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Income, Relationship Quality, and Parenting: Associations with Child Development in Two-Parent Families

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Abstract

Prior research suggests considerable heterogeneity in the advantages of living in a two-parent family. Specifically, children living with married biological parents exhibit more favorable outcomes than children living with cohabiting biological parents and with married and cohabiting stepparents. To explain these differences, researchers have focused almost exclusively on differences in the levels of factors such as income, parental relationship quality, and parenting quality across family types. In this paper, we examined whether differences in the *benefits* associated with these factors might also account for some of the variation in children's cognition and social-emotional development. Focusing on children at the time they enter kindergarten, we found only weak evidence of differences in benefits across family types. Rather, we found that children living in stepfather families experienced above average levels of parental relationship quality and parenting quality which, in turn, played a protective role vis-à-vis their cognitive and social-emotional development.

High rates of divorce, non-marital fertility, and multi-partnered fertility in the United States have led to growing diversity and complexity in family arrangements. Whereas the label "two-parent family" once referred to families in which two married adults lived with their joint biological children, today this label also includes families composed of cohabiting biological parents as well as married and cohabiting stepparents. In response to these changes, researchers have become increasingly interested in how children fare in different types of two-parent families, with most studies finding that children who live with their married biological parents have better outcomes than children who live in other types of two parent families (e.g., Artis, 2007; Brown, 2004a, 2006; Hofferth, 2006; Manning & Lamb, 2003). Indeed, in a recent review of the empirical evidence linking family structure and child development, Susan Brown (2010) concludes that "both marital status and biological parentage are integral to children's well-being" (p. 1065). Specifically, children who live in stepfather and cohabiting-parent families exhibit, on average, poorer developmental

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outcomes than children who live with married biological parents (e.g., Artis, 2007; Brown, 2004a, 2006; Hofferth, 2006; Manning & Lamb, 2003).

To explain these differences in child outcomes, researchers have identified a number of characteristics and behaviors that vary by family type and are also associated with child development. Included here are factors associated with selection into different family types (e.g. parental race, age, education) as well as factors that may be both a cause and a consequence of family type (e.g., family income, parental relationship quality, parenting quality) (Brown, 2010; Manning & Brown, 2006; Sweeney 2010). Differences in the levels (average amounts or prevalence) of these factors across family types have been well documented. In particular, most studies have found higher average levels of income and parenting quality in families composed of married biological parents. Yet, scant attention has been paid to whether children in married biological-parent families also benefit more from these factors than other children after accounting for differences in the levels to which they are exposed.

There are good reasons to expect that the benefits of family income, parental relationship quality, and parenting quality for children's development might be smaller in cohabiting and stepparent families than in married biological father families. To begin with, cohabiting and stepparent families have been characterized as "incomplete institutions" (Cherlin, 1978; Nock, 1995), meaning that social norms about parents' rights and obligations are unclear. A stepfather, for instance, may be less likely than a biological father to share his income with a co-resident child if he feels ambivalent about his commitment to the child. Cohabiting and stepparent families may also differ from married biological-parent families in terms of the complexity of family roles and ties. For example, if a stepfather is helping support a child in another household, less of his income is available to the co-resident child. Additionally, spending time with a stepfather may be less rewarding for a child than spending time with a biological father, particularly if the interaction creates feelings of divided loyalty. The presence of a stepfather may also adversely influence a nonresident biological father's involvement or relationship with his child, potentially leading the child to resent the stepfather. In short, whereas there are several theoretical reasons that suggest that associations of family income, parental relationship quality, and parenting quality with child outcomes may differ by family type, this hypothesis has not been systematically tested.

To address this gap, we used data from the Fragile Families and Child Wellbeing Study (FFCW) to first replicate prior analyses focusing on the extent to which differences in levels of family income, parental relationship quality, and parenting quality account for associations between family type and children's cognitive and social-emotional development; we then examined whether associations between family income, parental relationship quality, and parenting quality and children's development differed by family type. The FFCW data are especially well-suited for this line of inquiry because the sample includes a large number of low-SES and minority children who are disproportionately likely to be living in non-traditional two-parent families. We examined children when they were approximately age 5, focusing on their cognitive skills and social-emotional development. These measures are important indicators of school readiness and are strongly correlated with children's future school performance, adolescent adjustment, and adult outcomes (Duncan &

Magnuson, 2011). They are also strongly associated with family income, parenting quality and other aspects of the home environment during infancy and early childhood (Duncan, Magnuson, & Votruba-Drzal, 2014; McLoyd, 1998).

BACKGROUND

The importance of children's home environment for their cognitive and social-emotional development is widely recognized (Bornstein 2006). Beyond genetic endowments, parents tend to make investments in two primary areas: economic resources and parenting quality (Thomson, Hanson, and McLanahan 1994). Parents invest economic resources in children by purchasing the goods and services that promote child development and wellbeing (Berger, Paxson, & Waldfogel 2009). As such, econmic investments depend both on parents' access to economic resources (income) and their decisions about how to allocate their resources. An extensive literature documents positive associations between family income and children's health and development (Duncan, Magnuson, & Votruba-Drzal, 2014). High quality parenting behaviors tend to combine warmth, responsiveness, affection, and support with appropriate control and discipline (Baumrind 1986), as well as to focus on teaching children skills and information in positive and productive ways (Brooks-Gunn & Markman, 2005). A large body of research also documents that the quality of parenting children receive is associated with a range of cognitive and social-emotional outcomes (Steinberg, 2001).

An additional component of children's home environments that may be important for child development is the quality of their parents' relationship. Specifically, the extent to which parents engage in positive interactions with one another and are able to effectively collaborate in parenting activities is likely to influence child wellbeing. Couples with higher quality relationships tend to also engage in higher quality parenting, whereas the parenting behaviors of couples with lower quality or stressful relationships tend to reflect these factors (Carlson et al., 2011). Furthermore, men's roles as partners and parents are particularly closely linked, such that a father's parenting quality is likely to parallel the quality of his relationship with a child's mother (Furstenberg & Cherlin, 1991; Carlson, Pilkauskas, McLanahan, & Brooks-Gunn, 2011). Though less extensive than the research linking family income and parenting quality to child outcomes, existing empirical work has found positive associations between parental relationship quality and child development (Cummings & Davies, 2002; Goldberg & Carlson, in press; Hanson, McLanahan, & Thomson, 1996; King, 2006).

Differences in levels of family income, parental relationship quality, and parenting quality by family type have been previously examined. Numerous studies have found that cohabiting and stepparent families are relatively socioeconomically disadvantaged compared to married and biological-parent families (Berger & Langton, 2011; Brown, 2004a, 2006; Eggebeen, 2005; Hofferth & Anderson, 2003; Hofferth, 2006; Manning & Brown, 2006; Manning & Lamb, 2003; Manning & Lichter, 1996; Manning, Smock, & Majumdar, 2004). The evidence regarding parental relationship quality is less abundant. On the whole, however, existing studies suggest that there are few differences in parental relationship quality by family type and that, when such differences are observed, they tend to be small in

magnitude (Adamsons, O'Brien, & Pasley, 2007; Brown, 2004b; Carlson, 2007; Carlson et al., 2011; Hanson et al., 1996). Finally, most prior evidence suggests that parenting quality is higher in married biological-parent families than in other family types (Berger, 2007; Berger & Langton, 2011; Hofferth et. al., 2007; Hofferth & Anderson, 2003; Klausli & Owen, 2009; Marsiglio, 2004). In contrast, however, recent analyses of FFCW data have found that (particularly married) stepfathers engage in parenting behaviors—engagement with children, coparenting, and spanking frequency—that are equivalent to or of higher quality than those of biological fathers (Berger et al., 2008; Gibson-Davis, 2008). Furthermore, whereas research has consistently linked higher levels of involvement by (resident) married biological fathers with better child outcomes, little is known about potential links between cohabiting and stepfather involvement and child wellbeing (Carlson & Magnuson, 2011).

In short, prior research has established that family income, parental relationship quality, and parenting quality are associated with child development. It has also documented that family income and parenting quality frequently differ by family type. Yet, differences in levels of family income, parental relationship quality, and parenting quality have not been shown to fully explain differences in child wellbeing across family types. In other words, controlling for these factors has not been shown to eliminate differences by family type in children's developmental outcomes. As such, it is important to examine whether identical levels of income, parental relationship quality, and parenting quality may have different benefits for child development in different family types.

We are aware of only one study that explicitly investigated this possibility. Bzostek (2008), using FFCW data, found no differences in the association of resident biological father or stepfather involvement with child wellbeing with regard to aggressive, anxious/depressive, and withdrawn behavior problems, as well as overall health. The study, however, examined only one measure of parenting quality—father involvement, which was operationalized by the number of days in a typical week that the biological father or stepfather participated in a range of activities with the child—and did not distinguish by the parents' marital status. In contrast, our analyses examined a broader set of family characteristics—income, parental relationship quality, and parenting quality measures—and focused on both the father's biological status and the parents' marital status.

Why might the benefits of family resources, parental relationship quality, and parenting quality differ by family type?

There are several reasons why the benefits of family income, parental relationship quality, and parenting quality might be expected to differ by family type. First, the instability associated with both cohabitation and stepfamily formation (parental break-up and repartnering) implies that many children in cohabiting-parent and stepfather families will have experienced one or more family structure transitions and associated disruptions in their relationships with caregivers (Osborne, Manning, & Smock, 2007). As such, children in cohabiting-parent and (particularly) stepfather families may have more difficulty attaching to caregivers than those in married biological-parent families. Attachment theory further suggests that father-child bonds will be more difficult to forge in stepfather families than in

two-biological-parent families, such that there should be more variation in the quality of father-child bonds in stepfather families (Hetherington, 1999). If children in cohabiting and stepfather families have poorer attachments to their caregivers, they may be less receptive or responsive to caregiver investments. Of course, it is important to recognize that attachment theory does not preclude the formation of strong bonds between stepfathers and children. Rather, the quality of these bonds is likely to vary by the characteristics of the mother, stepfather and child, the amount of instability a child has experienced, the length of the relationship between the child and stepfather, the child's perception of the stepfather's investment in him or her as well as in his or her mother, and the child's developmental stage at the time the relationship was initiated. Children's responses to parental investments in these family types are likely to vary accordingly.

From a risk and resiliency perspective, maternal repartnering entails changes that may have positive (e.g., increased family income) or adverse (e.g., increased stress or parent-child conflict) consequences for children, depending upon the ability of the mother, child, biological father, and stepfather to successfully adapt to the reorganization of the family (Bray and Berger, 1993; Hetherington, 1999; Hetherington and Stanley-Hagen, 1999; Hetherington and Jodl, 1994). Whereas a stepfather may bring income into a family, engage in shared parenting or share household duties, provide supervision, act as a role model, and/or provide emotional support to the mother or child, thereby increasing the resources and parental time available to a child and, potentially, easing maternal stress (Furstenberg, 1996), his entry into the family may also be associated with increased tension in parent-child, mother-father, and/or mother-stepfather relationships, as well as resentment on the part of the child (Hetherington, 1999). These factors may affect children's development through their access to goods and services as well as socialization activities and stress (DeLeire and Kalil, 2002), the consequences of which may differ by child characteristic and developmental stage. In short, associations between stepfather family type and child outcomes are likely to vary by factors associated with whether parents and children are vulnerable or resilient to family transition processes. Such factors may matter less in stable two-biological-parent families which, by definition, have not experienced family instability.

A second reason why the benefits of parental resources and behaviors might differ by family type arises from the complexity associated with cohabiting and stepfather families, which may reduce the amount of time and energy a parents can devote to children. For example, if a child has a father living outside of the household, the mother must spend time and energy obtaining child support from him and arranging visitation. If she has children with multiple nonresident fathers, the time and energy required for managing these relationships is even greater. A similar issue arises when a resident (cohabiting or married) biological father or stepfather has children in another household. In these situations the father is likely spending time and money on his non-resident children, which reduces the resources available to the resident child and might also create tension in the parents' relationships (Monte, 2007; Tach & Edin, 2013). Family complexity of this type is more common among cohabiting-parent and stepfather families than among married two-biological-parent families (Berger & Bzostek, 2014). In addition, current evidence suggests that, when mothers repartner, nonresident biological fathers decrease their investments in children with regard to both visitation and child support payment (Berger, Cancian, & Meyer, 2012; Tach, Mincy, &

Edin, 2010). This behavior may cause children to feel rejected by their biological father and, thereby, adversely influence their ongoing attachments to their caregivers, and/or cause them to resent the stepfather. Furthermore, children may resent the time and energy their mother invests in their stepfather, perhaps feeling that she has chosen the stepfather over them. Each of these factors may reduce the extent to which children benefit from family income, parental relationship quality, and parenting quality.

A third reason why the benefits of parental income, parental relationship quality, and parenting quality might differ across family types is that children may respond differently to identical parental behaviors (Ganong et al., 1999). Evidence suggests that children are likely to challenge or subvert a stepfather's authority and that they have little motivation to meet his expectations (Schmeekle et al., 2006). In addition, the extent to which children accept (particularly cohabiting) stepfathers as legitimate parental figures, feel close to them, or view them as "family" varies considerably (Hetherington et al., 1999; Schmeekle et al., 2006), including by the child's age at the time stepfather joined the family, which we discuss below. Relative to children's relationships with their biological fathers, relationships with stepfathers are more likely to evoke jealousy, competition, resentment, guilt, and loyalty-related conflict, as well as to lack a sense of "we-ness" (Marsiglio, 2004). Indeed, even when a stepfather exhibits "readiness to nurture, provide for, protect, and see a stepchild as though the child were his own," the child may not reciprocate, nor "claim" the stepfather as a parent (Marsiglio, 2004, p. 23). Many stepfathers describe being "keenly aware of a child's effort to sustain borders" (Marsiglio, 2004, p. 35), such that their attempts to establish closeness are frequently rebuffed (Hetherington et al., 1999). Inconsistent or conflicting intentions and perceptions of interactions, behaviors, and experiences by children and stepfathers appear to be common; this, too, may adversely affect the quality of parent-child relationships (Stewart, 2005). Furthermore, children's relationships with their stepfathers may also vary by the nature of the stepfather's relationship with their biological father and the degree to which their biological father and stepfather compete for the child's loyalty (Marsiglio & Hinojosa, 2007). Children's relationships with their mothers may also be strained by the presence of a stepfather, which in turn, may affect their relationship with him. The quality of the mother-child relationship has been linked to stepfathers' behaviors toward children, such that stepfathers tend to reinforce or replicate mothers' parenting behaviors (Marsiglio, 2004). Each of these factors may affect how a child reacts to, or interacts with, a stepfather versus a biological father, and, thereby, how the child responds to parental behaviors—by both the mother and stepfather—in stepfather families.

The instability associated with parental cohabitation may also affect children's reactions to parental behaviors, and this may be especially true with regard to cohabiting stepfather families. Specifically, (older) children, and particularly adolescents, may be more likely to view married stepfathers than cohabiting stepfathers as family members. Thus, they may establish a greater sense of unity with a married stepfather because they interpret the marriage itself as indicative of a considerable commitment on his part to the family as a whole (including to them), rather than solely to the mother (Schmeekle et al., 2006). In contrast, they may view cohabitation as a weaker and less secure commitment to the mother or family. For these reasons, identical investments of parental resources and associated parental behaviors may yield fewer benefits in the context of a stepfather or cohabiting-

parent family than in a married biological-parent family. That is, the same behavior (e.g., reading to a child, disciplining a child) may have a different influence when performed by a biological father or married or cohabiting stepfather because children respond differently to each. Likewise, the benefits of maternal behaviors may differ by family type if children perceive such behaviors less favorably in the context of a cohabiting-parent or stepfather family. Again, this may occur in concert with the role ambiguities, divided loyalties, and general instability that have been associated with these family types. For all of these reasons, the processes through which human capital is created or transferred, so called social capital (Coleman, 1988), may be less efficient in cohabiting-parent and stepfather families relative to marred biological-parent families, thereby limiting the productive socialization and facilitation of skills to children.

Of course, how children react to parental investments and behaviors may substantially vary by developmental stage. Younger children, for example, may not be cognizant of a difference between marriage and cohabitation. If so, then we would expect no differences by marital status in associations of family income, parental relationship quality, or parenting quality with child outcomes, conditional on biological status. More generally, developmental theory suggests that maternal repartnering may present a different set of challenges for children of different ages (developmental stages), as children's developmental needs differ in early, middle, and later childhood and adolescence (Hetherington, 1999). Bray (1999), for example, argues that maternal re-partnering may be congruent with the needs of young children because both the newly forming family and the child require strong bonds and cohesive relationships. On the other hand, maternal re-partnering may conflict with the needs of older children and adolescents as the new couple may be attempting to create a cohesive family at the same time the child is attempting to separate from the family. Furthermore, older children may express more resentment of the social father than younger children (Hetherington, 1999). Thus, it is possible the (approximately) 5-year-old children that are the focus of this study may respond similarly to parental investments in the context of a stepfather family as in a biological father family. Likewise, these children's responses to parental investments may not vary by marital status. Because it is unclear whether the benefits of family income, parental relationships quality, and parenting quality for 5-year-old children should be expected *a priori* to differ by two-parent family type, this line of inquiry is ripe for empirical examination.

Focusing on 5-year-old children is also relevant because these children are entering a period of development characterized by the initiation of schooling and the transition from early- to middle-childhood. During this stage, children are increasingly influenced by social contexts beyond their home and family; yet, they continue to require high amounts of parental investment and engagement, which have a relatively less prominent influence on their development as they move further into middle childhood (Eccles, 1999). Whereas early stages of childhood are marked by the need for close intimate relationships, autonomy becomes increasingly more important as children age (Schmeekle et al. 2006). As such, family composition, functioning, and investments, including the family income, parental relationship quality, and parenting quality to which children are exposed, are likely to play a key role in the developmental tasks associated with this stage of development. Furthermore,

father involvement tends to be at its highest as children first enter middle childhood, and to decrease with child age beginning at about age 6 (Bruce & Fox, 1999; Maume, 2011).

Finally, it is important to note that social selection is known to play a considerable role with regard to family structure, family functioning, and child wellbeing. That is, individuals who are more socioeconomically advantaged are disproportionately likely to select into married biological-parent families as compared to other family types (Berger & Langton, 2011; Brown, 2004a, 2006; Eggebeen, 2005; Hofferth & Anderson, 2003; Hofferth, 2006; Manning & Brown, 2006; Manning & Lamb, 2003; Manning & Lichter, 1996; Manning, Smock, & Majumdar, 2004a). Moreover, those characteristics that are associated with socioeconomic advantage and selection into a married biological-parent family (greater education, higher income, delayed fertility, better health/mental health, being of the majority race/ethnicity) are also associated with higher ongoing family income, parental relationship quality, and parenting quality, as well as enhanced cognitive and social-emotional development for children. Prior research suggests that adjusting for these observed differences attenuates, but does not fully eliminate, associations between family type and child outcomes. Nonetheless, causal relations cannot be assumed. Like other research in this area, we caution that our estimates should be interpreted as providing descriptive evidence about the role of family income, parental relationship quality, and parenting quality vis-à-vis association between two-parent family type and child development; they do not lend themselves to causal inference.

METHOD

Sample

Our data were drawn from FFCW, a population-based, longitudinal birth cohort study of 4,897 children born between 1998 and 2000 in large U.S. cities (see Reichman et al., 2001). The study design incorporated a three-to-one over-sample of non-marital-to-marital births. As such, the sample includes large proportions of Black, Hispanic, and low-income children, children with nonresident fathers, and children whose families were relatively socioeconomically disadvantaged. These children are disproportionately likely to experience family structure transitions and family complexity relative to the average child in the U.S.

FFCW interviewed families in person at the time of the focal child's birth and by telephone when the child was approximately 1, 3, 5, and 9 years old. In each interview, parents provided information about family characteristics, resources, and functioning. Subsequent to the age 3, 5, and 9 interviews, families were asked to participate in an in-home assessment of parenting and child wellbeing through both a questionnaire and interviewer-observed items. Families that refused an in-home visit were asked to complete the questionnaire portion of the module by telephone. Our outcome variables were drawn from the age-5 in-home assessment.

We utilized multiple imputation techniques to impute values for all variables with missing data for the full FFCW sample of 4,897 children. Specifically, we imputed 10 complete datasets using Stata's ICE program. Of the original 4,897 families, 4,130 (84%) participated in the year 5 study. Of those, 1,651 (40%) were living with a single mother and were thus

excluded from our analyses. Of the 2,479 (60%) who were living in a two-parent family, 1,123 (45%) had missing data for cognitive skills and 711 (29%) had missing data for social-emotional development (behavior problems). These cases were thus excluded from the relevant models. Among those 1,769 (71%) that had valid data on at least one outcome, the proportion of missing (imputed) data was less than 5% with respect to each covariate except the mother's report of the (biological or step) father's age (8%) and of her mother's (29%) and her father's (49%) mental health problems and history.

After imputing data for the full FFCW sample, we limited our analysis sample to observations of children living with their biological mother and either their biological father or a stepfather at the time of the age-5 interview. It is possible that some of these children had been adopted by their stepfather. Unfortunately, this information is not available in the data; thus, we are unable to take it into account. We note, however, that even if such information were available, the sample size of such children would likely be too small for meaningful analysis. Across the 10 imputed datasets (totaling 48,970 observations) we excluded 1,567 (3.2%) observations (ranging from 122 to 195 observations per dataset) of children who were not living with their biological mother at least half-time and an additional 19,880 (41.6% of the original sample) observations (1,895 to 2,081 per dataset) of children who were living with a single-mother at the time of the interview. This resulted in a potential analysis sample of 27,533 observations (2,695 to 2,817 per dataset). We then followed Von Hippel's (2007) recommendation that cases that originally had missing data on the outcome measures be deleted from the sample after all missing data have been imputed.

Our analyses focused on three outcomes (described below) comprised of the child's scores on the Peabody Picture Vocabulary Test (PPVT) and the internalizing and externalizing behavior problems subscales of the Child Behavior Checklist (CBCL). The sample size for models using the PPVT, which must be completed in person, was considerably smaller than that for internalizing and externalizing behavior problems, which can be completed by telephone. A total of 17,642 observations (1,762 to 1,767 per dataset) met our sample inclusion criteria and had non-missing values on at least one outcome; respectively, 13,422 (1,341 to 1,343 per dataset) and 17,509 (1,749 to 1,753 per dataset) met our sample inclusion criteria and had non-missing scores for the PPVT and behavior problems measures.

Measures

Cognitive skills and behavior problems—Cognitive skills were assessed by the PPVT (Dunn & Dunn, 1997), which measures children's receptive vocabulary. The PPVT has been widely used to measure language and cognitive ability and must be administered in person. Behavior problems were assessed by the internalizing and externalizing behavior problems subscales of the CBCL (Achenbach, 1991). The CBCL is a commonly used measure of children's behavior problems. It is completed by the adult respondent to the survey, typically the child's mother, and can be administered by telephone. The externalizing behavior problems subscale ($\alpha = .86$) included in the age-5 FFCW in-home assessment consists of 30 items assessing aggressive and delinquent behaviors. The internalizing behavior problems

subscale (α = .75) consists of 23 items assessing anxious/depressed and withdrawn behaviors. To ease the interpretation of our estimates, we standardized each of the outcome variables to have a mean of 0 and a standard deviation of 1.

Family type—We measured family type at age 5 with four dichotomous variables indicating whether the focal child lived in a: (1) married, biological-father family (51%), (2) cohabiting biological-father family (22%), (3) married stepfather family (6%), or (4) cohabiting stepfather family (21%).

Family income, parental relationship quality, and parenting quality—Our measures of family income, parental relationship quality, and parenting quality were assessed at the age-5 interview, concurrently with family type, cognitive skills, and behavior problems. Family income was operationalized as the logarithm of total household income from all sources.

Parental relationship quality consisted of two measures: the biological or social father's treatment of the mother and coparenting quality. The father's treatment of the mother was assessed by the mean score of 16 items (α = .80) ranging from "he is fair and willing to compromise when you have a disagreement" to "he hits you with a fist or an object that could hurt you." Each item was measured on a one- to three-point scale. The quality of the coparenting relationship comprised the mean score of three measures (α = .62), each assessed on a one- to four-point scale: shared responsibility for parenting (the frequency with which the father looks after the focal child and the frequency with which he takes the child to appointments such as daycare or the doctor); participation in household chores (the frequency with which the father runs errands for the mother and the frequency with which he fixes things around the house or helps make the home look nicer); and cooperation in parenting (the mother's reports of the extent to which the biological father or stepfather acts like the kind of parent she wants for her child, can be trusted to take good care of the child, respects the mother's schedules and rules for the child, supports the mother in the way she wants to raise the child, talks with the mother about problems related to raising the child, and can be counted on to look after the child for a few hours).

Parenting quality was operationalized by four measures: mother spanking frequency, mother engagement with the focal child, biological father or stepfather spanking frequency, and biological father or stepfather engagement with the focal child. Spanking frequency was measured by a single item reflecting the frequency with which the mother or father parent spanked the child in the last month (0–4 points). Engagement with the focal child was assessed by the mean number of days in an average week (0 to 7) that the mother or father participated in each of 8 activities with the child (α = .69 for mothers and .87 for fathers). The activities included singing songs or nursery rhymes, reading stories, telling stories, playing inside with toys, telling the child he/she appreciated something the child did, playing outside in the yard with the child, taking the child on outings, and watching TV or a video with the child. For ease of presentation, we standardized all of the parental relationships quality and parenting quality measures to have a mean of 0 and a standard deviation of 1.

Controls—We incorporated in our analyses a range of control variables that are likely to be associated with both family type and children's developmental outcomes and have, therefore, been controlled in prior studies (e.g., Hofferth, 2006). These included the mother's race/ethnicity (white, black, Hispanic, other), age, nativity, educational attainment at the time of the focal child's birth (less than a high school degree, a high school degree or GED, more than a high school degree), the child's sex, and whether the child was born with a low birth weight. We also included the mother's report of her mother's and her father's mental health problems and history (measured at the age-3 interview). These measures were derived from items on the National Comorbidity Survey. They consist of the mother's report at the age 3 interview of the number (0–28) of symptoms and social problems associated with mental health disorders that each of her parents exhibited, and served in our analyses as exogenous proxy for the mother's mental health. Finally, we included in our regression models the co-resident (biological or step) father's age and educational attainment, which were measured at the age-5 interview (concurrent with the family type and outcome measures).

Analytic strategy

The first step in our empirical work was to examine mean differences between family types in each outcome and predictor. We thus engaged in bivariate analyses to assess how average levels of child cognitive skills and behavior problems, family income, parental relationship quality, parenting quality, and other family characteristics differed by family type. Next, we replicated prior work by estimating a series of ordinary least squares (OLS) regressions in which each outcome was regressed on the family type indicators as well as family income, parental relationship quality, parenting quality, and the control variables. Specifically, we estimated five sequential models. The first model included only the family type indicators, but no covariates. We then sequentially added the control variables (Model 2), family income (Model 3), parental relationship quality (Model 4), and parenting quality (Model 5). These analyses assessed how differences in levels of family income, parental relationship quality, and parenting quality contributed to differences in child outcomes across family types. Finally, we estimated the associations of income, parental relationship quality, and parenting quality with children's cognitive skills and behavior problems for each family type using OLS regressions in which each outcome was regressed on the full set of covariates. We estimated these regressions separately for each family type and tested the statistical equivalence of the coefficients for each variable across equations. These analyses focused on whether the associations (benefits) of family income, parental relationship quality, and parenting quality with child cognition and behavior problems differed by family type. We used Stata's MIM program to produce these estimates utilizing the 10 imputed datasets.

RESULTS

Descriptive statistics

Descriptive statistics by family type are presented in Table 1. Children in married biological-father families had higher PPVT scores than children in all other family types. Mean PPVT scores for children in other family types did not significantly differ from one another, with the exception that children in cohabiting stepfather families had lower scores

than those in married stepfather families. In general, children in married biological-father families also had fewer internalizing and externalizing behavior problems than children in other family types. Again, there were few differences among children in the other family types, although children in cohabiting stepfather families had more externalizing behavior problems than those in cohabiting biological-father families.

Given prior research, we expected to find differences in family income across family types, with married biological-father families being more economically advantaged than other two-parent families. The descriptive statistics confirmed this expectation. There were significant differences in family income between all four family types, such that married biological-father families had the highest incomes, followed by married stepfather families, cohabiting biological-father families, and cohabiting stepfather families. The patterns for parental relationship quality and parenting quality, however, were more mixed. In general, mothers in stepfather families (married or cohabiting) reported greater parental relationship quality than mothers in biological-father families, in terms of both the father's treatment of her and their coparenting practices. With regard to parenting quality, mothers in cohabiting stepfather families spanked their children more than mothers in married biological-father families, whereas stepfathers spanked children less than biological fathers. Finally, married stepfathers had higher levels of engagement with children than married biological fathers.

Turning to the control variables, consistent with prior research we found that married biological-father families were generally more sociodemographically advantaged than other families. For example, parents in these families had greater average levels of educational attainment, mothers tended to be older at the time of the focal child's birth, and these families were disproportionately white relative to cohabiting and stepfather families. Interestingly, however, mothers in stepfather families were more likely to be US born than those in biological-father families. In the regression models that follow, we adjust for these differences in the background characteristics of the individuals selecting into each family type.

Combined OLS Regressions

Table 2 presents results from OLS regressions for the full sample of families. These analyses provide insight into how differences in levels of family income, parental relationship quality, and parenting quality across family types may influence associations of family type with child cognition and social-emotional development. Model 1 was a regression of the (standardized) cognitive skills or behavior problems score on the indicators for family type, without any controls. We then sequentially added family characteristics in Model 2, family income in Model 3, parental relationship quality in Model 4, and parenting quality in Model 5.

One general pattern that emerged from these results was that adjusting for family income and the control variables accounted for a substantial portion of the difference in cognitive skills and behavior problems between children in married biological-father families (the reference group) and children in all other family types. This pattern held for each family type, with respect to each outcome, with the single exception of the gap between children in married biological-father families and married stepfather families with regard to

internalizing behavior problems. Including family income and the control variables in the regression model explained (attenuated) 63% of the gap in cognitive skills between married and cohabiting biological-father families (the coefficient for cohabiting biological-father family in the PPVT regression decreased from −.51 to −.19 SDs with the addition of these covariates), 29% of the gap in cognitive skills between children in married biological-father and married stepfather families, and 49% of the gap in cognitive skills between children in married biological-father and cohabiting stepfather families. For internalizing and externalizing behavior problems, these gaps were reduced by 54%, −17%, and 12%, and 53%, 32%, and 26%, respectively, when family income and the control variables were added to the models.

A very different pattern emerged when we added parental relationship quality and parenting quality to the models. Adjusting for these factors further attenuated the coefficients for cohabiting biological-father family, by 5%, 36%, and 11%, for cognitive skills, internalizing behavior problems, and externalizing behavior problems, respectively. It also attenuated the coefficient for cohabiting stepfather family by 14% with respect to cognitive skills. That adjusting for parental relationship quality and parenting quality functioned to decrease the gap between children in married and cohabiting biological-father families with regard to each outcome reflects the fact that married biological-father families exhibited higher quality parental relationships than cohabiting biological-father families.

In contrast, adjusting for parental relationship quality and parenting quality functioned to *increase* the coefficient for cohabiting stepfather family by 14% with respect to cognitive skills, as well as the coefficients for both married and cohabiting stepfather family with regard to internalizing behavior problems (by 48% for married stepfather family and 27% for cohabiting stepfather family) and externalizing behavior problems (by 80% and 21%). Indeed, after adjusting for parental relationship quality and parenting quality, we found the associations of married stepfather family type with both internalizing and externalizing behavior problems to be even larger than they were in the unadjusted models (Model 1). Likewise, the association of cohabiting stepfather family type was larger in the full model than it was in the unadjusted model for internalizing behavior problems, whereas it was slightly smaller in Model 4 than in Model 1 for externalizing behavior problems. These relatively large suppressor effects reflect that stepfather families—and married stepfather families in particular—had higher quality parental relationships and higher quality parenting behaviors than (married and cohabiting) biological-father families. Were it not for these high quality parental relationships and parenting behaviors, children in stepfather families would have exhibited even poorer (particularly behavioral) outcomes.

OLS Regressions by Family Type

Tables 3, 4, and 5 present regression coefficients for the associations of family income, parental relationship quality, and parenting quality with each outcome by family type. Statistically significant ($p<.05$) differences between family types are noted in the tables. Relatively few of the differences met this benchmark. Indeed, the only significant difference for cognitive skills (Table 3) was for the association between coparenting quality and children's PPVT scores for married and cohabiting biological-father families. Here, higher

quality coparenting was associated with lower PPVT scores for children in married biological-father families but not for children in cohabiting-biological father families; this counterintuitive finding is not easily explained.

Turning to internalizing behavior problems (Table 4), we found a much stronger inverse association between coparenting quality and internalizing behaviors problems in married stepfather families than in both married and cohabiting biological-father families. No other differences were significant. Finally, we found a larger inverse association between maternal engagement with the child and externalizing behavior problems (Table 5) in cohabiting biological-father families than in either married biological-father families or cohabiting stepfather families. In addition, father engagement with the child was associated with greater behavior problems in cohabiting stepfather families than in marred biological-father families.

Finally, despite a lack of statistical significance, the parental relationship quality and parenting quality coefficients sometimes differed considerably in magnitude across family types, and most notably between married stepfather families and other family types. For example, both the father's treatment of the mother and coparenting quality had a much larger positive association, whereas father's spanking had a much larger inverse association, with cognitive skills in married stepfather families than in other family types. Likewise, the father's treatment of the mother and coparenting quality had larger inverse associations with both internalizing and externalizing behavior problems in married stepfather families than in other family types. Thus, although we cannot conclude that the associations of family income, parental relationship quality, and parenting behaviors with children's cognitive skills or behavior problems differ across two-parent family types, these results provide some suggestive evidence that parental relationship quality may be more closely associated with these outcomes in married stepfather families than in other family types.

DISCUSSION

Consistent with prior research, our data indicated that, on average, children living with their married biological parents exhibited greater cognitive skills and fewer behavior problems than children in other two-parent family types, and that children in all other family types were similar to one another in terms of cognitive skills and behavior problems (Artis, 2007; Brown, 2004a; Hofferth, 2006; Manning & Lamb, 2003). Given existing theory and prior empirical research, we expected to find higher levels of family income and parenting quality among biological-father and married-parent families and, in particular, among married biological-parent families. This expectation was confirmed with regard to family income. We did not, however, find consistently higher levels of parental relationship quality or parenting quality among married biological-parent families. Indeed, although maternal spanking was most frequent in cohabiting stepfather families, lending some support to our hypothesis, stepfathers engaged in considerably less spanking than biological fathers. In addition, married biological fathers exhibited lower levels of engagement with their children than cohabiting biological fathers and (married and cohabiting) stepfathers, whereas maternal engagement with children did not differ by family type. These patterns are inconsistent with findings from the majority of prior empirical studies (Hofferth, 2006;

Hofferth et. al., 2007; Hofferth & Anderson, 2003; Klausli & Owen, 2009; Marsiglio, 2004). They are consistent, however, with findings from several recent analyses of FFCW data (Berger et al., 2008; Carlson & Berger, 2013; Gibson-Davis, 2008).

We also found considerable evidence that high quality parental relationships and parenting behaviors among stepfather families play a protective role with regard to child cognition and, in particular, social-emotional wellbeing. Had children in stepfather families not experienced high quality parental relationships and parenting behaviors, they would have fared considerably worse—indeed, after adding these variables to our regression models, the behavior problems coefficients increase in magnitude by roughly 50%. This implies that those mothers in the FFCW sample who chose to repartner, particularly into marriage, did so with men who they perceived to be treating them and their children well. These behaviors, in turn, appear to be positively associated with their children's development. Furthermore, these large suppressor effects stand in contrast to most prior research which has generally identified family income, parental relationship quality, and parenting quality as mediators of associations between family type and child wellbeing (Carlson & Magnuson, 2011).

Given that FFCW is comprised of urban families and that our analyses were conducted using data collected when the sample children were approximately five years old, it is possible that the patterns described here may not generalize to non-urban populations, or to older children. Furthermore, our findings are subject to at several potential interpretations. First, the higher quality parental relationships and parenting behaviors among (married) stepfather families that we observed may reflect the fact that the parental partnerships in these families were newer than those in biological-parent families. If so, it will be important for future research to monitor whether the relatively high quality parental relationships and parenting behaviors in these families persist over time. Second, the high quality parental relationships and parenting behaviors that we observed among stepfather families may suggest that urban mothers are highly selective in choosing new partners, which is consistent with work by Bzostek and colleagues (2012). Third, maternal repartnering in early childhood may be associated with higher quality relationships, behaviors, and outcomes than maternal reparterning in later childhood or adolescence (Bray, 1999; Schmeekle et al. 2006), such that our findings may reflect the sample children's age. Fourth, the FFCW sample constitutes a more recent birth cohort than the samples available in other national studies. Thus, our findings may reflect trends that are too recent to have been detected in prior studies. Future research should attempt to determine which of these factors may be the driving force behind the relatively high quality parental relationships and parenting behaviors observed among stepfather families in these data. It should also consider potential heterogeneity based on child age, both concurrently and at the time a stepfather joined the family, as well as by other socioeconomic characteristics.

We also expected that the associations (benefits) of family income, parental relationship quality, and parenting quality with children's cognitive skills and social-emotional development would be greatest for children in biological-father and married-parent families. We found no evidence that this was the case. Specifically, we found very few statistically significant differences by family type in associations of family income, parental relationship quality, and parenting quality with children's cognitive skills and behavior problems.

Furthermore, the few associations that did significantly differ did not consistently favor any particular family type.

At the same time, however, results from our analyses suggested a trend whereby associations of parental relationship quality (the father's treatment of the mother and coparenting quality) with higher cognitive scores and fewer behavior problems were substantially larger in magnitude for children in married stepparent families than for children in other family types, although these differences were not statistically significant. It is possible that these differences did not attain statistical significance due to limited statistical power; only 6% of sample children (about 80 children for the PPVT analyses and 100 children for the behavior problems analyses) resided in a married stepfather family at age 5. However, we cannot be certain that this is the case. Thus, future research should further examine whether the positive influences of high quality parental relationships and parenting behaviors on child development are similar for children in married stepfather families as compared to those in other two-parent family types.

On the whole, our findings lend no support to theories that family income, parental relationship quality, and parenting quality are less beneficial to children in stepfather families as compared to those in biological father families, or to children in cohabiting-parent families as compared to those in married parent families. Rather, children appeared to respond similarly to these factors in all of the types of two-parent families that we considered, despite theories that social capital is lower and transaction costs are higher in stepfather families as compared to biological-father families. Nonetheless, given that ours is the first study to explicitly examine whether there are differences by family type in the benefits of family income, parental relationships, and parenting quality, it will be important for future research to more fully examine whether and how variation in social capital and family processes across family types may influence the socialization process and the transmission of human capital to children. Along these lines, it will also be important for future research to seek a better understanding of what drives differences in family income, parental relationship quality, and parenting quality in different family types, as well as whether these factors may differentially influence various domains of child development.

Several limitations of our analyses warrant consideration. First, we examined only static, short-term cognitive and social-emotional outcomes for children at age 5 and did not take a dynamic approach to changes in family structure over time and their potential influences on child wellbeing. Although we found static differences in child outcomes by family type, it is possible that these associations may, at least in part, reflect relatively recent family transitions, given that the children in our sample were still young. To the extent that these associations are linked to family transitions, rather than to residence in a particular family type, they may fade over time. If so, then our analyses may have overestimated both positive and negative associations between family type and child wellbeing. If for, example, family members are on their best behavior in the early stages of maternal repartnering, we may expect the positive associations between stepfather family type and child wellbeing to fade over time. On the other hand, if children respond most negatively to maternal repartnering in its early stages and adjust to new family roles and routines over time (Bray and Berger, 1993; Hetherington, 1999; Hetherington and Stanley-Hagen, 1999; Hetherington and Jodl,

1994), then we may expect negative associations to fade (or positive associations to strengthen) over time.

As noted above, the high quality parental relationships and parenting behaviors observed among the stepfather families in our sample may reflect that mothers were particularly selective in choosing stepfathers for their children. Additionally, however, this finding may reflect a "honeymoon" effect given that the mother-stepfather partnerships were relatively new. Specifically, stepfathers may make extra efforts toward their partners' children early in their relationships. The former hypothesis is consistent with recent findings by Bzostek and colleagues (2012), which suggest that mothers tend to "trade-up" when choosing new partners. Both of these hypotheses are consistent with findings by Berger and colleagues (2008) and Carlson and Berger (2013), which intimate that stepfathers engage in relatively high quality parenting practices toward young children. Furthermore, younger children may be more likely than older children to form bonds with stepfathers (Bray, 1999; Schmeekle et al. 2006) and, thereby, may benefit more from stepfather investments than older children; this may also be reflected in our results. Unfortunately, our analyses could not disentangle these possibilities. It will therefore be important for future studies to examine the long-term associations of these factors with child outcomes, particularly in a context of high rates of both stepfather and cohabiting-parent families, which tend to be less stable than two-biological-parent and married-parent families (Manning, Smock, & Majumdar, 2004; Osborne & McLanahan, 2007). Finally, our analyses exclude children who were living with a single-mother (with no cohabiting or marital partner) at age 5. Many of these children have lived in two-parent families in the past and many will live in two-parent families in the future. Our results may not generalize to the past or future experiences of these children. Rather, they are applicable only to children who are living with their mother and either their biological-father or a stepfather at age 5.

A second limitation of our analyses is that the behavior problems measures were reported by mothers. As such, it is possible that our estimates reflect variation in mothers' perceptions of child behavior in different family types rather than true differences in child behavior. Likewise, we utilized maternal reports of parental relationship quality and parenting quality, which may bias our results if there are systematic differences in mothers' reports with respect to resident biological fathers and resident stepfathers. Third, our parental relationship quality and parenting quality measures were limited in scope and may have lacked the sensitivity or specificity to fully capture differences between family types across the multifaceted aspects of intra-family processes. Fourth, there may be heterogeneity in effects that was obscured in our analyses. In particular, the relations of interest may differ by SES as well as child gender and race/ethnicity. Fifth, like most studies in this area, we modeled children's developmental outcomes as a function of family characteristics, family income, parental relationship quality, and parenting quality, but did not consider potential bi-directionality in these relations. Yet, child cognitive skills or behavior problems may also influence these relationships and behaviors (Carlson & Magnuson, 2011). For example, there is likely to be a reciprocal relation between parent-child conflict, as well as parental spanking, and externalizing behavior problems (Burt, McGue, Krueger, & Iacono, 2005; Maguire-Jack, Gromoske, & Berger, 2012). Finally, although our models took advantage of the wide range of detailed measures of family characteristics, family income, parental

relationship quality, and parenting quality that are available in FFCW, as with all observational studies it is possible that our estimates were biased by omitted factors.

Despite these caveats, our analyses offer new evidence regarding the potential roles of family income, parental relationship quality, and parenting quality vis-à-vis associations of family type with cognitive skills and behavior problems for young children from primarily disadvantaged families. Whereas we found little evidence that associations of family income and high quality parental relationships and parenting behaviors with children's cognitive skills and social-emotional development differed for children in various types of two-parent families, differences in levels of family income, parental relationship quality, and parenting quality between family types appear to operate in more complex ways. On one hand, stepfather families had fewer resources than biological-father families, which was associated with poorer child outcomes. On the other hand, stepfather families exhibited relatively high quality parental relationships and parenting behaviors, which were associated with better child outcomes. Future research should further examine potential differences in the benefits of family income, parental relationship quality, and parenting quality for child development, both over time and for more diverse groups of children in terms of age and socioeconomic status. It should also seek additional information on the processes through which family resources and behaviors may differentially influence children's cognition and social-emotional development in various family types.

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Table 1

Descriptive statistics by two-parent family type

	Married Biological-Father Families	Cohabiting Biological-Father Families	Married Stepfather Families	Cohabiting Stepfather Families
Child cognitive skills and behavior problems:				
PPVT	0.26 (0.98)	−0.25[a] (0.97)	−0.02[a] (0.87)	−0.29[ac] (0.95)
Internalizing behavior problems	−0.11 (0.94)	0.12[a] (1.06)	0.07 (1.01)	0.13[a] (1.04)
Externalizing behavior problems	−0.14 (0.90)	0.05[a] (1.04)	0.08[a] (0.91)	0.25[ab] (1.14)
Family income:				
Income (ln)	10.71 (1.04)	9.85[a] (1.44)	10.24[ab] (0.98)	9.56[abc] (1.49)
Parenalt relationship quality:				
BF/SF treatment of mother (standardized)	−0.04 (0.97)	−0.26[a] (1.22)	0.40[ab] (0.63)	0.23[ab] (0.82)
Coparenting quality (standardized)	−0.03 (0.96)	−0.09 (1.07)	0.40[ab] (0.78)	0.07[bc] (1.03)
Parenting quality:				
Mother spanking frequency (standardized)	−0.03 (0.99)	−0.07 (0.94)	0.00 (0.98)	0.19[ab] (1.08)
Mother engagement with child (standardized)	−0.01 (1.00)	−0.06 (1.00)	0.11 (1.03)	0.05 (0.99)
BF/SF spanking frequency (standardized)	0.12 (1.08)	0.10 (1.08)	−0.17[ab] (0.78)	−0.33[ab] (0.64)
BF/SF engagement with child (standardized)	−0.05 (0.97)	0.06 (1.00)	0.19[a] (1.01)	0.00 (1.06)
Controls:				
White	0.38	0.14[a]	0.27[ab]	0.13[ac]
Black	0.28	0.47[a]	0.49[a]	0.62[abc]
Hispanic	0.28	0.36[a]	0.23[b]	0.23[ab]
Another race	0.05	0.02[a]	0.01[a]	0.02[a]
Mother's age at focal child's birth	27.85 (6.04)	24.13[a] (5.63)	23.06[a] (4.43)	22.75[ab] (4.85)
US born	0.77	0.80	0.94[ab]	0.95[ab]
Less than high school education	0.21	0.43[a]	0.28[b]	0.45[ac]
High school education	0.23	0.32[a]	0.33[a]	0.35[a]
More than high school education	0.29	0.23[a]	0.34[b]	0.19[ac]

	Married Biological-Father Families	Cohabiting Biological-Father Families	Married Stepfather Families	Cohabiting Stepfather Families
Mother's father MH problems (age 3)	0.54	0.67	0.51	0.84
Mother's mother MH problems (age 3)	0.79	0.82	0.99	1.10[a]
Child female	0.47	0.52	0.45	0.45
Child low birth weight	0.07	0.10	0.08	0.13[a]
BF/SF age	35.44 (6.81)	31.99[a] (7.11)	30.48[ab] (6.66)	29.66[ab] (7.15)
BF/SF less than high school	0.21	0.44[a]	0.08[ab]	0.08[ab]
BF/SF high school	0.26	0.36[a]	0.61[ab]	0.69[ab]
BF/SF more than high school	0.28	0.19[a]	0.25	0.17[a]
Obs. per imp. dataset (PPVT)	645 – 646	321 – 322	80 – 81	295 – 296
Obs. per imp. dataset (Behavior Problems)	898 – 900	379 – 380	111 – 112	361 – 364
Obs. per imp. dataset (covariates)	901 – 903	383 – 383	114 – 115	365 – 369

Note: Means (and standard deviations) presented for continuous variables; percentages presented for dichotomous variables. All cognitive skills and behavior problems measures have been standardized to have a mean of 0 and standard deviation of 1 in the full sample. The total number of observations per imputed dataset ranges from 1762 to 1767. The number of observations per imputed dataset is: 1341 to 1343 for the PPVT, and 1749 to 1753 for internalizing and externalizing behavior problems.

[a]Differs from married biological-father families at p<0.05.

[b]Differs from cohabiting biological-father families at p<0.05.

[c]Differs from married stepfather families at p<0.05.

Table 2

OLS results for combined family structure models

	Model 1: No Covariates	Model 2: Add Controls	Model 3: Add Family Income	Model 4: Add Parents' Relationship Quality	Model 5: Add Parenting Behaviors
Panel A: PPVT					
M4cohabBF	−0.51*** (0.07)	−0.24*** (0.06)	−0.19** (0.06)	−0.18** (0.06)	−0.18** (0.06)
M4marriedSF	−0.28* (0.11)	−0.23* (0.11)	−0.20+ (0.11)	−0.22* (0.11)	−0.23* (0.11)
M4cohabSF	−0.55***[b] (0.07)	−0.36*** (0.07)	−0.28*** (0.07)	−0.30*** (0.07)	−0.32*** (0.07)
Panel B: Internalizing Behavior Problems					
M4cohabBF	0.24*** (0.06)	0.14* (0.06)	0.11 (0.06)	0.07 (0.06)	0.07 (0.06)
M4marriedSF	0.18+ (0.10)	0.23* (0.10)	0.21* (0.10)	0.30**[a] (0.10)	0.31**[a] (0.10)
M4cohabSF	0.25*** (0.06)	0.27*** (0.07)	0.22** (0.07)	0.28***[a] (0.07)	0.28***[a] (0.07)
Panel C: Externalizing Behavior Problems					
M4cohabBF	0.19** (0.06)	0.10 (0.06)	0.09 (0.07)	0.06 (0.06)	0.08 (0.06)
M4marriedSF	0.22* (0.10)	0.16 (0.10)	0.15 (0.10)	0.24* (0.10)	0.27* (0.10)
M4cohabSF	0.39***[a] (0.06)	0.30***[a] (0.07)	0.29***[a] (0.07)	0.33***[a] (0.07)	0.35***[a] (0.07)

Note: The number of observations per imputed dataset is: 1341 to 1343 for the PPVT, and 1749 to 1753 for internalizing and externalizing behavior problems. Coefficients (and standard errors) presented. Outcomes have been standardized to have a mean of 0 and standard deviation of 1 in the full sample. The models also control for the family characteristics, family income, parents' relationship quality, and parenting behaviors measures listed in Table 1.

[a] Differs from cohabiting biological-father families at p<0.05.

[b] Differs from married stepfather families at p<0. 05.

Table 3

OLS regression results by two-parent family type, PPVT

	Married Biological-Father Families	Cohabiting Biological-Father Families	Married Stepfather Families	Cohabiting Stepfather Families
Family income:				
Income (ln)	0.12*** (0.04)	0.07+ (0.04)	0.05 (0.13)	0.06+ (0.04)
Parental relationship quality:				
BF/SF treatment of mother (standardized)	0.08* (0.04)	0.08 (0.05)	0.47 (0.28)	−0.05 (0.08)
Coparenting quality (standardized)	−0.11** (0.04)	0.00[a] (0.06)	0.09 (0.17)	0.07 (0.06)
Parenting quality:				
Mother spanking frequency (standardized)	−0.03 (0.04)	0.09 (0.07)	0.19 (0.13)	−0.03 (0.06)
Mother engagement with child (standardized)	0.03 (0.04)	0.01 (0.07)	−0.09 (0.12)	0.09 (0.06)
BF/SF spanking frequency (standardized)	−0.02 (0.04)	−0.04 (0.06)	−0.18 (0.15)	−0.05 (0.09)
BF/SF engagement with child (standardized)	−0.00 (0.05)	−0.06 (0.07)	−0.03 (0.14)	−0.09 (0.06)
Constant	−1.71*** (0.45)	−1.11* (0.52)	−1.53 (1.43)	−1.33* (0.61)
Percent of total sample	48%	24%	6%	22%
Observations per imputed dataset	645 – 646	321 – 322	80 – 81	295 – 296

Note: 1341 – 1343observations per imputed dataset. Coefficients (and standard errors) presented. Outcome has been standardized to have a mean of 0 and standard deviation of 1 in the full sample. The models also control for the family characteristics listed in Table 1.

[a]Differs from married biological-father families at p<0.05.

[b]Differs from cohabiting biological-father families at p<0. 05.

[c]Differs from married stepfather families at p<0.05.

Table 4

OLS regression results by two-parent family type, internalizing behavior problems

	Married Biological-Father Families	Cohabiting Biological-Father Families	Married Stepfather Families	Cohabiting Stepfather Families
Family income:				
Income (ln)	−0.06+ (0.03)	−0.06 (0.04)	−0.18+ (0.10)	−0.01 (0.04)
Parental relationships quality:				
BF/SF treatment of mother (standardized)	−0.18*** (0.04)	−0.17** (0.05)	−0.41+ (0.21)	−0.23* (0.08)
Coparenting quality (standardized)	−0.07+ (0.04)	0.01 (0.07)	−0.39*[b] (0.16)	−0.05 (0.06)
Parenting quality:				
Mother spanking frequency (standardized)	0.01 (0.04)	0.09 (0.07)	0.08 (0.12)	0.14* (0.06)
Mother engagement with child (standardized)	−0.04 (0.04)	−0.13+ (0.07)	−0.07 (0.11)	−0.07 (0.06)
BF/SF spanking frequency (standardized)	0.03 (0.04)	0.05 (0.06)	0.06 (0.15)	−0.01 (0.09)
BF/SF engagement with child (standardized)	0.06 (0.04)	0.03 (0.07)	0.13 (0.13)	0.12+ (0.07)
Constant	0.95* (0.42)	0.72 (0.54)	4.91*** (1.28)	0.23 (0.57)
Percent of total sample	51%	22%	6%	21%
Observations per imputed dataset	898 – 900	379 – 380	111 – 112	361 – 364

Note: 1749 – 1753observations per imputed dataset. Coefficients (and standard errors) presented. Outcome has been standardized to have a mean of 0 and standard deviation of 1 in the full sample. The models also control for the family characteristics listed in Table 1.

[a] Differs from married biological-father families at p<0.05.

[b] Differs from cohabiting biological-father families at p<0. 05.

[c] Differs from married stepfather families at p<0.05.

Table 5

OLS regression results by two-parent family type, externalizing behavior problems

	Married Biological-Father Families	Cohabiting Biological-Father Families	Married Stepfather Families	Cohabiting Stepfather Families
Family income:				
Income (ln)	−0.02 (0.03)	−0.00 (0.04)	−0.05 (0.10)	0.01 (0.04)
Parental relationship quality:				
BF/SF treatment of mother (standardized)	−0.11** (0.03)	−0.13* (0.05)	−0.23 (0.19)	−0.18* (0.09)
Coparenting quality (standardized)	−0.05 (0.04)	−0.06 (0.06)	−0.19 (0.16)	−0.13+ (0.07)
Parenting quality:				
Mother spanking frequency (standardized)	0.12** (0.04)	0.25*** (0.06)	0.03 (0.11)	0.23*** (0.06)
Mother engagement with child (standardized)	0.02 (0.04)	−0.17*[a] (0.06)	−0.10 (0.11)	0.00[b] (0.07)
BF/SF spanking frequency (standardized)	0.07* (0.04)	0.09 (0.06)	0.21 (0.14)	0.07 (0.10)
BF/SF engagement with child (standardized)	−0.04 (0.04)	0.12 (0.07)	0.02 (0.13)	0.15*[a] (0.07)
Constant	0.39 (0.40)	−0.06 (0.51)	2.05 (1.26)	0.21 (0.62)
Percent of total sample	51%	22%	6%	21%
Observations per imputed dataset	898 – 900	379 – 380	111 – 112	361 – 364

Note: 1749 – 1753observations per imputed dataset. Coefficients (and standard errors) presented. Outcome has been standardized to have a mean of 0 and standard deviation of 1 in the full sample. The models also control for the family characteristics listed in Table 1.

[a] Differs from married biological-father families at p<0.05.

[b] Differs from cohabiting biological-father families at p<0. 05.

[c] Differs from married stepfather families at p<0.05.