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Father Involvement and Behavior Problems among Preadolescents at Risk of Maltreatment

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Abstract

Although there is a well-established connection between father involvement and children's positive behavioral development in general, this relation has been understudied in more vulnerable and high-risk populations. The aims of this study were to examine how the quantity (i.e., the amount of shared activities) and quality (i.e., perceived quality of the father-child relationship) of father involvement are differently related to internalizing and externalizing behavior problems among preadolescents at risk of maltreatment and test if these associations are moderated by father type and child maltreatment. A secondary data analysis was conducted using data from the Longitudinal Studies of Child Abuse and Neglect (LONGSCAN). Generalized estimating equations analysis was performed on a sample of 499 preadolescents aged 12 years. The results indicated that higher quality of father involvement was associated with lower levels of internalizing and externalizing behavior problems whereas greater quantity of father involvement was associated with higher levels of internalizing and externalizing behavior problems. The positive association between the quantity of father involvement and behavior problems was stronger in adolescents who were physically abused by their father. The association between father involvement and behavior problems did not differ by the type of father co-residing in the home. The findings suggest that policies and interventions aimed at improving the quality of fathers' relationships and involvement with their children may be helpful in reducing behavior problems in adolescents at risk of maltreatment.

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Compliance with Ethical Standards

Conflict of interest: The authors declare that they have no conflict of interest.

Ethical Approval: All procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards.

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Author Contributions

SY: designed and executed the study, analyzed the data, and wrote the paper. JB: collaborated with the design and writing of the study. WK and DY: collaborated in the writing and editing of the final manuscript.

Keywords

child maltreatment; father type; father involvement; internalizing behavior problems; externalizing behavior problems

Introduction

Although a substantial body of literature suggests that father involvement is associated with children's positive development among families in general (Jeynes, 2016; Sarkadi, Kristiansson, Oberklaid, & Bremberg, 2008), this relationship has been understudied in more vulnerable and high-risk populations, including adolescents who have experienced or are at risk of maltreatment. It is important to specifically examine how father involvement is associated with behavior problems in youth at risk of maltreatment because of the unique challenges these families may face, such as complex family structure and father-perpetrated abuse, which may reduce or amplify the influence of father involvement. Furthermore, previous studies on father involvement have primarily focused on early childhood (e.g., Palm & Fagan, 2008) and relatively less attention has been paid to father involvement during adolescence. Father involvement during preadolescence (defined here as the period between the ages of 9 and 12; Mason, 2004), in particular, warrants further attention given that it is the developmental period in which parent-child interactions become increasingly conflictual (Allison & Schultz, 2004). Yet, no studies have examined the relation between father involvement and behavior problems during preadolescence among high-risk youth.

There is compelling empirical evidence that fathers make a unique contribution to their children's development (Fagan & Palm, 2004; Fagan & Lee, 2012; Jeynes, 2015, 2016; Lamb & Lewis, 2010; McWayne, Downer, Campos, & Harris, 2013; Palm & Fagan, 2008). Although much less attention has been paid to fathers as compared to mothers in the parenting literature, studies have clearly indicated the importance of fathers in promoting healthy development and well-being of children (Sarkadi et al., 2008). Research has shown that more father involvement—particularly positive father involvement—is associated with children's positive cognitive (Flouri & Buchanan, 2004, Jaynes, 2015, Jaynes, 2016), social/relational (Parke et al., 2004), behavioral (Carlson, 2006; Chang, Halpern, & Kaufman, 2007), and psychological developmental outcomes (Allgood, Beckert, & Peterson, 2012).

Father involvement is a complex and multidimensional construct, and different conceptualizations and operationalizations of father involvement have been made across studies in the literature (Lamb, 2000). In the early literature on father involvement, fathering was often measured in terms of quantity, such as the amount of time fathers spend with their children, the physical availability of the father, or the frequency of father-child interaction (Hawkins & Palkovitz, 1999). A substantial body of research adopted this approach and reported a significant relationship between the quantity of father involvement and child development. For instance, spending more time with the father has been associated with lower levels of depression and substance use among African American adolescents (Salem, Zimmerman, & Notaro, 1998). Flouri and Buchanan (2003) reported that greater quantity of

father involvement (e.g., more accessibility, greater direct interactions) at age 7 predicted decreased levels of emotional and behavioral problems at age 16.

More recently, there has been growing interest and efforts in conceptualizing father involvement beyond quantity by focusing on the quality of father involvement, such as warmth and support. Likewise, there is emerging evidence supporting the critical role of the quality of father involvement on children's well-being and development (Carlson, 2006; Lamb, 2004). Children who have high quality relationships with their fathers have been found to exhibit lower levels of internalizing and externalizing behavior problems (Bronte-Tinkew et al, 2006; White & Gilbreth, 2001) and hyperactivity (Keown & Woodward, 2002). For example, positive father-child relationships have been associated with a decreased risk for adolescent delinquency and substance use behaviors in a nationally representative sample of adolescents, even after controlling for mother-child relationships (Bronte-Tinkew et al., 2006). Paternal warmth and closeness to fathers have also been reported to have positive influence on the offspring's developmental outcomes (Rohner & Veneziano, 2001), such as fewer externalizing symptoms (Sandler, Miles, Cookston, & Braver, 2008).

Some studies have concurrently examined the quantity and quality of father involvement and found distinctive patterns of effects on child development. For example, Harris and colleagues (1998) found that only the quantity of father involvement (e.g., how often do things together with the father) was related to children's economic and educational attainment, whereas both the quality (e.g., closeness, affection) and quantity (e.g., how often do things together with the father) of father involvement were related to children's delinquent behavior and psychological well-being. In another study, it was found that the quantity (e.g., paternal physical availability) of father involvement contributes much less robustly to children's development than does the quality (e.g., paternal warmth, paternal affection) of father involvement (Veneziano, 2003). Taken together, prior research suggests that it may be important to separately consider the quantity and quality of father involvement, as these dimensions of fathering may operate differently, and their relationship to children's developmental outcomes may lead to different implications for intervention.

Although general population research suggests that father involvement has a vital influence on children's behavior outcomes, relatively little is known about its role in families who are involved or are at high risk of involvement with the child welfare system (Leon, Jhe Bai, Fuller, 2016). The effects of father involvement on child development in maltreating, at-risk families may differ from those in normative households due to various risk factors (e.g., child maltreatment, complex and non-traditional family structures, diverse father types, frequent changes in father figures) that may reduce or amplify the benefits of positive father involvement. For example, some research suggests that fathers can play a buffering role when mothers' roles are compromised by her mental health or other problems (Chang et al., 2007). It is also possible that the positive influence of fathers may be dampened or overwhelmed by the challenges faced by at-risk families. Because much of the research on father involvement has focused on the general population, the relationship between father involvement and child development is less clear for adolescents who have been maltreated or are at risk of maltreatment.

To date, only a small number of studies have examined the relationship between father involvement and behavior problems among children who have been maltreated or are at risk of maltreatment. In one study, greater father involvement (i.e., paternal support) was associated with higher social competence and fewer depressive symptoms, but was not associated with internalizing and externalizing behavior problems among children at risk of maltreatment (e.g., Dubowitz et al., 2001). In a study that focused on a sample of families reported to Child Protective Services (CPS), no supporting evidence was found for the effects of father involvement (e.g., spending time with the child, contributing to everyday care) on children's internalizing (e.g., depression) and externalizing (e.g., aggression) behavior problems at ages 4 and 6 (Marshall, English, & Stewart, 2001). In contrast to these findings, a recent longitudinal study of 333 child welfare involved children found that nonresident father involvement was significantly associated with lower slope in externalizing behavior trajectories (Leon et al., 2016). Although this longitudinal study provided valuable information about the impact of father involvement on children's externalizing behavior problems over time, the study was limited in that it only focused on nonresident fathers, leaving out various types of co-resident fathers. Similarly, the other two studies (i.e., Dubowitz et al., 2001; Marshall et al., 2001) did not account for the type of father (e.g., biological fathers, social fathers) and its role in explaining the association between father involvement and child behavior problems in families at risk of maltreatment. Moreover, previous studies have not concurrently examined the quantity and quality of father involvement. That is, studies have either solely focused on one dimension of father involvement without considering the other or have often combined these two different dimensions together in measuring father involvement. This is an important limitation as these dimensions (i.e., quantity vs quality) of fathering may operate differently, and their relationship to behavior problems of children at risk of maltreatment may lead to different implications for intervention.

Major changes in the U.S. family demography in the past half century include high rates of divorce, re-marriage, co-habitation, and unmarried childbearing; consequently, a substantial number of children live with a parent (mostly father) who is not their biological parent (Hamilton, Ventura, Martin, & Sutton, 2005). The trends of complex and non-traditional family structures are overrepresented in child welfare-served families, in which multiple types of adult males (e.g., biological fathers, stepfathers, adoptive fathers, grandfathers, uncles, etc.) are involved in parenting the child (Bellamy, 2009). Reflecting the diversity in the type of adult males involved in families and the increasing complexity in parenting arrangements (Bellamy, 2009), we define a father as any adult male who plays a fathering role and acts like a father to the focal child. This study focuses on fathers co-residing with their children, including social fathers who have received relatively little attention in the literature, despite the increasing number and overrepresentation of social fathers in families receiving child welfare services (Parent, Robitaille, Fortin, & Avril, 2016). Social father refers to an individual who is not the biological father of the child, but who takes the fathering role and functions as a father in the life of the child (Deslauriers, Devault, Groulx, & Sevigny, 2012). Social fathers can be further classified into two categories: *romantic-partner social fathers* who are romantic partners (e.g., stepfather, mother's cohabitating

boyfriend) of the mothers of their social children; *relative social fathers* who represent male relatives (e.g., the child's grandfather, uncle) of the mothers (Jayakody & Kalil, 2002).

Research has indicated that children living with a stepfather or mother's cohabitating partner show significantly higher internalizing and externalizing behavior problems compared to children living with their biological father (e.g., Flouri, 2008; Hofferth, 2006). However, less is known about if and how the association between father involvement and child behavior problems differs across different types of co-resident father. In one study, resident stepfathers and mothers' partners were found to spend less time with their children, but these differences in engaged time (i.e., the quantity of father involvement) did not explain higher behavior problems in children (aged 3–12) living with social fathers (Hofferth, 2006). Similarly, Amato and Rivera (1999) reported that the effects of father involvement on children's behavior problems did not depend on father type; the beneficial effects of positive father involvement on child behavioral functioning were similar for biological fathers and stepfathers. While these findings provide some initial insights regarding the relations among father involvement, father type, and child behavior problems, more research is needed to understand how the link between the quantity and quality of father involvement and children's behavior problems may vary by the type of co-resident father, particularly for children at risk of maltreatment.

The presence of child maltreatment in the home influences the child's perception and attitude toward his or her parents, which may significantly affect the nature and strength of the relation between father involvement and child behavior problems. According to a recent national report of child maltreatment in the U.S., over 90% of victims investigated by CPS in 2015 were maltreated by one or both parents, with approximately 50% of victims being maltreated by a father, either acting alone (21%) or with the child's mother (29%) (U.S. DHHS, 2017). Fathers, both biological and social fathers, have been highly overrepresented as perpetrators of child physical abuse, especially for more severe forms of physical abuse (U.S. DHHS, 2005). Research has documented that children who experience child maltreatment exhibit significantly greater internalizing (Bolger & Patterson, 2001; Robinson et al., 2009) and externalizing (Bennett, Sullivan, & Lewis, 2005; Evans, Simons, & Simons, 2012; Teisl & Cicchetti, 2008) behavior problems than non-maltreated children. To the authors' knowledge, however, whether or not child maltreatment moderates the relation between the quantity and quality of father involvement and children's internalizing and externalizing behavior problems has not previously been studied.

The present study extends the existing literature on father involvement and child well-being by focusing on preadolescents at risk of maltreatment, a population of particular interest in light of its elevated risk for behavior problems. Guided by Lamb and colleagues' (1987) conceptual framework which posits multidimensionality of father involvement, this study focuses on identifying unique and distinctive influence of the quantity and quality of father involvement. Further, two important factors—the type of father in the home and child maltreatment—are tested as possible moderators of the association between father involvement and behavior problems. Using a sample of preadolescents who have been involved with the child welfare system or are at high risk of child welfare involvement, this study addresses two primary research questions: 1) Are the quantity and quality of father

involvement significantly associated with internalizing and externalizing behavior problems among preadolescents at risk of maltreatment?; and 2) Are these associations moderated by the type of father co-residing with the child in the home and child maltreatment experiences?

Method

Participants

This study used data from the Longitudinal Studies of Child Abuse and Neglect (LONGSCAN, a multisite cohort study ($N = 1,354$) examining the long-term effects of child abuse and neglect on children's development (Larrabee & Lewis, 2015). LONGSCAN involved five study sites: Eastern (EA), Midwest (MW), Northwest (NW), Southwest (SW), and Southern (SO). All five studies share study constructs (variables), measures, data collection methods, and data management strategies. Data are collected from children and caregivers through face-to-face interviews at ages 4, 6, 8, 12, 14, 16, and 18. The LONGSCAN samples consist of five pooled cohort samples that represent different levels of risk and exposure to maltreatment. The EA sample ($n = 282$) consists of low income, inner city children with and without two risk factors: 1) failure to thrive during the first two years of life; and 2) parental HIV infection or drug use. The MW sample ($n = 245$) includes children with substantiated CPS cases and a comparison group of community children. The NW sample ($n = 254$) includes children who had early (ages 0–4) involvement with CPS for alleged child maltreatment and who were assessed to be at moderate risk of future maltreatment. The SO sample ($n = 243$) represents children who were identified at birth as a high-risk group for child maltreatment. One third of the children in the SO cohort had CPS referrals by the age of five. The SW sample ($n = 330$) consists of maltreated children who have a history of out-of-home placement prior to age five.

For the current study, we used the data collected at the age 12 assessment in which youth self-reported their perceived quantity and quality of father involvement as opposed to parents' reports collected in earlier data collection. The sample was restricted to 499 preadolescents who were co-residing with a father or father figure in the home at age 12. Adolescents who reported not having a father/father figure ($n = 475$) or not co-residing with a father/father figure (i.e., have non-residential fathers; $n = 380$) were excluded. Adolescents included in the analysis were more likely to be white, have mothers with more than high school education and cohabitating spouse/partner, and have higher household income compared to 855 adolescents who were excluded. All study variables contained less than 6% missing cases; the quantity of mother involvement, which had the most missing cases had 5.1% missing cases ($n = 25$). Missing data were handled using multiple imputation with fully conditional specification method and 25 imputed data sets.

Measures

Internalizing and externalizing behavior problems—Internalizing and externalizing behavior problems were measured at age 12 using the Youth Self-Report (YSR), which is a 112-item self-report measure of emotional and behavioral problems, designed for children and adolescents between the ages of 11 to 17 (Achenbach, 1991). Internalizing behavior problems were assessed using the internalizing behavior scale, which combines the scores of

the withdrawn, somatic complaints, and anxiety/depression scales. The internal consistency reliability of the YSR internalizing behavior scale in the current sample was acceptable (Cronbach's $\alpha = .95$). Externalizing behavior problems were assessed using the externalizing behavior scale, which combines the scores of the delinquent scale and the aggressive behavior scale. Cronbach's alpha was .93 in the current sample. Youth reported the extent to which each item applied to them during the past six months, using the following response options: 0 = *not true*, 1 = *somewhat or sometimes true*, 2 = *very true or often true*. For both internalizing and externalizing behavior problems, the age and gender standardized T-scores were used, with higher scores indicating greater behavior problems. T-scores less than 60 represent the normal range, 60 to 63 represent the borderline, and scores greater than 63 are considered the clinical range.

Quantity of father involvement—The quantity of father involvement was measured using a youth self-report, 9-item scale that assessed the level of a father's recent involvement in the child's life. The nine items were adapted from the Add Health Study (Resnick et al., 1997) items, which were originally designed to be used with adolescents in grades 7 – 12 (ages 12 – 17). The items ask about adolescents' shared activities with a father or father figure (i.e., someone who acts like a father to the child) in the past month. Items include going shopping, playing sports, going to religious services/events, going to art events (e.g., concert, play, museum, movies), talking about schoolwork, talking about friends, talking about a personal problem, working together on a school project, and talking about things the child is doing in school. All nine items were answered using binary response categories (0 = *no*, 1 = *yes*). A count variable (possible range 0–9) was created by totaling the number of shared activities. Cronbach's alpha in the current sample was .74.

Quality of father involvement—The quality of father involvement was measured using a youth-report, 6-item scale that assesses youth's perceived quality of the relationship with his or her father/father figure. The six items were adapted from the Add Health Study–developed youth self-report measure of parent-child closeness, designed for use with children/adolescents in grades 7–12 (ages 12 – 17), and include the level of closeness, caring, trust, understanding, getting along, and shared decision making (response categories range from 1 = *not at all/never* to 5 = *very much/always*). Scores were summed to obtain a total father-child interaction quality score, with higher scores indicating a higher quality of interaction with the father/father figure. Cronbach's alpha in the current sample was .83.

Father type—The type of father was assessed by asking adolescents to indicate their exact relationship with the father/father figure living in the home, using the following response categories: birth (or natural) father, stepfather, adoptive father, foster father, mother's boyfriend, grandfather, and other. Using Jayakody and Kalil (2002)'s approach, the response categories were collapsed into the following three groups: *biological father*, *romantic-partner social father*, and *relative social father*. The father type variable was dummy-coded using biological father as the reference group.

Child maltreatment—Child maltreatment was assessed in two ways: *father-perpetrated child physical abuse*; *official Child Protective Services (CPS) reports of maltreatment*.

Father-perpetrated child physical abuse was measured using the youth self-reported child physical abuse scale at the age 12 assessment. The child physical abuse scale consisted of 15 items that assess specific perpetrator behaviors of physical abuse and the child's experience of endangerment (e.g., being kicked, being choked) and physical injury (e.g. broken bones, scalds, bruises) in the past 12 months. For each endorsed item, follow-up questions were asked about the perpetrator of the act. Father-perpetrated physical abuse was coded as *yes* (= 1) if adolescents indicated any adult male (i.e., father, stepfather, mother's boyfriend, male relative) as the perpetrator on one or more items. Official CPS reports of maltreatment (0 = *no*, 1 = *yes*) was operationalized as any report to CPS for physical abuse, sexual abuse, emotional abuse or neglect.

Control Variables—The adolescent's sex (0 = *male*, 1= *female*) and race (White, Black, Other) were reported by the mother at baseline (age 4). Child race was recoded as Black (1) versus Non-Black. The child's perceived quality and quantity of mother involvement was measured at age 12, using the identical measures (quality: 6-item scale, quantity: 9-item scale) of father involvement. Internal consistency for the quantity of mother involvement was .68 and the quality of mother involvement was .81.

Data Analyses

Preliminary analyses—including univariate frequencies, descriptive statistics (*M*, *SD*, range, skewness, kurtosis), and bivariate correlations—were computed on all study variables prior to multivariate analyses. Generalized estimating equations (GEEs) were used to examine if the quantity and quality of father involvement are significantly associated with internalizing and externalizing behavior problems of children at risk of maltreatment. GEEs are an extension of generalized linear models and adjust for correlations among observations, providing a framework for analyzing correlated and clustered data, such as observations classified into a number of different groups (e.g., nested structure) (Hardin, 2005). The GEE method was chosen to address the possible clustering effects induced by the use of clustered data in this study. The LONGSCAN dataset consists of the data collected from multiple study sites (i.e., five LONGSCAN study sites), which may produce the issue of non-independent observations. The GEE approach effectively handles this issue by accounting for within-cluster correlation (Hardin & Hilbe, 2013). GEEs produce more efficient and unbiased parameter estimates than do more traditional regression approaches, such as ordinary least squares regression (Ballinger, 2004).

To address the first research question, a GEE model was run with the quantity of father involvement and the quality of father involvement as focal variables predicting children's internalizing and externalizing behavior problems. Other predictors in the model included father type, child physical abuse by father, CPS report of maltreatment, child sex, race, and the quantity and quality of mother involvement. Separate GEE models were run for each outcome (i.e., internalizing behavior problems, externalizing behavior problems). The next step in the analysis involved a test of interactions effects of father involvement (quantity, quality) by father type (Romantic-partner social father, Relative social father) and child maltreatment (child physical abuse by father, CPS report of child maltreatment). For the moderation model, eight interaction terms were computed: Quantity [Quality] \times two father

variables (romantic-partner social father, relative social father) and Quantity [Quality] \times two maltreatment variables (physical abuse by father, CPS reports). These interaction terms were entered into GEE models along with all the other variables described above (shown in the main-effect models).

All continuous variables were mean-centered prior to entering in the GEE model to facilitate interpretation and reduce multicollinearity. For the all univariate and bivariate analyses, dummy variables and un-centered continuous variables were used and for all multivariate analyses, dummy variables and centered interval-level predictors were used. All analyses were conducted using SPSS Version 20.0.

Results

Sample Characteristics

Sample characteristics and descriptive statistics of main study variables are summarized in Table 1. A total of 499 preadolescents were included in the analysis. Approximately half of the adolescents were male (50.70%). Slightly less than half of the adolescents (48.30%) were Black. Adolescents reported greater quantity of involvement with mothers ($M = 5.12$, $SD = 2.20$) than with fathers/father figures ($M = 3.85$, $SD = 2.49$). Adolescents also reported higher quality of relationships with mothers ($M = 26.01$, $SD = 3.70$) than with fathers/father figures ($M = 24.43$, $SD = 4.87$).

Father Involvement and Internalizing and Externalizing Behavior Problems

The GEE results (Table 2) indicated that adolescents with greater quantity of father involvement had higher levels of internalizing and externalizing behavior problems, when controlling confounding variables. In contrast, adolescents with higher quality of father involvement had lower levels of internalizing and externalizing behavior problems. Adolescents who live with romantic-partner social fathers (e.g., stepfathers, mothers' cohabitating boyfriends) and who are physically abused by fathers also had higher levels of internalizing and externalizing behavior problems. Higher quality of mother involvement was associated with lower levels of internalizing and externalizing behavior problems. No other variables were significantly related to adolescents' internalizing and externalizing behavior problems.

Interaction Effects of Father Involvement

The next step of analysis involved an examination of possible interaction effects by father type and child maltreatment (Table 3). The interaction between the quantity of father involvement and father-perpetrated child physical abuse was significant (internalizing: $B = 1.36$, $SE_B = .52$, $p = .009$; externalizing: $B = .87$, $SE_B = .35$, $p = .012$). The quantity of father involvement had a stronger positive association with internalizing (Figure 1) and externalizing (figure 2) behavior problems in adolescents who have been physically abused by a father, compared to those who have not been physically abused by a father. None of the other interaction terms were statistically significant, suggesting that the relationships between the quantity and quality of father involvement and internalizing and externalizing behavior problems do not differ by the type of father in the home or official CPS reports of

child maltreatment. While the type of father did not play a significant moderating role, co-residence of a romantic-partner social father was associated with significantly higher levels of internalizing ($B = 1.04$, $SE_B = .30$, $p < .001$) and externalizing ($B = .60$, $SE_B = .17$, $p < .001$) behavior problems.

Discussion

This study examined how the quantity and quality of father involvement are related to internalizing and externalizing behavior problems in a sample of at-risk youth in preadolescence. The study extends previous studies of father involvement by examining both the quantity (i.e., the amount of shared activities) and quality (i.e., perceived quality of the father-child relationship) of father involvement and identifying their differential roles in explaining behavior problems of preadolescents at risk of maltreatment. The quality of father involvement was significantly associated with both internalizing and externalizing behavior problems, after controlling for possible confounders including the quality of mother involvement. Adolescents with higher quality of father involvement exhibited lower levels of internalizing and externalizing behavior problems. These findings are consistent with previous studies that found fewer internalizing and externalizing behavior problems in children with positive and close relationships with their fathers (Sandler et al., 2008; White & Gilbreth, 2001). Adolescents who are closely related to a trustful, understanding, and caring father may develop better emotional regulation skills which reduce the risk of developing internalizing and externalizing behavior problems.

In contrast to the findings of the quality of father involvement, adolescents with greater quantity of father involvement exhibited higher levels of internalizing and externalizing behavior problems. These findings are inconsistent with prior general population studies that found fewer behavior problems in children who spend more time with their fathers (e.g., Williams & Kelly, 2005), but are in line with Marshall et al.'s (2001) study in which no supporting evidence was found for positive impact of the quantity of father involvement on behavioral functioning of maltreated children. The beneficial effects of the quantity of father involvement on child development may be compromised by multiple risk factors and stressors present in at-risk families. In fact, the test of interaction effects between the quantity of father involvement and father-perpetrated child physical abuse revealed that the quantity of father involvement had a significantly stronger positive association with internalizing and externalizing behavior problems when adolescents were physically abused by their father. Spending time and doing activities with a father who causes bodily injury and pain can be a very stressful and traumatic situation, which may lead to the development and escalation of internalizing symptoms, including anxiety, depression, loneliness, and social withdrawal (Lansford et al., 2002). Similarly, spending more time with an abusive father may increase externalizing behavior problems as the adolescent is likely to observe and replicate the father's aggressive and violent behavior (Margolin & Gordis, 2000). An alternative explanation is that fathers may become increasingly involved, possibly with physical discipline, when adolescents have externalizing behavior problems with which fathers are trying to intervene (Flouri, Midouhas, & Narayanan, 2016). Due to the cross-sectional nature of the data, causal inferences between these variables cannot be made in the current study but should be examined further in future studies.

This study found no evidence to support that the relationships between the quantity and quality of father involvement and internalizing and externalizing behavior problems differ by the type of father in the home. These findings are consistent with previous studies that did not find any interaction effects between father involvement and father type on children's behavior problems (Amato & Rivera, 1999; Hofferth, 2006). Positive father-child relationship quality appears to be equally beneficial for both adolescents living with their biological fathers and those living social fathers. However, it should be noted that adolescents who live with romantic-partner social fathers (e.g., stepfathers, mothers' cohabitating boyfriends) had higher levels of internalizing and externalizing behavior problems compared to those who live with their biological father. Adolescents may have a hard time accepting or approving mother's romantic-partner as their father and they may exhibit increased levels of internalizing and externalizing behavior problems to show their reluctance to have an unrelated male in the family. It could also be that adolescents act out to solicit more attention from their mother who may have become indifferent to their children. However, more nuanced exploration, perhaps using a qualitative approach, is required in future research.

Limitations

Several limitations in this study should be noted. A major limitation of this study is the use of cross-sectional data which limits our ability to examine causal links among father type, child maltreatment, father involvement, and children's behavior problems. For example, the finding of the positive relation between the quantity of father involvement and behavior problems in the study may suggest that youth develop more behavior problems when fathers engage in more activities with their children. It may also be the case, however, that fathers become increasingly involved in more aspects of children's lives when their children begin to exhibit behavior problems. Future research may benefit from the use of longitudinal data to disentangle the complex relationships among these constructs. Another limitation of the study is the omission of potentially significant father characteristics in understanding the quantity and quality of father involvement as well as children's behavior problems. Paternal characteristics such as mental health and substance use problems have been reported to be closely related to the quality of parenting and children's behavioral functioning (e.g., Connell & Goodman, 2002), but could not be examined in this study due to the lack of data availability. This study is also limited by the use of self-report measures, which may be prone to response bias. Future studies may benefit from using multiple informants (e.g., teachers, caregivers, youth) and methods (e.g., direct observations) to address the issues caused by solely relying on self-reports. It should also be noted that the measure of quantity of father involvement used in the current study was limited in that it was a count measure and did not reflect the frequency of father involvement.

Despite these limitations, the use of youth self-reports in measuring the quantity and quality of father involvement, rather than relying on a caregiver report measure, provided valuable information about youth's perception of father involvement. Moreover, the quantity and quality of father involvement was measured separately, to reflect their distinctive and differential characteristics, as opposed to combining these two different dimensions together. Our findings should be interpreted with caution given that the quantity and quality of father

involvement were strongly associated with each other. Although beyond the scope of this study, the quantity and quality of father involvement may interact with each other in influencing behavior problems and future research should explore the possible interaction effects. Lastly, the sample composition limits the generalizability of the study findings. However, the use of a high-risk sample could also be a strength given that they represent the most vulnerable, yet insufficiently studied, populations.

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References

- Achenbach, TM. Manual for the child behavior Checklist/4–18 and 1991 profile. Burlington, VT: Department of Psychiatry, University of Vermont Burlington, VT; 1991.
- Allgood SM, Beckert TE, Peterson C. The role of father involvement in the perceived psychological well-being of young adult daughters: A retrospective study. *North American Journal of Psychology*. 2012; 14:95–110.
- Allison BN, Schultz JB. Parent-adolescent conflict in early adolescence. *Adolescence*. 2004; 39:101–119. [PubMed: 15230069]
- Amato PR, Rivera F. Paternal involvement and children's behavior problems. *Journal of Marriage and the Family*. 1999; 61:375–384.
- Ballinger GA. Using generalized estimating equations for longitudinal data analysis. *Organizational Research Methods*. 2004; 7:127–150.
- Bolger KE, Patterson CJ. Pathways from child maltreatment to internalizing problems: Perceptions of control as mediators and moderators. *Development and Psychopathology*. 2001; 13:913–940. [PubMed: 11771914]
- Bellamy JL. A national study of male involvement among families in contact with the child welfare system. *Child Maltreatment*. 2009; 14:255–262. DOI: 10.1177/1077559508326288 [PubMed: 18984807]
- Bennett DS, Sullivan MW, Lewis M. Young children's adjustment as a function of maltreatment, shame, and anger. *Child Maltreatment*. 2005; 10:311–323. [PubMed: 16204734]
- Bronte-Tinkew J, Moore KA, Carrano J. The father-child relationship, parenting styles, and adolescent risk behaviors in intact families. *Journal of Family Issues*. 2006; 27:850–881. DOI: 10.1177/0192513X05285296
- Carlson MJ. Family structure, father involvement, and adolescent behavioral outcomes. *Journal of Marriage and Family*. 2006; 68:137–154. DOI: 10.1111/j.1741-3737.2006.00239.x
- Chang JJ, Halpern CT, Kaufman JS. Maternal depressive symptoms, father's involvement, and the trajectories of child problem behaviors in a US national sample. *Archives of Pediatrics & Adolescent Medicine*. 2007; 161:697–703. [PubMed: 17606834]
- Connell AM, Goodman SH. The association between psychopathology in fathers versus mothers and children's internalizing and externalizing behavior problems: a meta-analysis. *Psychological Bulletin*. 2002; 128:746–773. [PubMed: 12206193]
- Deslauriers JM, Devault A, Groulx AP, Sevigny R. Rethinking services for young fathers. *Fathering*. 2012; 10:66.

- Dubowitz H, Black MM, Cox CE, Kerr MA, Litrownik AJ, Radhakrishna A, Runyan DK. Father involvement and children's functioning at age 6 years: A multisite study. *Child Maltreatment*. 2001; 6:300–309. [PubMed: 11675813]
- Evans SZ, Simons LG, Simons RL. The effect of corporal punishment and verbal abuse on delinquency: Mediating mechanisms. *Journal of Youth and Adolescence*. 2012; 41:1095–1110. DOI: 10.1007/s10964-012-9755-x [PubMed: 22460730]
- Fagan J, Lee Y. Effects of fathers' and mothers' cognitive stimulation and household income on toddler's cognition: Variations by family structure and child risk. *Fathering*. 2012; 10:140–158.
- Fagan, J., Palm, G. *Fathers and early childhood programs*. Clifton Park, NY: Delmar Learning; 2004.
- Flouri E, Midouhas E, Narayanan MK. The relationship between father involvement and child problem behaviour in intact families: a 7-year cross-lagged study. *Journal of Abnormal Child Psychology*. 2016; 44:1011–1021. [PubMed: 26349744]
- Flouri E. Fathering and adolescents' psychological adjustment: The role of fathers' involvement, residence and biology status. *Child: Care, Health and Development*. 2008; 34:152–161.
- Flouri E, Buchanan A. The role of father involvement in children's later mental health. *Journal of Adolescence*. 2003; 26:63–78. [PubMed: 12550822]
- Flouri E, Buchanan A. Early father's and mother's involvement and child's later educational outcomes. *British Journal of Educational Psychology*. 2004; 74:141–153. DOI: 10.1348/000709904773839806 [PubMed: 15130184]
- Hamilton, BE., Ventura, SJ., Martin, JA., Sutton, PD. *Preliminary births for 2004*. Hyattsville, MD: National Center for Health Statistics; 2005. Health E-Stats
- Hawkins AJ, Palkovitz R. Beyond ticks and clicks: The need for more diverse and broader conceptualizations and measures of father involvement. *The Journal of Men's Studies*. 1999; 8:11–32. DOI: 10.3149/jms.0801.11
- Hardin, JW. *Generalized estimating equations (GEE)*. John Wiley & Sons, Ltd; 2005. Encyclopedia of statistics in behavioral science
- Hardin, JW., Hilbe, JM. *Generalized estimating equations*. 2nd. Boca Raton, FL: CRC Press; 2013.
- Harris KM, Furstenberg FF, Marmer JK. Paternal involvement with adolescents in intact families: The influence of fathers over the life course. *Demography*. 1998; 35:201–216. DOI: 10.2307/3004052 [PubMed: 9622782]
- Hofferth SL. Residential father family type and child well-being: Investment versus selection. *Demography*. 2006; 43:53–77. [PubMed: 16579208]
- Jayakody R, Kalil A. Social Fathering in Low-Income, African American Families with Preschool Children. *Journal of Marriage and Family*. 2002; 64:504–516.
- Jeynes WH. A meta-analysis: The relationship between father involvement and student academic achievement. *Urban Education*. 2015; 50:387–423.
- Jeynes W. Meta-analysis on the roles of fathers in parenting: Are they unique? *Marriage & Family Review*. 2016; 52:665–688.
- Keown LJ, Woodward LJ. Early parent-child relations and family functioning of preschool boys with pervasive hyperactivity. *Journal of Abnormal Child Psychology*. 2002; 30:541–553. DOI: 10.1023/A:1020803412247 [PubMed: 12481970]
- Lamb ME. The history of research on father involvement: An overview. *Marriage & Family Review*. 2000; 29:23–42. DOI: 10.1300/J002v29n02_03
- Lamb, MF. *The role of the father in child development*. Hoboken, NJ: John Wiley & Sons; 2004.
- Lamb, MF., Lewis, C. The development and significance of father-child relationships in two-parent families. In: Lamb, ME., editor. *The role of father in child development*. 5th. Hoboken, NJ: John Wiley & Sons; 2010. p. 94-153.
- Lamb, ME., Pleck, JH., Charnov, EL., Levine, JA. A biosocial perspective on paternal behavior and involvement. In: Lancaster, J, Altmann, J, Rossi, A., Sherrod, L., editors. *Parenting across the lifespan: Biosocial dimensions*. Hawthorne, NY: Aldine; 1987. p. 111-142.
- Lansford JE, Dodge KA, Pettit GS, Bates JE, Crozier J, Kaplow J. A 12-year prospective study of the long-term effects of early child physical maltreatment on psychological, behavioral, and academic

- problems in adolescence. *Archives of Pediatrics & Adolescent Medicine*. 2002; 156:824–830. [PubMed: 12144375]
- Larrabee, HM., Lewis, T. Longitudinal studies of child abuse and neglect (LONGSCAN) Assessments 0-18: User's Guide. Ithaca, NY: National Data Archive on Child Abuse and Neglect, Cornell University; 2015. Retrieved from http://www.ndacan.cornell.edu/datasets/pdfs_user_guides/Dataset170UsersGuideCodebook.pdf
- Leon SC, Bai GJ, Fuller AK. Father involvement in child welfare: Associations with changes in externalizing behavior. *Child Abuse & Neglect*. 2016; 55:73–80. [PubMed: 27110849]
- Margolin G, Gordis EB. The effects of family and community violence on children. *Annual Review of Psychology*. 2000; 51:445–479. DOI: 10.1146/annurev.psych.51.1.445
- Marshall DB, English DJ, Stewart AJ. The effect of fathers of father figures on child behavioral problems in families referred to child protective services. *Child Maltreatment*. 2001; 6:290–299. DOI: 10.1177/1077559501006004002 [PubMed: 11675812]
- Mason MJ. Preadolescent psychiatric and substance use disorders and the ecology of risk and protection. *Journal of Child & Adolescent Substance Abuse*. 2004; 13:61–81.
- McWayne C, Downer JT, Campos R, Harris RD. Father involvement during early childhood and its association with children's early learning: A meta-analysis. *Early Education & Development*. 2013; 24:898–922.
- Palm G, Fagan J. Father involvement in early childhood programs: Review of the literature. *Early Child Development & Care*. 2008; 178:745–759.
- Parent, C., Robitaille, C., Fortin, MC., Avril, A. Divorce, Separation, and Remarriage: The Transformation of Family. Emerald Group Publishing Limited; 2016. The role of stepfathers in families receiving support from child protective services; p. 131-159.
- Parke RD, Coltrane S, Duffy S, Buriel R, Dennis J, Powers J, Widaman KF. Economic stress, parenting, and child adjustment in Mexican American and European American families. *Child Development*. 2004; 75:1632–1656. [PubMed: 15566370]
- Resnick MD, Bearman PS, Blum RW, Bauman KE, Harris KM, Jones J, Udry JR. Protecting adolescents from harm: Findings from the national longitudinal study on adolescent health. *JAMA*. 1997; 278:823–832. [PubMed: 9293990]
- Robinson LR, Morris AS, Heller SS, Scheeringa MS, Boris NW, Smyke AT. Relations between emotion regulation, parenting, and psychopathology in young maltreated children in out of home care. *Journal of Child and Family Studies*. 2009; 18:421–434.
- Rohner RP, Veneziano RA. The importance of father love: History and contemporary evidence. *Review of General Psychology*. 2001; 5:382–405. DOI: 10.1037/1089-2680.5.4.382
- Salem DA, Zimmerman MA, Notaro PC. Effects of family structure, family process, and father involvement on psychosocial outcomes among African American adolescents. *Family Relations*. 1998; 47:331–341.
- Sandler I, Miles J, Cookston J, Braver S. Effects of father and mother parenting on children's mental health in high-and low-conflict divorces. *Family Court Review*. 2008; 46:282–296. DOI: 10.1111/j.1744-1617.2008.00201.x
- Sarkadi A, Kristiansson R, Oberklaid F, Bremberg S. Fathers' involvement and children's developmental outcomes: A systematic review of longitudinal studies. *Acta Paediatrica*. 2008; 97:153–158. DOI: 10.1111/j.1651-2227.2007.00572.x [PubMed: 18052995]
- Teisl M, Cicchetti D. Physical abuse, cognitive and emotional processes, and Aggressive/Disruptive behavior problems. *Social Development*. 2008; 17:1–23. DOI: 10.1111/j.1467-9507.2007.00412.x
- US Department of Health and Human Services [USDHHS]. Male perpetrators of child maltreatment: Findings from NCANDS. Washington, D.C: USDHHS; 2005.
- U.S. Department of Health & Human Services [USDHHS], Administration for Children and Families, Administration on Children, Youth and Families, Children's Bureau. Child maltreatment 2015. 2017. Retrieved from <https://www.acf.hhs.gov/sites/default/files/cb/cm2015.pdf>
- Veneziano RA. The importance of paternal warmth. *Cross-Cultural Research*. 2003; 37:265–281.
- White L, Gilbreth JG. When children have two fathers: Effects of relationships with stepfathers and noncustodial fathers on adolescent outcomes. *Journal of Marriage and Family*. 2001; 63:155–167.

Williams SK, Kelly FD. Relationships among involvement, attachment, and behavioral problems in adolescence: Examining father's influence. *The Journal of Early Adolescence*. 2005; 25:168–196.

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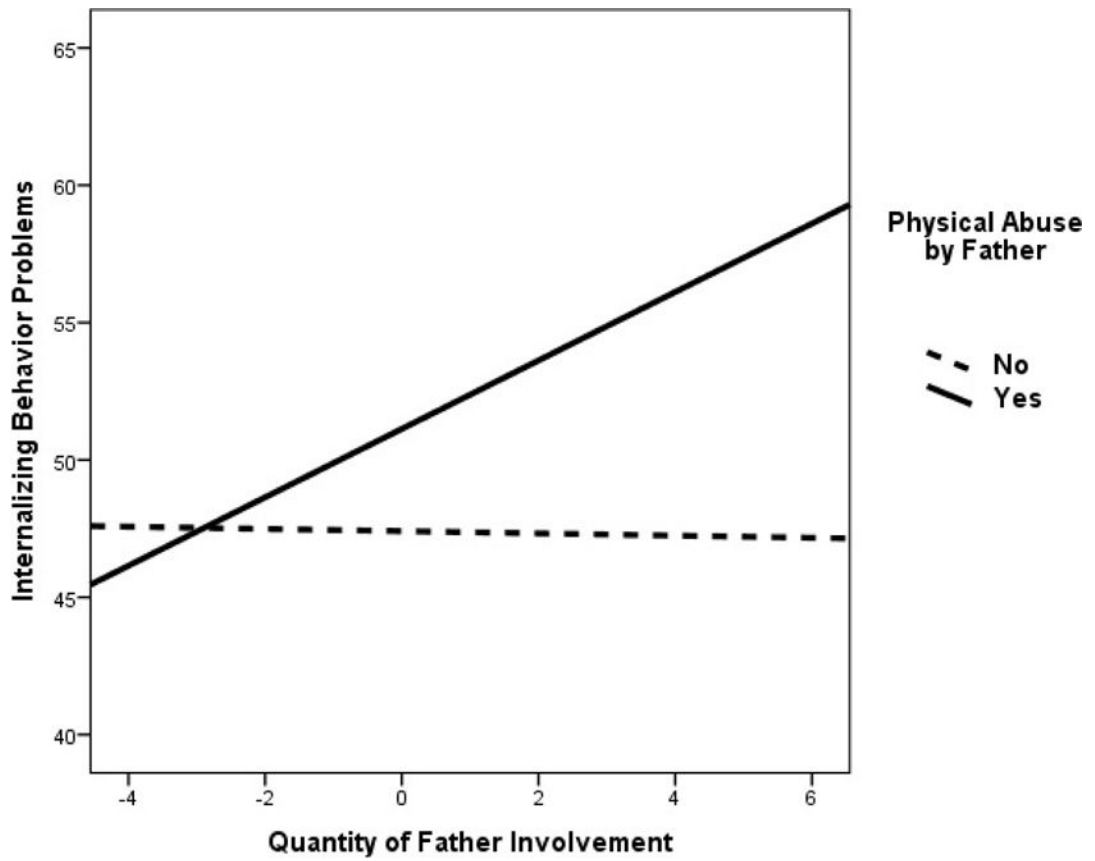


Figure 1. Interaction effects of the quantity of father involvement and father-perpetrated physical abuse on internalizing behavior problems

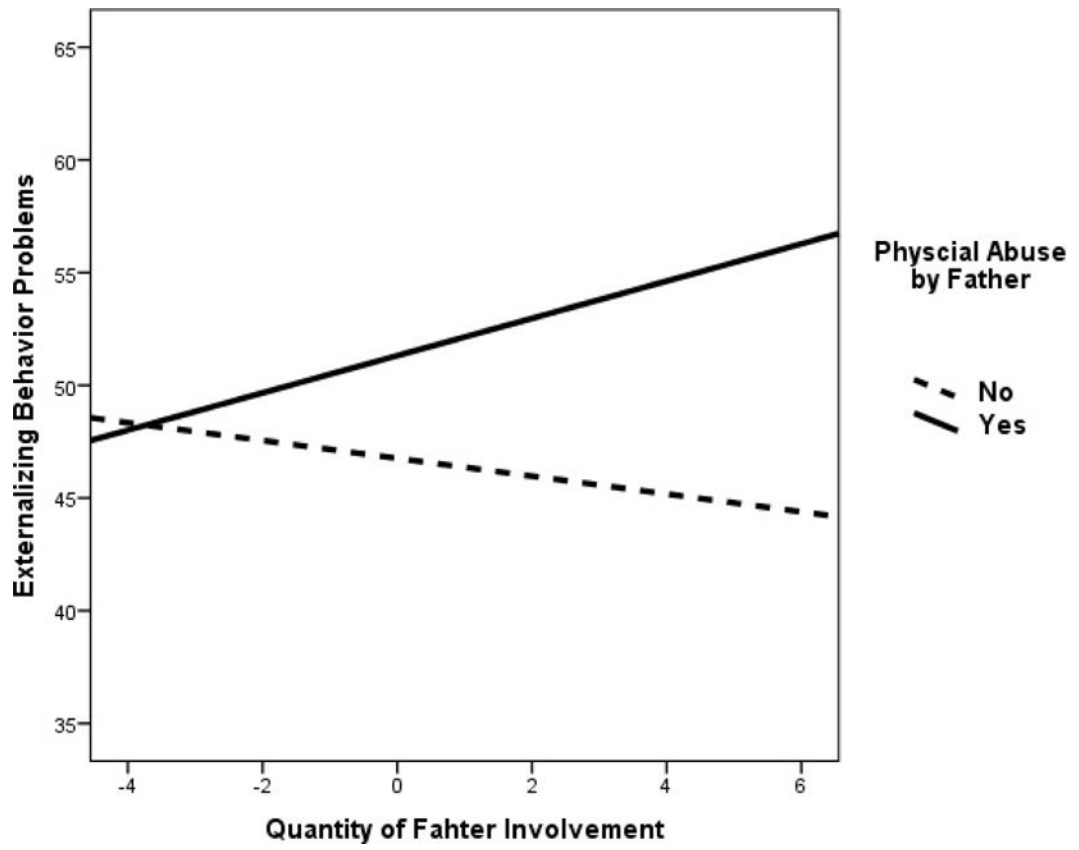


Figure 2. Interaction effects of the quantity of father involvement and father-perpetrated physical abuse on externalizing behavior problems

Table 1

Descriptives and Bivariate Relations of Study Variables (N = 499)

	M (SD)/%	1	2	3	4	5	6	7	8	9	10	11	12
1. Internalizing behavior	46.68 (9.63)	–											
2. Externalizing behavior	48.05 (10.78)	.61***	–										
3. Quantity of father involvement	3.85 (2.49)	.04	-.04	–									
4. Quality of father involvement	24.43 (4.87)	-.14**	-.23***	.52***	–								
5. Biological father	43.50	.01	-.01	.13**	.13**	–							
6. Romantic-partner social father	41.00	.06	.02	-.10*	-.13**	-.68***	–						
7. Relative social father	15.50	-.08	-.03	-.05	.01	-.37***	-.33***	–					
8. CPS ^a report of maltreatment	8.70	.04	.09*	.01	-.05	-.03	-.02	-.01	–				
9. Father-perpetrated physical abuse	24.00	.15**	.19***	-.07	-.15**	.01	.01	-.02	.33***	–			
10. Quantity of mother involvement	5.12 (2.20)	-.05	-.14**	.55***	.26***	-.04	.06	.01	-.04	-.03	–		
11. Quality of mother involvement	26.01 (3.70)	-.28***	-.33***	.26***	.46***	.05	-.04	.01	-.02	-.17***	-.42***	–	
12. Female gender	49.30	.01	.04	-.10*	-.12**	-.06	-.01	.11*	-.01	-.06	.06	-.10*	–
13. Black race	48.30	-.02	-.05	.06	.11*	-.01	-.03	.08	-.01	-.03	.19***	.18***	-.01

^aChild protective services

Table 2

Effects of Father Involvement on Internalizing and Externalizing Behavior Problems (N = 499)

	Internalizing		Externalizing	
	B	SE	B	SE
Quantity of father involvement	.68**	.21	.65***	.12
Quality of father involvement	-.16*	.07	-.31**	.09
Romantic-partner social father	1.04**	.38	.51*	.24
Relative social father	-1.58	.83	-.56	1.39
Physical abuse by father	2.46*	1.15		.80
CPS report of maltreatment	.55	.55	1.75	1.88
Female gender	.04	.37	.53	.83
Black race	.72	.77	.39	.85
Quantity of mother involvement	-.16	.40	-.45	.40
Quality of mother involvement	-.66***	.17	-.75***	.18

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

Table 3

Interaction Effects by Child Maltreatment and Father Type (N = 499)

	Internalizing		Externalizing	
	B	SE	B	SE
Quantity of father involvement × Romantic-partner social father	-.30	.31	-.57	.41
Quality of father involvement × Romantic-partner social father	.00	.14	.15	.23
Quantity of father involvement × Relative social father	.50	.32	.70	.46
Quality of father involvement × Relative social father	.07	.22	-.37	.27
Quantity of father involvement × Physical abuse by father	1.36**	.52	.87*	.35
Quality of father involvement × Physical abuse by father	-.23	.28	.06	.18
Quantity of father involvement × CPS report of maltreatment	.47	.49	.84	.43
Quality of father involvement × CPS report of maltreatment	-.19	.24	-.04	.21
Quantity of father involvement	.37	.20	.50	.25
Quality of father involvement	-.08	.06	-.27*	.13
Romantic-partner social father	1.04***	.30	.60***	.17
Relative social father	-1.50	.81	-.43	1.35
Physical abuse by father	2.49	1.33	.37***	.68
CPS report of maltreatment	.40	.53	1.72	2.11
Female gender	-.30	.41	.28	.97
Black race	.77	.79	.56	.91
Quantity of mother involvement	-.12	.40	-.47	.38
Quality of mother involvement	-.66***	.19	-.78***	.17

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