 15-minutes of unstructured free play, a 3-minute teaching task, and a 10-minute semi-structured 3-bag task. The present study's analyses are based on the 3-bag task during which fathers were presented with age-appropriate toys in three separate bags and told they could divide up the 10 minutes between the bags however they liked.

Follow-up visits were conducted with fathers approximately 6-months after the initial visit and consisted of the same procedures as the baseline visit. A small proportion (13%) of fathers did not complete a follow-up visit because they were uninterested/busy or unreachable within 3 months of the follow-up visit due date. For completing each visit, fathers were given \$50, a digital copy of their video-taped play session, and a book for their children.

Measures

Parenting stress—The 36-item Parenting Stress Index – Short Form (PSI-SF; Abidin, 1990) is a quick screen of parenting stress considered valid for research. The domains measured are stresses related to child characteristics, parental characteristics, and situation and demographic factors. The internal consistency of the PSI-SF and its subscales has been shown to be comparable to the full scale (120-items; Roggman, Moe, Hart, & Forthun, 1994) and valid and reliable for use with low-income, African American mothers (Reitman et al., 2002). Total Stress scores on the PSI correlated .94 with the PSI-SF total; the PSI Parent domain correlated .92 with Parental Distress on the PSI-SF; and the PSI Child Domain correlated .87 with the Difficult Child subscale on the PSI-SF (Abidin, 1990).

During administering of the PSI/SF, fathers were asked to rate how much they agree with negative statements about their parenting experience (e.g., “I feel trapped by my responsibilities as a parent”) on a 5-point Likert scale from 1 (strongly disagree) to 5 (strongly agree). Because a 3-factor model comprised of the PSI/SF's Parental Distress, Difficult Child, and Parent-Child Dysfunctional Interaction subscales is only marginally superior to a single-factor model (Reitman, et al., 2002), we chose to use single-factor scale scores in this study. Thus, a composite parenting stress score was computed by summing responses across the 36 items with higher scores indicating more stress; Cronbach's alpha was .91.

Father engagement—Father engagement was assessed using the Activities with Child Scale created for the Early Head Start Research and Evaluation Project and the Early Childhood Longitudinal Birth Cohort (Cabrera et al., 2002). It consists of 34 items on which fathers report the frequency with which various activities with child took place in the past month. Questions were answered on a Likert-type scale from 1 (more than once a day) to 6 (not at all); all items were reverse scored such that higher scores reflect more frequent activity.

Father-child interactions—The Caregiver-Child Affect, Responsiveness, and Engagement Scale (C-CARES; Tamis-LeMonda et al., 2002) was used to assess the quality of father-child interactions because it has been shown to exhibit acceptable reliability and predictive validity in samples of low-income, minority fathers (Cabrera & Shannon, 2006; Cabrera, Shannon, & Tamis-LeMonda, 2007; Shannon, Tamis-LeMonda, London, & Cabrera, 2002; Shannon, Tamis-LeMonda, & Cabrera, 2006). The C-CARES was adapted from the NICHD Study of Early Child Care's “Three Box” scales (NICHD Early Child Care Research Network, 1999) to code father, child and dyad behaviors. Trained observers rated each behavior using a 5-point Likert scale ranging from 1 (not observed) to 5 (constantly observed). Two lead coders were

trained to 90% agreement with “gold standard tapes” (Tamis-LeMonda et al., 2002) before coding video-taped interactions from the present study. To maintain inter-rater reliability, lead coders dual-coded 10% of tapes (randomly selected) and reached 91% agreement within 1-point before deciding on final scores. Correlation estimates of inter-rater reliability for father items ranged from .61 (play sophistication) to .98 (positive touch). Coders of father-child interactions were fluent in the language spoken by the participants (4 Spanish tapes) and were unaware of children’s scores for social competence and problem behavior.

Scores across father behavior items were averaged to create two composite scores, with higher scores indicating the behaviors were more frequently observed. The Responsive-Didactic composite (10 items) consists of father behaviors that are positive in tone (e.g., positive affect, positive verbal statements), responsive to children’s cues (e.g., emotional attunement, response to non-verbal non-distress) and didactic (e.g., structuring, achievement orientation). The Negative-Controlling composite (5 items) consists of father behaviors that are negative in tone (e.g., negative affect, negative verbal statements) and over-controlling (e.g., intrusive, inflexible). Cronbach’s alphas for the composites were comparable to those reported in previous research (Shannon et al., 2006): .87 for Responsive-Didactic and .67 for Negative-Controlling.

Children’s social competence and behavior problems—Fathers of children within the appropriate age-range (12–36 months) were administered the 42-item BITSEA, which was designed as a screener for parents to identify children at risk for or currently experiencing social-emotional/behavioral problems and delays in social competence (Briggs-Gowan et al., 2004). The items describe children’s behavior during the last month, and fathers responded using a Likert scale ranging from 0 (not true/rarely) to 2 (very true/often). The scale consists of two domains: problem (31 items; e.g., “Seems nervous, tense, or fearful,”) and competence (11 items; e.g., “Is affectionate with loves ones”). Domain scores were computed by reverse-coding negatively-worded items and summing scores across the items in each domain. Internal consistencies for the domain composites in the present study were comparable to the scales’ norming data (Briggs-Gowan, et al., 2004); Cronbach’s alpha was .80 for problem and .58 for competence.

Control Variables—During the interview fathers were asked to report demographic information about their family. Fathers were asked to indicate whether they currently lived with their child, and residency status was categorized as 0 (nonresident) or 1 (resident). We also controlled for both positive (closeness) and negative (conflict) aspects of partner relationship quality. Closeness reflects the degree of emotional connection and support a father perceives receiving from his partner (Cabrera et al., 2004). Fathers reported how well the following statements described their partners: “She listens to me when I need someone to talk to,” “I can state my feelings without her getting defensive,” and “She can really understand my hurts and joys.” Responses ranged from 1 (strongly disagree) to 4 (strongly agree). A closeness composite score was created by averaging responses across the three items with higher scores representing greater closeness. Cronbach’s alpha was .77. For conflict, fathers reported how much they disagreed with their partners on fourteen items drawn from the National Survey of Families and Households (Sweet & Bumpass, 1996). Items reflect various childrearing issues about which parents may disagree such as “disciplining child,” “how mother spends money on child,” “the activities your child does,” and “spending enough time with child”. Fathers’ responses ranged from 0 (no disagreement) to 2 (a great deal of disagreement). A conflict composite score was created by summing fathers’ scores across the fourteen items with higher scores indicating more conflict. Cronbach’s alpha was .84.

Analytic Plan

The study hypotheses were tested using hierarchical multiple regression analyses. To explore mediation, two sets of regressions including two different series of hierarchical models were constructed. Each set predicted a different dependent variable (DV), and within each set two series of hierarchical models were conducted to test the effects of each mediating variable (MV). The first model in each series included the independent variable (IV), parenting stress, and, if significantly correlated with the DV, control variables (residency status, partner closeness, partner conflict) were added in the second model to partial out the unique variance in the DVs explained by parenting stress above and beyond the controls. The third models tested the unique association between self-reported engagement as the MV and the DVs, and the fourth models were similar but tested the unique association between father-child interaction (MV) and the DVs. Finally, two linear models were constructed regressing the controls and parenting stress on each of the mediators (self-reported engagement, observed interaction).

To test our mediation hypothesis, we followed Baron and Kenny's (1986) criterion for tests of mediation: the independent variable (parenting stress) must be significantly associated with the dependent variables (social competence, problem behavior), the IV must be significantly associated with the mediating variables (father engagement and observed father-child interactions), the MV must be significantly associated with the DVs while controlling for the IV, and the MVs must significantly reduce the association between the IV and the DVs. To test whether the MVs significantly reduced the association between our IV and DVs, we compared model 2 for each multivariate analysis predicting the DVs to models 3 and 4, which shows the extent to which the respective MV reduces the unique association (beta values) between fathers' parenting stress and child social development. When a block of variables was used to measure a construct (e.g., engagement activities subscales and C-CARES subscales), additional models were also run to determine the reduction in the coefficient for parenting stress for each variable in the MV block separately; this approach was used to determine which specific variables within the block accounted for the mediation effect. If Baron and Kenny's criterion were met, then we used Preacher and Hayes' (2004) bootstrapping technique to compute an estimate of the indirect (i.e., mediation) effect and calculate a confidence interval around it; if zero is not within this confidence interval then it can be concluded with 95% confidence that the indirect effect size is significantly ($p < .05$) different from zero. We rely on this bootstrapping technique because it is more appropriate than other, more conservative significance tests (e.g., Sobel test) for use with smaller samples.

Results

Results in the current study are based on a pooled sample of observations ($N = 87$) from both baseline and follow-up visits. Because only 38 of the 49 fathers participated at follow-up, the number of observations is not quite double the number of cases/participants. We treat the set of individuals participating at each wave as independent samples of observations for analysis purposes. This method of pooling across successive cross-sections of data is commonly used in the social sciences to increase sample sizes (Kendig & Bianchi, 2008), particularly when a rare population subgroup is studied. In most such studies individual participants may be included in multiple waves or samples, but this is rarely explicitly noted. Nonetheless, the non-independence of observations from the same participant over time is accounted for by computing robust standard errors (Williams, 2000). In the current study, to conduct regression analyses with pooled data we used the same STATA cluster command as is used in multi-level modeling, which is recommended when such non-independence and thus intraclass correlation exists (Stata Library).

Preliminary Analysis

A principal components analysis with an oblique rotation as the extraction method was conducted to determine whether fathers' report of his engagement with his child could be combined into a composite index. The data reduction procedure revealed that a five-factor solution best fit the data as indicated by the scree plot of factor eigenvalues 13.06, 2.39, 2.01, 1.53, and 1.48. The five factors accounted for 60% of item variance. Meaningful subscales were named socialization, management, didactic, warmth, and caregiving. Subscale composite scores were computed by averaging responses across items. The socialization subscale consists of 11 items (i.e., "Visit friends with child," "Take child shopping") and had a Cronbach's alpha of .90. The management subscale consists of 3 items (i.e., "Take child to doctor," "Take care of child when ill," "Get up when child wakes up at night") and had a Cronbach's alpha of .70. The didactic subscale consists of 7 items (i.e., "Sing songs with child," "Play with building toys with child") and had a Cronbach's alpha of .83. The physical play subscale consists of 6 items (i.e., "Play chasing games with child," "Toss child up in the air") and had a Cronbach's alpha of .78. The caregiving subscale consists of 7 items (i.e., "Put child to bed," "Prepare meals for child") and had a Cronbach's alpha of .87.

Missing data—Eighteen observations (20%) were missing children's BITSEA scores because interviews were conducted before the BITSEA was part of the visit protocol ($n = 5$) or because, at the time of the observation, the child was outside of the appropriate age-range ($n = 13$; 11 were too young). No imputation method was employed because of recommendations against imputing missing data on dependent variables, particularly when there is no missing data on the independent variables (Cohen & Cohen, 1985; Little & Rubin, 1989).

Descriptive Analyses

Table 1 shows descriptive statistics for all variables. This sample of low-income, African American fathers reported moderate levels of parenting stress. They also reported being engaged a little more than a few times per month in socialization, less than a few times per month in management, over a few times a month in didactic activities, a few times per week in physical play, and a few times per week in caregiving. Observers' ratings of father behavior during father-child interactions indicate that this sample of fathers showed moderate rates of Responsive-Didactic behavior and low rates of Negative-Controlling behavior. On the BITSEA, most children's average scores were within the normal range for social competence and problem behavior. However, almost one-third of children in this sample were above cut-off for problem behavior which is higher than the 25% expected based on the scales' cut-point design (Briggs-Gowan et al., 2004). On the other hand, only 10% of children reached the cut-off for low social competence.

Table 2 shows bivariate correlations among all of the control, independent, mediating and dependent variables. Father-reported conflict and closeness with their partners are significantly associated with child social competence and problem behavior and thus retained as control variables in multivariate analyses. The correlations among self-reported engagement subscales are between .40 and .70, but examination of tolerance values ($< .2$) indicate that multicollinearity is not a problem. None of our indices of engagement are correlated with observed dimensions of father-child interactions. Parenting stress is significantly and positively correlated with father engagement in management and with increased children's behavior problems. Father engagement in management activities is positively and significantly correlated with children's behavior problems. Negative-controlling father-child interactions are significantly negatively correlated with child social competencies. Children's social competencies are significantly negatively correlated with children's behavior problems.

Multivariate Analyses

The first two models presented in Tables 3 and 4 test our first hypothesis and show that after partner closeness and conflict were controlled, there was no significant effect of father parenting stress on children's social competence or problem behavior, although at the bivariate level, parenting stress was significantly associated with behavior problems ($B = .13, p < .05$).

The third models presented in Tables 3 and 4 test our third hypothesis and show that after accounting for control variables and parenting stress, fathers' engagement in didactic activities significantly predicted children's increased social competence, whereas fathers' engagement did not significantly predicted children's problem behavior. When fathers report being more frequently engaged with their child in didactic activities (e.g., reading), they also rate their children higher on social competence. The fourth models in Tables 3 and 4, which include observed father-child interaction as the mediating variable, indicate that fathers' Negative-Controlling behavior negatively predicted children's social competence. Father-child interaction quality was not uniquely associated with children's problem behavior.

The models presented in Tables 5 and 6 test our second hypothesis and show that parenting stress positively predicted father engagement in management activities when fathers' residency status, partner closeness and partner conflict were controlled. When fathers reported more parenting stress they were more frequently engaged in management activities such as waking up at night with child. However, parenting stress did not significantly predict father-child interaction qualities.

To test our final research question, we examine the difference in coefficient values for parenting stress from model 2 to models 3 and 4 for each hierarchical regression. Comparing the second and third models in Table 3 shows that the association between parenting stress and child social competence was reduced from $B = -.02$ to $B = .00$ once self-reported engagement (MV) was included in the model. Comparing the second and third models in Table 4 shows that the association between parenting stress and child problem behavior was reduced from $B = .06$ to $B = .03$ once the self-reported engagement subscales (MV) were included in the model. Comparing models 2 and 4 reveals that when father-child interaction subscales (MV) were included, the association between parenting stress and child social competence was reduced from $B = -.02$ to $-.01$, and the association between parenting stress and child problem behavior was reduced from $B = .06$ to $B = .03$. Because the unique associations between parenting stress and child social competence and problem behavior were not significant, no further tests of mediation were conducted.

Discussion

The main goal of this study was to test Abidin's (1992) theoretical parenting stress model with low-income fathers, specifically examining whether fathers' parenting stress is associated with less positive father engagement, and whether father engagement, in turn, is linked to toddlers' social competence and problem behavior. Given the complexity in measuring father involvement and the mixed results reported in the literature, we tested the model with two measures of father involvement, a self-report measure of father engagement and an observed measure of father-child interactions (Ryan et al., 2006; Cabrera et al., 2007).

In this study, low-income African American fathers in our study reported moderate levels of parenting stress, were moderately engaged with their children across a variety of activities, and displayed medium levels of responsiveness and low levels of negativity during interactions with their toddlers. Moreover, most of the children scored below the cut off for behavioral and social development problems. These descriptive findings support the view that low-income

families are heterogeneous; many low-income families, despite limited resources, have supportive and positive familial interactions.

Although father parenting stress was correlated with increased child behavior problems, our multivariate findings do not support our hypothesis that fathers who report high levels of parenting stress will have toddlers who display more problem behaviors and fewer social competence skills than fathers reporting less parenting stress when other family characteristics (e.g., mother-father conflict) are considered. There are several possible explanations. It could be that the moderate level of stress reported by fathers in our study is not high or persistent enough to negatively affect children's outcomes. Conversely, the multivariate findings also suggest that fathers' perceptions of their parenting stress do not offer any additional explanation for child behavior problems beyond that of other family characteristics. It is possible that partner-relationship satisfaction moderates the relationship between parenting stress and child outcomes (Deater-Deckard & Scarr, 1996), which would mask any main effect of parenting stress on children's problem behavior and social competence. We could not test moderation because our sample size did not permit it, but this is a fruitful area of research. It would also be informative to consider the relative impact of other stressors, such as economic hardship, that may be more of a burden to low-income fathers than parenting stress alone.

We found partial support, but in the unexpected direction, for our hypothesis that fathers who experience more parenting stress will be less engaged with their toddlers than their counterparts. Controlling for mother-father closeness and conflict, we found that fathers who reported higher levels of parenting stress were more frequently engaged in management activities (e.g., waking up at night with child). On the other hand, when we observed father-child interactions, parenting stress did not significantly predict fathers' responsiveness or intrusiveness during interactions with their toddlers. These findings are inconsistent with studies that find parenting stress is related to both observed and reported negative maternal behaviors specifically less proactive behavior (Ritchie & Holden, 1998), less maternal monitoring of the child (Wahler & Dumas, 1989), as well as less paternal engagement (Halme, Tarkka, Nummi, Åstedt-Kurki, 2006) and caregiving (Fagan et al., 2007). It is possible that parents react to parenting stress in different ways, all of which may not appear negative. For example, stressed fathers might be more punitive, but engage with their children anyway. This may explain why in our study fathers who were more stressed engaged in more management activities than those who reported less parenting stress. It is also possible that if fathers are being asked to take on more management activities, as measured here, then they might feel more overwhelmed and tired and hence report more parenting stress. That is, the increased demands on their time caused the parenting stress, not the other way around. There is some evidence that fathers are taking on more child care responsibilities (Bianchi, 2006), but we know of no studies that have examined the effect of this increased involvement on fathers' stress levels. Without longitudinal data we could not test the directionality of the effect, but this also merits further investigation.

We also hypothesized that fathers who are more positively engaged with their children will have children who display more social competence skills and fewer behavior problems than fathers who are less positively engaged. In support of this hypothesis, we found that when fathers reported being more frequently engaged with their child in didactic activities (e.g., reading or singing songs), their children displayed more social competencies. Our finding of the significant association between didactic activities and children's social competence is consistent with developmental theory and past research suggesting that such activities promote attention, self-control, and appropriate emotional expression. It is also possible that other types of involvement such as management (e.g., taking child to the doctor) have negative effects on children if fathers feel these tasks are imposed on them and carry out these activities in a negative and hostile way, which can lead to problem behaviors (fear, anxiety, etc).

On the other hand, observed measures of father-child interactions showed no significant associations with father-reported child behavior. This is consistent with some previous findings (Ryan, et al., 2006; Tamis-LeMonda et al., 2004). These findings are also interesting because they underscore the importance of including measures of father involvement/engagement that tap several dimensions and discourage the use of a global measure of father involvement. This view is consistent with new conceptualizations of father involvement that emphasize the different roles that fathers play and the different ways that fathers are involved with their children (Cabrera et al., 2000; Day & Lamb, 2004).

Finally, our findings do not support the theoretical model that negative parenting mediates the association between parenting stress and children's outcomes among this sample of fathers. More specifically, although parenting stress was associated with fathers' engagement in management, management did not independently predict children's increased problem behavior, and the criterion that parenting stress significantly predicts problem behavior was not met. Thus mediation could not be substantiated. It may be that only very high or very low levels of parenting stress have a notable effect on aspects of parenting that uniquely influence children's development. Abidin (1992) found some evidence that moderate levels of parenting stress may be most adaptive. Mothers who reported moderate levels of parenting stress had children with the lowest frequency of traumatic injuries (e.g., lacerations, accidents), which Abidin suggested may be because highly stressed mothers are too overwhelmed to be vigilant whereas low-stress mothers tend to be less alert and responsive. However, our findings show that moderately stressed fathers increased their involvement in management activities, but this was not positively linked to children's outcomes. This suggests that increased father involvement resulting from moderate levels of stress may only be beneficial for children when it is of positive emotional quality.

There are several limitations of the current study. First, the participants are a select sample of fathers who on average have closer relationships with their children's mothers and see their children more often than those who did not participate. Although the findings from this study do not generalize to all low-income African American fathers, they show that there is variation in how this group of fathers relates to their children and partners and thus challenges the stereotype that minority fathers are less involved in their children's lives than their counterparts. Second, unfortunately data from mothers were not collected at the same time as our father interviews and thus could not be used to triangulate measures of child behavior. While analyzing only father-reported variables raises concerns over shared-variance, it is important to consider how fathers' perceptions of their children's behavior are associated with their own fathering behaviors. Third, although observational measures of parenting are less biased than self-reports, the nature of the free play task administered in this study was more likely to elicit positive than negative parenting behaviors. Indeed, raters in our study rarely observed negative and intrusive behavior, with 65% of fathers receiving scores of 'not observed' on negative affect. Thus, the nature of our observational measure may not have captured the full range of parenting behaviors this sample of children regularly experiences from their fathers in day-to-day life.

Finally, due to a relatively small sample size, we relied on data that were collected concurrently and hence it was not possible to examine lagged effects of parenting stress over time. It may be that toddlers who engage with stressed fathers show negative developmental outcomes as they grow older. For example, children who consistently interact with distressed fathers, who may be more intrusive or controlling and less able to resolve conflict, may not have the opportunity to observe adaptive conflict resolution skills, which are particular salient at school entry. Longitudinal data could also clarify the direction of effects and elucidate whether child behavior engenders heightened parenting stress or vice versa. Moreover, the effect of parenting stress on father involvement may be more widespread, affecting multiple types of parenting

behavior, if the stress is long-lasting. Thus, another important direction for future longitudinal research is examining the potential mediating effects of additional dimensions of fathering (e.g., monitoring) on child outcomes among low-income, minority families.

Nevertheless, the findings from this study suggest that while low-income, African American fathers report moderate levels of fathering stress, this stress, however, did not independently affect toddler's social competence and behavior problems when other family characteristics are considered. On the other hand, our findings show that fathers who report moderate levels of parenting stress are also more likely to increase their engagement in management activities with their children, which were not independently linked to children's outcomes. Increasing father involvement per se does not necessarily lead to positive child outcomes because negative and over-controlling fathering behavior predicts lower child social competence. This suggests that programs and policies interested in helping low-income fathers to become better parents need to focus on sources of stress related to their parenting role, specifically gaining partner support and building their sense of competence as fathers, and increasing not only levels of father engagement but also the quality (e.g., less intrusive) and form (e.g., didactic activities) of this engagement.

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Table 1

Description of Father and Child Demographics, Partner Relationship Quality, Parenting Stress, Engagement, and Child Social Development

Variables	%	<i>M</i> (<i>SD</i>)	Scale Range
<i>Father Demographics</i>			
Age		32.25(10.80)	
African American	94		
Education			
< HS	29		
HS or equivalent	51		
> HS	20		
Employed	78		
Monthly Income		\$1,515.32(1,244.74)	
Partner Relationship Status			
Married	27		
Cohabiting	31		
Visiting	16		
Friends	12		
Other (e.g., relatives)	14		
Resident with child	76		
<i>Child Demographics</i>			
Age		20.8(9.2)	
Male	55		
<i>Partner Relationship Quality</i>			
Partner Relationships Closeness		3.27(.78)	1–4
Partner Relationship Conflict		5.02(4.87)	0–28
<i>Parenting Stress</i>			
		65.26(16.11)	36–180
<i>Father Self-Report Engagement</i>			
			1–6
Socialization		3.20(1.13)	
Management		2.66(1.78)	
Didactic		3.68(1.28)	
Physical Play		4.22(1.30)	
Caregiving		4.33(1.13)	
<i>Observed Father-Child Interaction</i>			
			1–5
Responsive-Didactic		3.42(.65)	
Negative-Controlling		1.96(.58)	
<i>Child Social and Emotional Development</i>			
BITSEA Competence Domain Score % Below Cut-off	10	17.68(2.54)	0–22
BITSEA Problem Domain Score % Above Cut-off	32	12.74(6.23)	0–62

N =49

Table 2
Correlations among Controls, Parenting Stress, Father Engagement and Child Social Development

	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.
1. Residency		-.32**	-.37**	-.18*	.00	.07	.16	.17	.29**	.07	-.02	.02	-.01
2. Partner Conflict			-.50***	.29**	-.10	.14	-.08	-.12	-.27*	.09	-.14	-.31**	.42***
3. Partner Closeness				-.36***	-.11	-.03	-.05	-.03	.02	-.08	.09	.38***	-.32**
4. Parenting Stress					.15	.35***	-.02	.02	.03	.04	.08	-.21	.28*
5. Socialization						.66***	.64***	.65***	.68***	-.11	.19	-.03	.13
6. Management							.40***	.41***	.50***	-.17	.08	-.15	.34**
7. Didactic								.58***	.70***	.16	-.12	.29*	.07
8. Warmth									.59***	.03	.05	.07	-.05
9. Caregiving										-.04	.02	.06	.02
10. Responsive-Didactic											-.13	-.02	-.05
11. Negative Overbearing												-.25*	-.05
12. Social Competence													-.35**
13. Problem Behavior													

*
 $p < .05$;

**
 $p < .01$;

***
 $p < .001$.

Table 3
 Father Parenting Stress and Engagement Regressed on Children's Social Competence

Variables	Model 1			Model 2			Model 3			Model 4		
	B	SE B	t	B	SE B	t	B	SE B	t	B	SE B	t
Parenting Stress	-.04	.02	-1.92	-.02	.02	-.91	.00	.03	.08	-.01	.02	-.43
Partner Conflict				-.05	.07	-.72	-.10	.07	-1.45	-.09	.08	-1.17
Partner Closeness				1.06	.53	1.99*	1.08	.58	1.84	1.09	.57	1.93
Self-report engagement												
Socialization							-.21	.54	-.38			
Management							-.49	.44	-1.10			
Didactic							1.51	.32	4.28***			
Warmth							-.15	.30	-.49			
Caregiving							-.69	.57	-1.20			
Father-child interaction												
Responsive-Didactic										-.10	.51	-.20
Negative-Controlling										-1.34	.45	-2.95**
R^2	.04			.17			.35			.26		
F	3.67			7.21***			4.43***			5.73***		

*
 $p < .05$;

**
 $p < .01$;

***
 $p < .001$.

Table 4
Father Parenting Stress and Engagement Regressed on Children's Behavioral Problems

Variables	Model 1			Model 2			Model 3			Model 4		
	B	SE B	t	B	SE B	t	B	SE B	t	B	SE B	t
Parenting Stress	.13	.05	2.67**	.06	.05	1.27	.03	.05	.54	.03	.06	.54
Partner Conflict				.45	.20	2.20*	.42	.21	2.01*	.51	.21	2.46*
Partner Closeness				-.93	1.49	-.62	-.39	1.23	-.32	-.46	1.56	-.29
Self-report engagement												
Socialization							.15	1.03	.14			
Management							1.55	.90	1.71			
Didactic							.20	.64	.31			
Warmth							-.38	.67	-.57			
Caregiving							-.04	.93	-.04			
Father-child interaction												
Responsive-Didactic							-.74	1.38	-.54			
Negative-Controlling							.02	1.14	.02			
R^2	.08				.23			.28			.21	
F	7.13**				5.14**			2.12*			2.82*	

* $p < .05$;

** $p < .01$;

*** $p < .001$.

Table 5

Father Parenting Stress Regressed on Self-Reported Engagement

Variables	Socialization				Management				Didactic				Warmth				Caregiving			
	B	SE	B	t	B	SE	B	t	B	SE	B	t	B	SE	B	t	B	SE	B	t
Parenting Stress	.01	.00	.03	1.54	.03	.01	.03	3.81***	-.00	.01	.00	-.08	.01	.01	.01	.45	.01	.01	.01	.95
Residency Status	.06	.25	.29	.25	.27	.27	.29	1.07	.48	.27	.50	1.78	.30	.30	.73	1.68	.31	.31	.31	2.38*
Partner Conflict	-.04	.03	.03	-1.55	.04	.04	.03	.68	-.03	.03	-.04	-.74	.03	.03	-.08	-1.61	.04	.04	.04	-2.13*
Partner Closeness	-.19	.20	.16	-.95	.26	.26	.59	.59	-.26	.25	-.25	-1.04	.18	.18	-.30	-1.37	.21	.21	.21	-1.40
R ²	.07				.16				.05				.07				.17**			
F	1.11				4.65**				1.57				1.58				3.80			

*
p < .05.

**
p < .01.

***
p < .001.

Table 6

Father Parenting Stress Regressed on Father-Child Interaction

Variables	Responsive-Didactic				Negative-Overbearing			
	B	SE B	t		B	SE B	t	
Parenting Stress	.00	.01	.23		.00	.00		1.14
Residency Status	.23	.19	1.20		-.11	.15		-.78
Partner Conflict	.01	.02	.51		-.02	.02		-1.17
Partner Closeness	-.08	.10	-.79		.06	.11		.58
R^2				.03				.04
F				.53				1.36

* $p < .05$.

** $p < .01$.

*** $p < .001$.