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Paternal Multiple Partner Fertility and Environmental Chaos Among Unmarried Nonresident Fathers

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Abstract

This study examined the association between paternal multiple partner fertility (MPF; having children with two or more partners) and indicators of environmental chaos (partnership instability, residential instability, work stability, material hardship, and perceived social support) among unmarried, non-resident fathers. Survey data from the Fragile Families and Child Wellbeing Study ($N = 873$) were used to compare unmarried non-resident fathers who experienced MPF to those who had children with one partner. Results show that paternal MPF is associated with most indicators of environmental chaos (greater partnership instability, residential instability, work instability, material hardship), but not social support. Results suggest that fathers who experience MPF face challenges beyond those of other non-resident fathers. Policies and interventions should address aspects of instability and hardship that are unique to paternal MPF in order to encourage fathers' positive contributions to children and families. Directions for future research are discussed.

Keywords

multiple partner fertility; family complexity; fathers; fragile families; unmarried parents; environmental chaos

Recent demographic changes in the U.S., including stable, high divorce rates and increases in unmarried childbearing, have resulted in an increase in family instability (Cherlin, 2010). As a result of such changes, parents are more likely to experience multiple partner fertility (MPF), which is defined as having children with two or more partners. Over 40% of children are now born to unmarried parents (Martin, Hamilton, Osterman, Curtin, & Mathews, 2015), and due to the instability of non-marital unions, MPF is particularly common among unmarried parents (Carlson & Furstenberg, 2006). In 60% of unmarried couples with a newborn child, either the mother or the father already has at least one child from a prior partnership, compared to 21% of births to married couples (Carlson & Furstenberg, 2006). Paternal MPF, particularly, has become more prevalent among recent cohorts (Guzzo & Furstenberg, 2007). Around 17% of all fathers (married or unmarried) aged 40–44 have children with two or more partners, and over 22% of fathers with at least two children have children with two or more partners (Guzzo, 2014).

MPF and the accompanying instability have been implicated as primary mechanisms for child poverty, and fostering positive contributions from fathers in the context of MPF is a growing concern (Edin, Tach, & Nelson, 2015; McLanahan, 2009). Fathers' financial contributions and positive involvement are associated with preferred child outcomes and financial wellbeing for mothers and children (Carlson, 2006; Nepomnyaschy & Garfinkel, 2011; Ha, Cancian, & Meyer, 2011). However, fathers often struggle to negotiate obligations of time and resources to multiple groups of children in the context of paternal MPF (Edin & Nelson, 2013). Given the importance of father's contributions to children and the implications of paternal MPF for resource sharing and well-being among economically vulnerable families, it is important to understand factors influencing fatherhood in the context of MPF.

Although research shows that women with children by multiple partners face greater economic disadvantage, go on to have less education, spend more time in poverty, and spend less time in the workforce by midlife than those who do not experience MPF (Dorius, 2010; Monte, 2011b), little is known about the consequences of MPF for fathers. Understanding sources of instability and hardship among fathers in the context of MPF may inform policies and practices designed to increase fathers' well-being and maximize their contributions to families and children. Using an environmental chaos perspective as a framework (Bronfenbrenner & Evans, 2000), this study examined the effect of paternal MPF on instability and hardship in the lives of unmarried fathers as evident in greater partnership instability, residential instability, work instability, material hardship, and limited social support. In addition, the timing of MPF is explored. Specifically, effects of both early MPF (fathering a child by another partner greater than two years ago) and more recent MPF (fathering a child by another partner within the past two years) on environmental chaos, is examined with no MPF as the comparison group.

Fatherhood in the Context of MPF

Fatherhood in the context of paternal MPF is characterized by instability and change, particularly for unmarried fathers. Over 60% of non-marital birth unions dissolve within five years of the child's birth (McLanahan, 2011), and by the child's 5th birthday around 25% of unmarried parents have children with new partners (Tach, Mincy, & Edin, 2010). In cases of paternal MPF, fathers may experience multiple changes within a five year period, including at least one relationship dissolution, one new relationship formation, and the birth of one new child. Despite popular discourse suggesting that unmarried men who have children with multiple partners are "deadbeat dads," 86% of fathers who experience MPF are involved with at least one of their children on a weekly basis, compared to 93% of fathers who have children with one partner (Tach, Edin, Harvey, & Bryan, 2014). However, obligations to two or more groups of children may be particularly challenging to unmarried fathers in the context of MPF, as these men are economically disadvantaged compared to other fathers (Carlson & Furstenberg, 2006; Guzzo & Furstenberg, 2007). Fathers with children by multiple partners tend to "swap families," shifting involvement and financial resources away from non-resident children to new partners and children (Guzzo, 2009; Manning & Smock, 1999, 2000). Low-income fathers in the context of MPF face particularly difficult choices amid limited resources and obligations to multiple children, and many report investing time

and resources in a single household to maximize their efforts for one group of children (Edin & Nelson, 2013).

MPF is likely both a consequence and a cause of further instability. MPF among unmarried parents typically occurs relatively quickly when relationships with former birth partners dissolve (Tach et al., 2010), and subsequent children are often born into unstable new partnerships (Edin & Nelson, 2013; Edin et al., 2015). These fragile relationships are often further challenged by sexual jealousy between fathers' new and former partners, coparenting conflicts with former partners, and difficulty negotiating resource sharing (e.g., time and money) across households (Burton & Hardaway, 2012; Monte, 2007). Perhaps partially as a result of such complexity, parental unions are more likely to dissolve when men have children by prior birth partners, and the effect of paternal MPF on relationship dissolution is stronger than that of maternal MPF (Monte, 2011a). When these relationships dissolve, fathers experience more instability and changes in living situations, and they typically have financial obligations to at least three households (including the father's own household). Given the interpersonal instability and competing obligations faced by unmarried fathers who have children with multiple partners, it is likely that these men face challenges beyond those of unmarried fathers who have children with one partner. However, little is known about the circumstances of fathers in the context of paternal MPF.

The Current Study

The environmental chaos perspective (Bronfenbrenner & Evans, 2000) suggests that human development and behavior are influenced by contexts in which the individual interacts, and chaotic conditions (e.g., lack of predictability, frenetic activity) experienced by an individual in any one environment are expected to affect his or her personal and interpersonal functioning in other environments. Chaos theories of human development are often used to describe the development of children (e.g., Evans, Gonnella, Marcynyszyn, Gentile, & Salpekar, 2005). However, the environmental chaos perspective is particularly salient for unmarried fathers in the context of MPF, as they may experience instability and change across multiple environments and relationships (e.g., work, home, interpersonal relationships) resulting from the formation and dissolution of relationships and limited time and resources to meet the demands associated with MPF. This study uses the environmental chaos perspective as a framework to examine the effects of paternal MPF on instability and hardship in the lives of unmarried fathers as evident in greater partnership instability, residential instability, work instability, material hardship, and limited social support. The relevant research is reviewed in the following sections.

Partnership and Residential Instability

Partnership instability is a natural consequence of MPF. Partnership dissolutions are generally linked with poor mental health outcomes (Meadows, McLanahan, & Brooks-Gunn, 2008), as well as declines in economic standing, which are particularly prevalent in previously cohabiting couples (Avellar & Smock, 2005). These factors can introduce chaos into the system and negatively affect fathers' ability to sustain positive relationships with mothers and children. Because the adjustment to parenthood in the context of MPF often

occurs with multiple partners over a short period (Tach et al., 2010), and paternal MPF tends to occur across a string of less committed partnerships (Guzzo & Furstenberg, 2007), it is likely that fathers who have children with multiple partners will experience more partnership instability than fathers who have children with one partner. Relationship instability and family structure changes are also associated with residential instability (Astone & McLanahan, 1994). As fathers who experience MPF likely experience concomitant changes in residence when they move in and out of partnerships, it is expected that men who experience MPF also experience greater residential instability than those with children by one partner. Given the likelihood of multiple changes in a short period of time for unmarried fathers who have children with multiple partners, unmarried non-resident fathers who experience MPF are expected to report greater partnership instability and residential instability than unmarried non-resident fathers who have children with one partner.

Work Instability and Material Hardship

Due to the instability and complexity of fathers' relationships and obligations in the context of MPF, links between MPF and work stability may not be straight forward, and comparative research on the economic conditions of MPF fathers is limited. Only one study has provided an account of the economic circumstances of men in the context of paternal MPF (Guzzo, 2009), showing that men with both resident and non-resident children (a proxy for MPF) were similar to men with only non-resident children in terms of earnings and the likelihood of working full time. However, the current study differs in several ways. First, the sample for the current study differs from that of Guzzo's (2009) study. The current study focuses specifically on unmarried fathers, who are disproportionately economically disadvantaged and are less likely than married fathers to live with their children within the first five years of birth (McLanahan, 2009). Additionally, the current study includes fathers who may or may not live with one set of children, and it is likely that MPF fathers who live with none of their children are more disadvantaged. Second, whereas Guzzo (2009) focused on full time employment and income, the current study focuses on weeks worked in a given year and material hardship as correlates of MPF. Compared to binary measures of current full time employment, the measure used in the current study shows a more fine-grained view of stability in work over time. Also, whereas earnings are a rough proxy for economic wellbeing, material hardship is a more proximal indicator of the lived experience of poverty (Mayer & Jencks, 1989). Finally, Guzzo (2009) presented bivariate associations between MPF and fathers' economic circumstances. The current study controls for individual differences (e.g., education, drug use, incarceration, residence with a partner) that may be associated with MPF, work stability, and material hardship.

Research focusing more generally on the consequences of fatherhood, shows that fathers' work stability may vary by their resident status with the mothers of their children (Eggebeen & Knoester, 2001; Killewald, 2012; Weinshenker, 2015). This may be relevant because non-resident fathers who have had children with only one partner do not live with any of their children, whereas a portion of fathers who experience MPF may live with some of their children. The research shows that compared to non-resident fathers, resident fathers are less likely to experience unemployment (Eggebeen & Knoester, 2001), and among unmarried fathers, only those who live with their children experience long-term increases in work effort

(Weinshenker, 2015). Knoester and Eggebeen (2006) found that non-resident fathers increase their work hours only when they have a new resident child. Although the authors did not distinguish between fathers who had new resident children with new birth partners (indicating MPF) from those who moved in with the same partner upon the shared birth of a second- or higher-order child, it is likely that a portion of these fathers had children with new partners. Taken at face value, these findings may suggest that MPF fathers will experience greater work stability than other non-resident fathers, at least when they live with one of the mothers of their children. However, the utility of comparisons between unmarried MPF fathers and the general population of resident fathers is limited given that MPF fathers face high levels of instability and competing financial obligations to multiple groups of children (Edin & Nelson, 2013; Guzzo, 2009; Manning & Smock, 2000). Moreover, it is likely that a substantial proportion of MPF fathers do not live with any of their children, and the consequences of residential fatherhood would not apply to this subset of men.

Paradoxically, there are some indications that men who experience MPF may actually work less despite financial obligations to multiple sets of children. Fathers who experience MPF are disproportionately disadvantaged (Guzzo & Furstenberg, 2007), and those who live separately from all of their children are obligated to support at least three households (including their own), and they do not benefit from sharing fixed expenses (e.g., rent, utilities) with the mothers of their children. Because they often fail to account for family complexity, many child support policies require MPF fathers to pay more per child compared to other fathers with the same amount of non-resident children (Cancian, Meyer, & Han, 2011), and MPF fathers disproportionately pay less than what is owed (Sorensen, Sousa, & Schaner, 2007). When child support obligations exceed their ability to pay, some fathers may choose to work less rather than attempt to keep up with high levels of child support and arrears (Holzer, Offner, & Sorensen, 2005; Miller & Mincy, 2012), particularly when extended work hours result in the lack of time and money for visitation with children (Threlfall, Seay, & Kohl, 2013). In these circumstances, low-income fathers often adjust their expectations to “giving what I can when I can” rather than being “perfect providers” (Roy, Palkovitz, & Fagan, 2007, p. 13).

From an environmental chaos perspective (Evans et al., 2005), instability and change resulting from MPF are expected to lead to disruption and unpredictability across a number of contexts (e.g., home, work). Partnership and residential instability may result in disrupted routines, changes in geographic location, transportation problems, and losses of social capital when fathers move or lose connections with social networks of former partners. When such changes affect job attendance or performance, employees may become dissatisfied, which can lead to job loss. Some employers may view unmarried fathers who have children with multiple partners as irresponsible, regardless of their actual potential or performance (see Percheski & Wildeman, 2008), and this bias may result in tension in current jobs or difficulty obtaining new work.

Fathers in the context of MPF are also likely to experience material hardship due to the spreading of resources across multiple households and high child support obligations (Cancian et al., 2011). Particularly for low-income unmarried families, “temporary shocks” such as job loss and the loss of combined incomes may exacerbate economic problems

(Lerman, 2002, p. 14), and the instability that accompanies MPF may undermine fathers' abilities to maintain stable work and living conditions. Other research shows that mothers report less instrumental support when they or their partners (MPF fathers) have children with previous partners (Harknett & Knab, 2007), and the availability of instrumental support can provide relief from material hardship (Lerman, 2002). Taken together, prior research suggests that unmarried non-resident fathers who experience MPF will also experience greater work instability and material hardship than unmarried non-resident fathers who have children with one partner.

Social Support

Social support reflects the emotional and material benefits available to an individual in his social network (Cohen, 2004). Although MPF often results in more extensive social networks (e.g., relationships with extended family and friends of new partners) (Lin, 1999), such relationships may lack strength, particularly when new partnerships form and dissolve quickly (Cherlin & Furstenberg, 1994). Family members may also be less likely to invest in fathers relationships if they don't believe the relationships will last (Eggebeen, 2005), and previous research suggests that fathers are less optimistic about the chances of marriage when they or their partner have children from previous partners (Waller & McLanahan, 2005). In some cases, family and friends may provide strong initial support around the birth of a father's first child, but become disenchanted if additional births with new partners become less novel. This perspective is supported by research showing that fathers' social connectivity is strongest when they live with their children and around the transition to parenthood (Knoester & Eggebeen, 2006). A related perspective suggests fatherhood in contexts other than marriage (e.g., unmarried, cohabiting, non-resident) are less "institutionalized" and expectations for family roles are less scripted (Nock, 1998). Expectations for fatherhood in the context of MPF are likely to be particularly ambiguous given the complexity of these families, and there may be unclear expectations of family and friends for providing social support to these fathers.

In the only study to examine social support in the context of MPF, Harknett and Knab (2007) found that mothers report less support when they or the fathers of their children had prior children with other partners. No research has examined fathers' perceptions of social support in the context of MPF, and the current study adds to the literature by comparing perceptions of social support of non-resident MPF fathers to those of non-resident fathers who have children with one partner. Based on previous research, it is expected that fathers who experience MPF will report less social support than fathers with children by one partner.

The Timing of MPF and Environmental Chaos

Links between MPF and indicators of environmental chaos may depend on the timing of MPF. Some aspects of environmental chaos may arise quickly as acute reactions to the birth of a new child. For example, greater partnership instability is expected around the birth of a child in the context of MPF, as fathers have experienced at least one relationship formation (with the mother of the new child), which may or may not include moving in with her. The formation of this new relationship may quickly follow the dissolution of the father's relationship with the prior birth partner (Edin & Nelson, 2013). Changes in partnership

around the birth of the child may also be accompanied by residential instability as fathers move out or in with partners.

The immediate aspects of environmental chaos may diminish over time as fathers adjust to the new context or chaos may persist if fathers are unable or unwilling to make the necessary adjustments. For example, some low-income fathers in the context of MPF may originally attempt to work more regularly as an immediate reaction to the birth of a new child (Killewald, 2012), but have trouble maintaining stable full-time work (Roy et al., 2007) or cut back on working when they realize that they are still unable to meet child support obligations (Holzer et al., 2005). In such circumstances, fathers may become overwhelmed and give up on working to support both sets of children (Edin & Nelson, 2013).

Still, other aspects of environmental chaos may not be apparent initially, but develop as a consequence of living in the context of MPF over time. For example, some types of chaos (e.g., material hardship, social support) may be more closely associated with earlier (not recent) MPF as they may result from diminishing resources over time. To assess the association between the timing of MPF and environmental chaos, a final purpose of this study is to examine whether dimensions of environmental chaos are similar for men who experienced the birth with a new partner recently (within the past two years) and those who experienced MPF earlier.

In summary, this study tests the overall hypothesis that unmarried non-resident fathers who have children with multiple partners will experience greater levels of environmental chaos (greater partnership instability, resident instability, work instability, material hardship, and less social support) than unmarried non-resident fathers with single partner fertility. In addition, the timing of MPF is explored. Specifically, effects of both early MPF (fathering a child by another partner greater than two years earlier) and recent MPF (fathering a child by another partner less than two years earlier) on environmental chaos, is examined with no MPF as the comparison group. Differences in environmental chaos by the timing of MPF (recent versus earlier) are also explored.

Method

The current study uses secondary data from the Fragile Families and Child Wellbeing Study (FFCWS), which was designed broadly to address conditions and consequences of unmarried parenthood with a focus on fathers (Reichman, Teitler, Garfinkel, & McLanahan, 2001). These data were developed for public use and have been used for numerous studies focusing on unmarried parents and child wellbeing. A stratified random sampling design was used to sample 20 cities with populations of 200,000 or more, hospitals within cities, and births within hospitals. At baseline, the study included 4,898 children born between 1998 and 2000. Subsequent interviews occurred around each child's first (Y1), third (Y3), fifth (Y5) and ninth (Y9) birthdays. The survey contains an oversampling of non-marital births ($N = 3,710$), and when weighted the data are representative of all non-marital births to parents residing in large U.S. cities.

Mothers were recruited from hospitals around the birth of a child. They were eligible for the study if they reported no intention to give the child up for adoption and the father of the child was alive. Mothers (and fathers when present) who consented to the study and met the eligibility criteria were interviewed by field interviewers in the hospital. Mothers who left the hospital after eligibility screening and before the interview were called to complete the interview by telephone. When mothers provided fathers' contact information and fathers were not present to be interviewed in the hospital, fathers were contacted to complete the baseline interview by telephone, in their home, or another convenient location. Follow-up interviews with each parent were conducted by telephone using a Computer Assisted Telephone Instrument (CATI). In cases where parents could not be reached by phone, field interviewers attempted to locate and interview them in person. Research for the current study was conducted in compliance with the Institutional Review Boards of Florida State University and Pennsylvania State University.

For the current study, data from baseline, Y1, and Y3 were used. The overall sample includes cases where fathers were unmarried at the birth of the focal child ($N = 3,710$) and lived with the child half the time or less at Y3 ($N = 1,694$). The sample was further restricted to fathers who were interviewed at Y3 ($N = 941$). Of these cases, 68 fathers had missing information on multiple partner fertility and could not be classified into MPF groups which reduced the sample to 873 (further explanation in the Measures section). For each individual analysis, the sample was further restricted to fathers who reported on the outcome variable, resulting in the following sample sizes for each analysis: partnership instability (23.5% missing, $n = 668$), residential instability (.5% missing, $n = 869$), work stability (1.6% missing $n = 859$), social support (3.9% missing, $n = 839$), material hardship (3.9% missing, $n = 839$).

To assess for selection in the study sample, ANOVAs with Welch's F -statistic and chi-square tests were used to compare fathers in the sample to all fathers who were not married to the mother at the birth of the child and were non-resident at Y3. The study sample is similar to all non-resident fathers in terms of age, fathers' education, and fathers' earnings at Y3. However, a smaller percentage of fathers in the sample were Hispanic compared to all non-resident fathers, $\chi^2(3) = 9.50$, $p < .05$. Significant differences are also evident in the relationship between parents at birth and father residence over the first year. Compared to all non-resident fathers at Y3, the current study includes a larger percentage of fathers who were cohabiting at birth and a smaller percentage of fathers who were in non-romantic relationships at birth, $\chi^2(2) = 22.89$, $p < .01$. Also, a greater percentage of fathers in the sample were (a) living with the mother at Y1; and (b) living with the mother at the birth, but not Y1, and a smaller proportion did not live with the mother at the birth or Y1 compared to all non-resident fathers, $\chi^2(2) = 21.42$, $p < .01$. In general, the pattern of results suggests that fathers in the current sample were in more stable relationships than all non-resident fathers. Although not optimal, these patterns are expected as attrition is select of participants in less committed relationships in FFCWS data (Bendheim-Thoman Center for Research on Child Wellbeing, 2008).

Measures

Dependent variables—Multiple indicators of environmental chaos were used to assess the dependent variables in the study. To measure *partner instability*, at both Y1 and Y3, fathers who were not living with the mother were also asked whether they had a romantic partner other than the mother and whether they were living with the partner most of the time. When applicable, additional questions at Y3 assessed when the father and partner became romantically involved and moved in together. These variables were used to construct a variable indicating the number of partnership transitions experienced by each father. Each move into or out of a dating relationship or shared residence with a partner other than the mother was defined as one transition. Fathers who reported fathering or expecting a child with another partner between Y1 and Y3 without reporting a relationship at either wave were coded as having entered and exited a dating relationship (see Beck Cooper, McLanahan, & Brooks-Gunn, 2010). Because this measure does not include relationships formed and dissolved between waves, partner instability is likely underestimated. To reduce skewness and kurtosis, this variable was recoded into 0, 1, 2, or 3 or more transitions, with higher numbers representing greater partner instability ($M = .94$, $SD = 1.08$).

To measure *residential instability* at Y3, fathers were asked how many times they had moved since the last interview. To reduce skewness and kurtosis, residential stability was coded as 0, 1, and 2 or more moves ($M = .81$, $SD = .79$).

To measure *work stability*, at Y3, fathers were asked, “In the last 12 months, how many weeks did you work (at your job/at all of your regular jobs)?” Fathers who had not worked in the last 12 months were given the score of 0, so higher numbers represent more work stability ($M = 33.19$, $SD = 21.39$).

As a measure of *material hardship*, at Y3 fathers responded to 8 items asking about experiences “in the past 12 months.” Sample items include, “did you move in with other people even for a little while because of financial problems?” and “did you not pay the full amount of a gas, oil, or electricity bill?” All *yes* responses were summed to form a scale ranging from 0 – 8 with higher scores reflecting more material hardship. To reduce skewness and kurtosis, this variable was recoded as 0, 1, 2, and 3 or more types material hardship ($M = .79$, $SD = 1.05$).

Perceived social support was measured at Y3. Fathers reported on three yes/no items assessing whether they believed anyone they knew could: loan them \$200, provide them with a place to live, and help them with emergency child care. A count of the *yes* responses was made, so higher scores represent more social support ($M = 2.59$, $SD = .83$).

Independent variable

Based on reports from Y1 and Y3, fathers were categorized into one of three groups: no MPF, early MPF (before the child’s first birthday), and recent MPF (between the child’s first and third birthdays at Y1 and Y3). Fathers were not asked about MPF at the baseline interviews, and they were not asked about MPF directly at Y1, so mothers’ reports of paternal MPF at Y1 were used. Prior research (Carlson & Furstenberg, 2006) showed that mothers’ reports of paternal MPF at Y1 were consistent with fathers’ reports of having

children living elsewhere in 90% of the cases. It is impossible to know whether fathers' MPF prior to Y1 was prior partner fertility (with another partner prior to the birth of the focal child) or new partner fertility (with another partner after the birth of the focal child) in these cases.

When possible, fathers' reports were used to supplement mothers' missing reports of paternal MPF by Y1. The sum of the fathers' reported resident and non-resident children (including the focal child) was subtracted from the total number of children the father shared with the mother. A difference of ≥ 1 indicated that the father had at least one child with another partner. Unfortunately, fathers who lived with the mother at the child's first birthday were not asked about the number of biological children living with them. As a result, some paternal MPF of fathers in the most stable relationships was likely not identified at Y1.

At Y3, if the father reported that he fathered or was expecting at least one other child, and the mother of the focal child was not the mother of at least one of his new or expected children, he was coded as 1 = *MPF at Y3*. Otherwise, he was coded as 0 = *no MPF at Y3*.

From reports of paternal MPF at Y1 and Y3, three categories were constructed: 1 = *No MPF*, 2 = *Early MPF (MPF before Y1 only)*, and 3 = *Recent MPF (MPF between Y1 and Y3; may or may not include fathers with MPF at both waves)*. For analysis, two dummy variables were created with *no MPF* as the reference group compared to *early MPF* (1 = *yes*, 0 = *no*) and *recent MPF* (1 = *yes*, 0 = *no*).

Control variables

Several control variables were included that assess factors associated with indicators of environmental chaos. *Father age* was reported as a continuous variable at Y3. *Father race and ethnicity* is based on combined reports of mothers and fathers from the Baseline interview. Race and ethnicity were indicated by a set of dummy variables: *Black* (1), *Hispanic* (1), and *other* (1), with *White* (0) as the reference group. *Father education* was taken from Baseline interviews. Responses included (1) *less than high school*, (2) *high school degree or GED*, (3) *some college or technical school*, and (4) *college degree or more*. Few fathers had obtained a college degree or more ($n = 24$), so education was recoded into three categories represented by dummy variables with (0) *less than high school* as the reference group compared to both *high school degree or GED* (1) and *technical school, some college or more* (1).

Father earnings was constructed from several items. At Y3, fathers were asked how much money they earned from each of five sources over the past 12 months (*regular jobs*, *work off the books*, *business ownership*, *hustling and illegal activities*, and *other sources*). For each source of earnings, fathers who refused to answer or did not know how much they earned were asked to choose from ranges of earnings (under \$500; \$501 to \$1,000; \$1,001 to \$3,000; \$3,001 to \$5,000; \$5,001 to \$10,000; \$10,001 to \$15,000; \$15,001 to \$20,000; \$20,001 to \$25,000; \$25,001 to \$30,000; \$30,001 to \$40,000; or more than \$40,000). Consistent with previous research (Gibson-Davis, 2009), these responses were set to the median value for the corresponding range. Fathers who reported making more than \$40,000

were coded as having made \$45,000. Earnings from all sources were summed to form a total earnings variable.

Whether the *father used drugs* was assessed at Y3, when fathers were asked to respond *yes* or *no*, if they had used drugs without a doctor's prescription, in larger amounts than prescribed, or for a longer period than prescribed in the past 12 months. Nine drugs were referenced (e.g., sedatives, amphetamines, marijuana, cocaine). Fathers who answered *yes* to any one drug were coded as (1) *used drugs* or (0) *did not use drugs*. Combined reports of fathers and mothers were used to assess whether the *father was ever incarcerated by Y3* and *current incarceration at Y3* (see Schwartz-Soicher, Geller, & Garfinkel, 2011). From these combined reports, two dummy variables were created. One variable indicated whether the father was ever incarcerated by Y3 (1) or not (0). The other variable indicated whether the father was in jail at the Y3 interview (1) or not (0).

To assess whether the father was *living with a new partner* at Y3, fathers were asked whether they lived with a current partner most of the time (1 = *yes*, 0 = *no*). *Time since cohabitation* with the focal child's mother was assessed using mother reports of whether she lived with the father all or most of the time at Baseline and Y1. Father reports of residence were used when mother reports were missing. A set of dummy variables was created indicating whether the mother and father *did not live together since the birth* (0), *were separated between the birth and Y1* (1) or *were separated between Y1 and Y3* (1).

Analytic Strategy

To analyze the association between MPF and indicators of environmental chaos, multiple regression with a categorical independent variable was used in Mplus 7 (Muthén & Muthén, 2012). Two models were run for each independent variable. The first model included all covariates known to be associated with the dependent variable. Early MPF and recent MPF were added in the second model to assess the proportion of variance contributed by MPF above and beyond the covariates. Wald tests of parameter constraints were used to assess variance in the dependent variable attributed to specific parameters in the model (Tabachnick & Fidell, 2001). Significant results reject the null hypothesis that the tested parameters are equal to zero, and insignificant results suggest that the addition of the variable does not improve the model. Following analyses showing significant relationships between MPF and the dependent variable, Wald tests of parameter constraints were also used to compare the association between early MPF and the dependent variable to the association between recent MPF and the dependent variable. Statistical significance rejects the null hypothesis that the two parameters are equal.

To adjust for moderate skew and kurtosis, maximum likelihood estimation with mean-adjusted chi-square (MLM) with Satorra-Bentler (S-B) scaling was used as an estimator for analyses (Satorra & Bentler, 1994). In this study, the missing data rate for most independent variables was less than 5%. One variable exceeded this rate: *father earnings* = 7.4%. Missing data were handled using multiple imputation.

Results

Sample Description

Table 1 shows descriptive statistics for the full sample and by MPF group ($N = 873$). Among the full sample, 43% had experienced no MPF by the Y3, 40% fathered their most recent child with another partner prior to Y1 (early MPF), and 17% had a child with another partner between Y1 and Y3 (recent MPF). Overall, the fathers could best be described as in their late-20s at Y3, Black non-Hispanic (69%), with a high school diploma or less (78%), low income ($M = \$17,443$ earnings last year), limited drug using (16%), and likely to have been incarcerated (59% by Y3). In addition, over 25% lived with a partner other than the mother at Y3, and almost half had never lived with the mother of the focal child.

To compare MPF groups on the demographic characteristics, ANOVAs with Welch's F and chi-square tests were used. Results show differences in eight of the 10 comparisons (see Table 2). Early MPF fathers ($M = 33$, $SD = 8.52$) were older than both no MPF ($M = 27$, $SD = 5.44$) and recent MPF ($M = 26$, $SD = 5.31$) fathers. Also, a higher percentage of Black fathers were in the early MPF group (77%) than in the no MPF group (61%), and a higher percentage of White fathers were in the no MPF group (15%) than in the early MPF (6%) and recent MPF (8%) groups. Consistent with prior research (Carlson & Furstenberg, 2006; Guzzo & Furstenberg, 2007), MPF fathers were disadvantaged in a number of ways. A lower percentage of recent MPF fathers attended at least some college (15%) compared to no MPF (23%) and early MPF (24%) fathers, and recent MPF fathers (\$15,169) earned less than no MPF fathers (\$19,358). Additionally, a smaller percentage of no MPF fathers had ever been incarcerated (53%) compared to early MPF (64%) and recent MPF (63%) fathers. Not surprisingly, a greater proportion of recent MPF fathers (57%) lived with a partner at Y3, compared to no MPF (18%) and early MPF (24%) fathers. Finally, a smaller proportion of recent MPF fathers (16%) and a larger proportion of no MPF fathers (37%) lived with the mother of the focal child at Y1 compared to early MPF fathers (30%).

Mean Comparisons

ANOVAs with Welch's F tests and Games-Howell post hoc comparisons showed several differences between MPF groups, and differences were in the expected directions (see Table 2). Partnership instability was greater among recent MPF than either no MPF or early MPF fathers, and early MPF fathers did not differ from no MPF fathers, Welch's $F(2, 334.12) = 130.89$, $p = .00$. Recent MPF fathers also experienced greater residential instability than both no MPF and early MPF fathers, Welch's $F(2, 397.94) = 5.57$, $p = .00$. Less work stability was reported by early MPF compared to no MPF fathers, and recent MPF fathers did not differ from the other groups, Welch's $F(2, 392.43) = 9.93$, $p = .00$. Material hardship was also greater among early MPF fathers compared to no MPF fathers, and the greater material hardship among recent MPF and no MPF fathers approached statistical significance ($p = .054$), Welch's $F(2, 376.18) = 6.19$, $p = .00$. MPF groups did not differ significantly on social support.

Multiple Regression Analyses

Results of regression models show that MPF is associated with three of the four environmental chaos variables when accounting for other covariates, although the association between recent MPF and social support was marginally significant (see Table 3). Model 1 for partnership instability shows that demographic and other covariates accounted for 42% of the variance in partnership instability ($R^2 = .42, p < .001$). As hypothesized, Model 2 shows that compared to no MPF, both early MPF ($\beta = .08, p < .05$) and recent MPF ($\beta = .27, p < .001$) were positively associated with partnership instability, explaining an additional 6% of the variance ($R^2 = .48, p < .001$). A Wald test of parameter constraints showed that early MPF and recent MPF contributed significantly to the variance explained in partnership instability, $\chi^2(2) = 99.99, p < .001$. An additional Wald test of parameter constraints was used to assess whether the association between early MPF and partnership instability differed from that of recent MPF and partnership instability. Results show that the association between recent MPF and partnership instability was stronger than the association between early MPF and partner instability, $\chi^2(1) = 52.26, p < .001$. Fathers who experienced MPF (whether recent or earlier) also experienced greater levels of partnership stability, and those who experienced MPF recently (within the past 2 years) experienced greater partnership instability than those who experienced MPF earlier (greater than 2 years ago).

Model 1 for residential instability also shows that the demographic and other covariates accounted for 12% of the variance in residential instability ($R^2 = .12, p < .001$). Results from Model 2 show that compared to no MPF, recent MPF ($\beta = .12, p < .01$) is positively associated with residential instability as expected, but no association was found between early MPF and residential instability ($\beta = .06, ns$). Although the addition of MPF in Model 2 only accounted for an additional 1% of the variance, the Wald test of parameter constraints showed that the combined contribution of early MPF and recent MPF was significant, $\chi^2(2) = 10.86, p < .01$. An additional Wald test of parameter constraints showed that recent MPF is more strongly associated with residential instability than is early MPF, $\chi^2(1) = 4.12, p < .05$. Compared to non-resident fathers who had children with one partner, non-resident fathers with recent MPF experienced more residential instability. However, residential instability did not persist for those who experienced MPF earlier (greater than two years ago).

For work stability, Model 1 was also significant, showing that the covariates explained 24% of the variance in work stability ($p < .001$). Model 2 showed that early MPF is negatively associated with work stability ($\beta = -.10, p < .01$), and there is a marginally significant negative association between recent MPF and work stability ($\beta = -.06, p = .07$). The unstandardized results show that, controlling for other covariates, having a child with another partner before the child's first birthday (early MPF) is associated with having worked around 4.5 fewer weeks in the past 12 months ($B = -4.42, p < .01$), and having a child with another partner after the focal child's first birthday (recent MPF) is associated with having worked just over 3.5 fewer weeks in the past 12 months ($B = -3.57, p = .07$). Together, early MPF and recent MPF accounted for less than 1% of additional variance. The Wald test of parameter constraints showed that early MPF and recent MPF accounted for a significant proportion of the variance in work stability, $\chi^2(2) = 9.53, p < .01$. An additional Wald test of parameter constraints showed that the association between early MPF and work

stability did not differ from that of recent MPF and work stability, $\chi^2(1) = .34$, *ns*. Fathers with MPF worked less than those with no MPF, and the association between MPF and work instability was similar regardless of whether MPF occurred recently or earlier.

Model 1 for material hardship shows that the demographic and other covariates account for around 9% of the variance in material hardship ($p < .001$). Model 2 shows that both early MPF ($\beta = .08$, $p < .05$) and recent MPF ($\beta = .08$, $p < .05$) are positively associated with material hardship, and MPF accounted for an additional 1% of the variance ($R^2 = .10$, $p < .001$). The Wald test of parameter constraints showed that MPF contributed significantly to the variance explained in the material hardship, $\chi^2(2) = 6.21$, $p < .05$, and results from an additional Wald test showed that early MPF and recent MPF were not differentially associated with material hardship, $\chi^2(1) = .172$, *ns*. As with work instability, fathers with MPF experienced greater material hardship than those with no MPF, and the association between MPF and material hardship was similar regardless of whether MPF occurred recently or earlier.

Finally, Model 1 for perceived social support shows that the demographic and other covariates only accounted for 3.7% of the variance in social support ($p < .01$). Model 2 shows that early MPF was not associated with social support ($\beta = -.03$, *ns*), and the negative association between recent MPF and social support was only marginally significant ($\beta = -.07$, $p = .08$). The addition of early and recent MPF added less than .5% more variance explained, and the Wald test of parameter constraints showed that MPF did not contribute significantly to the variance explained in social support, $\chi^2(2) = 2.50$, *ns*. These results suggest that that MPF is not associated with unmarried non-resident fathers' social support.

Discussion

Fathers' contributions are important for the financial and socioemotional well-being of mothers and children (Carlson, 2006; Ha et al., 2011), and maximizing paternal contributions to families in the context of MPF is a salient objective for family policies and social service interventions (Edin et al., 2015; McLanahan, 2009). Unmarried fathers who experience MPF often undergo a number of changes in family composition over a short period of time (Tach et al., 2010) and typically face competing obligations to multiple groups of children amid constraints in time and resources (Manning & Smock, 1999, 2000; Guzzo, 2009). Still, little is known about the experiences of fathers in the context of MPF. This study contributes to the existing knowledge by using a data source (FFCWS) that includes a large sample of unmarried and disadvantaged fathers to provide the first comparisons of unmarried non-resident fathers who experience MPF to those who have children with one partner on a number of indicators of instability and hardship. Additionally, this study considers whether the negative effects experienced by these fathers persist years after the birth of their most recent child. Collectively, the findings from this study show some support for the hypothesis that MPF is associated with greater levels of environmental chaos among unmarried, nonresident fathers. As hypothesized, both early MPF (greater than two years ago) and recent MPF (within the past two years) were associated with greater partnership instability, material hardship, and less work stability (although marginal effects

were found for recent MPF). Recent MPF was also associated with greater residential instability, although early MPF was not.

The finding that recent MPF fathers experienced more partnership and residential instability than no MPF fathers is not surprising, as having children with new partners is naturally linked to the formation and dissolution of romantic relationships and residential moves to some extent, and recent MPF fathers had children with new partners during the assessment period for partnership instability. Not surprisingly, recent MPF fathers experienced more partnership instability than early MPF fathers, suggesting that this type of environmental chaos may be more prevalent around the birth of new child. Nonetheless, early MPF fathers also experienced more partnership instability than no MPF fathers, suggesting that fathers continue to experience relationship churning two or more years after the transition to MPF. One explanation may be that men who become MPF fathers also tend to enter into less stable partnerships or lack skills to maintain relationships, and they continue to experience relationship churning even two or more years after having children with multiple partners. Previous research shows that men who go on to experience MPF tend to engage in relationships that are quickly formed and less committed than those of other fathers (Edin & Nelson, 2013; Guzzo & Furstenberg, 2007). It may be that men who become MPF fathers lack skills and knowledge to form stable interpersonal relationships, even after several unsuccessful relationships.

Whereas previous research showed that fathers who experienced MPF were comparable to non-resident fathers without MPF in terms of earnings and unemployment (Guzzo, 2009), findings from the current study suggest that MPF fathers work over 3.5 weeks less than other non-resident fathers, regardless of the timing of MPF, when other factors associated with work stability are controlled for. Expectations of non-resident fathers are less “scripted” than those of resident fathers (Nock, 1998), and it is likely that non-resident MPF fathers in this study had less social incentive to work than the resident MPF fathers in Guzzo’s (2009) study. Also, some fathers may have difficulty finding or keeping stable work amid instability and change in the context of MPF. Another possibility is that some MPF fathers may decide to work less when faced with insurmountable obligations (Holzer et al., 2005; Roy et al., 2007). Further research is needed to clarify whether and how conditions specific to the context of MPF affect fathers’ work stability.

Perhaps the finding that both early and recent MPF fathers also experience material hardship is not surprising given the lack of work stability among these men, and these findings mirror those from other research showing that MPF mothers also experience less work force attachment and greater poverty over the life course (Dorius, 2010; Monte, 2011b). Early and recent MPF were not differentially associated with work stability or material hardship, suggesting that environmental chaos associated with work and finances may be both immediate (occurring around the most recent birth) and sustained (continuing at least two years after the most recent birth). MPF fathers may experience different barriers to work and economic stability at different times. Some fathers may struggle to establish or maintain work when the chaos associated with partnership and residential changes undermine their efforts shortly following the birth of a child. In the long term, ongoing instability and hardship in the context of MPF may keep some fathers from obtaining job skills and

education necessary to secure stable employment. Although the current study controlled for factors that affect work stability and material hardship (e.g., education, incarceration, drug use), unobserved factors may be responsible for differences in work stability and material hardship. Further research is needed to determine the extent to which MPF is a *cause* of work instability and material hardship and the mechanisms through which economic disadvantage occurs in the context of paternal MPF.

Although previous research found that mothers perceive less social support if they or their partners (MPF fathers) have children with prior partners (Harknett & Knab, 2007), the same was not true for fathers in this study. Perhaps fathers view social support differently than do mothers. Additionally, fathers in the current study generally rated social support highly, and the lack of variability in perceptions of social support likely limited the ability to detect change. This suggests two possibilities: (a) most of the unmarried non-resident fathers in this sample believe they have high access to social support, or (b) the measure used here failed to capture differences in perceived social support. Low-income fathers are particularly likely to rely on kin networks to stay involved with children (Roy et al., 2007), and research is needed to understand how social support works for fathers in the context of MPF, specifically. Future research should use measures of social support that are validated for unmarried non-resident fathers, and fathers in the context of MPF.

Limitations and Conclusion

Although this study provides initial insight into the association between MPF and environmental chaos, some limitations are notable. First, these results should be viewed with caution, as causality cannot be inferred from the analyses. It is possible that unobserved characteristics cause both MPF and environmental chaos, and future research is needed to examine the extent to which MPF is a cause of instability and hardship in the context of MPF. Nonetheless, this study provides initial evidence of the link between paternal MPF and environmental chaos and provides researchers, policy makers, and social service providers with insight into fatherhood in the context of MPF. Second, most of the associations between MPF and environmental chaos indicators were small. However, these associations remained significant even after controlling for the effects of multiple other factors known to be associated with these outcomes. Third, this sample included a group of urban unmarried non-resident fathers who did not live with the mother and child by his/her third birthday, and results cannot be generalized to MPF fathers in other contexts (e.g., married fathers, fathers with older children). However, understanding conditions faced by unmarried fathers with young children is particularly important because these men are disproportionately disadvantaged and many lose contact before the child's 5th birthday (Guzzo & Furstenberg, 2007; Tach et al., 2010). Finally, selection bias cannot be ruled out. Cases were excluded from the sample if data did not allow fathers to be classified into MPF groups. Others were excluded per analysis if they were missing data on the dependent variable, and over one quarter of men were missing data on partnership instability. Also, because non-response and attrition are non-random and most common among fathers in the least committed relationships in FFCWS data, some of the most at-risk fathers were likely excluded.

Limitations notwithstanding, this study adds to the literature by providing insight into the conditions of unmarried fatherhood in the context of MPF, and the findings suggest that fathers who have children with multiple partners experience greater interpersonal instability and economic disadvantage than other non-resident fathers. This is particularly concerning because children and families who experience paternal MPF are disproportionately represented in the welfare system (Meyer et al., 2005), and fathers in these families may be least equipped to share resources with multiple groups of children (Guzzo & Furstenberg, 2007). Although fathers' contributions are recognized as an important buffer against child poverty, programs and policies for low-income families often overlook the needs of fathers (Edin et al., 2015) and fail to account for family complexity (Smeeding, Garfinkel, & Mincy, 2011). Findings from this study suggest that social service interventions are needed to minimize the impact of instability and economic uncertainty on fathers who experience MPF. Helping fathers negotiate transitions associated with MPF is also likely to encourage stable, positive engagement with families and children.

Whereas the current study provides initial insight into the instability and hardship experienced by fathers in the context of MPF, future research is needed to inform programs and policies. To address the extent to which MPF may cause hardship and instability, further research should use longitudinal analyses to assess for change in chaos over the transition to MPF and account for unobserved heterogeneity in fathers. Although it is likely that environmental chaos affects fathers' involvement and contributions, this remains an empirical question. Research is needed to determine which aspects of instability and hardship may be mechanisms in the link between MPF and father involvement and under what conditions fathers manage to make positive contributions in the face of these challenges. Low-income fathers often depend on cooperative relationships with the mothers of their children and extended kin to stay involved in the face of personal and economic setbacks (Edin & Nelson, 2013; Roy et al., 2007), and it would be useful to examine the role of family relationships in buffering or exacerbating chaos in the context of paternal MPF. Along these lines, the relationship churning that is common among fathers and their partners in the context of MPF may be a result of poor relationship skills, chaotic contexts, or some combination of both. In addition to the need for basic research to clarify the causes of relationship instability in this context, evaluation research could be useful in determining the extent to which relationship skills training helps unmarried fathers delay or forego subsequent fertility with new partners and sustain healthy relationships when they do have children with multiple partners. Research is also needed to examine the extent to which some aspects of instability and hardship spill-over across contexts for MPF fathers. Given the associations among fathers' employment, involvement with children, and financial contributions to children (Nepomnyaschy, 2007; Nepomnyaschy & Garfinkel, 2010; Waller, 2009), research illuminating spill-over between chaos in home and work contexts may be particularly salient when fathers have children with multiple partners.

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Table 1

Descriptive Statistics for the Overall Sample and by MPF Group (N = 873)

Characteristics	Full Sample (<i>n</i> = 873) <i>n</i> or <i>M</i> (<i>SD</i> or %)	No MPF (<i>n</i> = 380) <i>n</i> or <i>M</i> (<i>SD</i> or %)	Early MPF (<i>n</i> = 346) <i>n</i> or <i>M</i> (<i>SD</i> or %)	Recent MPF (<i>n</i> = 147) <i>n</i> or <i>M</i> (<i>SD</i> or %)	<i>F</i> / χ^2
Father age Y3	29.08 (7.46)	26.79 (5.44)	32.86 (8.52)	26.17 (5.31)	73.45*
Race/ethnicity					25.91*
White non-His.	89 (10%)	55 (15%)	22 (6%)	12 (8%)	
Black non-His.	600 (69%)	233 (61%)	268 (77%)	99 (67%)	
Hispanic	148 (17%)	74 (20%)	44 (13%)	30 (20%)	
Other	35 (4%)	17 (4%)	12 (4%)	6 (4%)	
Education					11.69*
< High school	304 (36%)	140 (37%)	100 (30%)	64 (44%)	
High school/GED	362 (42%)	150 (40%)	153 (46%)	59 (40%)	
some college	189 (22%)	87 (23%)	80 (24%)	22 (15%)	
Earnings Y3	\$17,443 (18,104)	\$19,358 (18,284)	\$16,275 (18,564)	\$15,169 (16,058)	3.74*
Drug use					.74
Yes	142 (16%)	58 (15%)	60 (17%)	24 (16%)	
No	728 (84%)	32 (85%)	284 (83%)	123 (84%)	
Ever incarcerated					10.78*
Yes	516 (59%)	201 (53%)	222 (64%)	93 (63%)	
No	357 (41%)	179 (47%)	124 (36%)	54 (37%)	
Incarcerated at Y3					.49
Yes	135 (16%)	57 (15%)	57 (16%)	21 (14%)	
No	738 (85%)	323 (85%)	289 (84%)	126 (86%)	
Lives w/partner					81.81*
Yes	234 (27%)	69 (18%)	82 (24%)	83 (57%)	
No	637 (73%)	311 (82%)	262 (76%)	64 (44%)	
Cohab. w/mother					23.96*
Year 1	255 (30%)	136 (37%)	97 (30%)	22 (16%)	
Birth	177 (21%)	80 (22%)	60 (18%)	37 (27%)	

Characteristics	Full Sample (<i>n</i> = 873) <i>n</i> or <i>M</i> (<i>SD</i> or %)	No MPF (<i>n</i> = 380) <i>n</i> or <i>M</i> (<i>SD</i> or %)	Early MPF (<i>n</i> = 346) <i>n</i> or <i>M</i> (<i>SD</i> or %)	Recent MPF (<i>n</i> = 147) <i>n</i> or <i>M</i> (<i>SD</i> or %)	<i>F</i> / χ^2
Not together	406 (48%)	156 (42%)	171 (52%)	79 (57%)	

Note.

* *p* < .05.

Welch's *F*-tests with Games-Howell post hoc comparisons.

Table 2
Sample Means for Dependent Variables for the Overall Sample and by MPF Group (N = 873)

Variable	Full Sample (<i>n</i> = 873) <i>n</i> or <i>M</i> (<i>SD</i> or %)	No MPF (a) (<i>n</i> = 380) <i>n</i> or <i>M</i> (<i>SD</i> or %)	Early MPF (b) (<i>n</i> = 346) <i>n</i> or <i>M</i> (<i>SD</i> or %)	Recent MPF (c) (<i>n</i> = 147) <i>n</i> or <i>M</i> (<i>SD</i> or %)	Significant Differences
Partner instability	.94 (.108)	.66 (.97)	.85 (.110)	1.99 (.66)	c > a, c > b
Res. instability ^a	.81 (.79)	.80 (.79)	.74 (.79)	1.01 (.81)	c > a, c > b
Work stability	33.19 (21.39)	36.67 (20.34)	29.66 (21.82)	32.40 (21.74)	a > b
Material hardship	.79 (.105)	.65 (.95)	.91 (.113)	.89 (1.06)	b > a
Social support	2.59 (.83)	2.66 (.77)	2.54 (.86)	2.51 (.89)	

Note. Sample size varies by independent variable.

^aResidential instability.

Significant differences at $p < .05$

Table 3

Summary of Multiple Regression Analyses for Associations Among MPF and Environmental Chaos Variables (N = 873)

Variable	Partner Instability (N = 668)		Resident Instability (N = 869)		Work Stability (N = 859)		Material Hardship (N = 839)		Social Support (N = 839)	
	Model 1	Model 2	Model 1	Model 2	Model 1	Model 2	Model 1	Model 2	Model 1	Model 2
Father age Y3	β	β	β	β	β	β	β	β	β	β
	-.065*	-.062 [†]	-.125***	-.132***	-.088**	-.054	.101**	.079*	-.087*	-.083*
Race/ethnicity										
Black	.069	.042	-.111*	-.127**	-.189***	-.166***	-.066	-.084	-.038	-.029
Hispanic	.080 [†]	.066	.088 [†]	.081 [†]	-.082 [†]	-.072	-.062	-.070	-.077	-.072
Other	.010	.001	-.007	-.011	-.072*	-.067 [†]	-.032	-.036	-.045	-.043
Education										
High school	-.002	.001	.039	.040	.079*	.081*	.007	.006	.041	.041
some college	.014	.027	.000	.006	.125***	.123**	.016	.019	.073 [†]	.070 [†]
Earnings Y3	.017	.028	.100**	.106**	---	---	-.131**	-.125**	.115**	.111
Used drugs	.021	.017	.078*	.075*	-.066*	-.061*	.207***	.203***	-.060 [†]	-.059 [†]
Ever incarcerated	.025	.017	.077*	.071*	-.215***	-.203***	.063 [†]	.055	-.043	-.040
Incarcerated Y3	-.006	-.007	.137***	.136***	-.279***	-.277***	-.201***	-.201***	.060	.060
Lives w/partner	.579***	.505***	.045	.012	.061*	.078*	.022	.001	.002	.020
Cohab. w/mother										
Year 1	-.177***	-.153***	.138***	.149***	.024	.017	.066 [†]	.075*	-.050	-.056
Birth, not Y1	-.027	-.028	.053	.053	.014	.011	.003	.005	-.030	-.030
MPF										
Early MPF		.084*		.058		-.101**		.080*		-.033
Recent MPF		.268***		.121**		-.062 [†]		.080*		-.068 [†]
R ²	.420***	.475***	.116***	.128***	.235***	.242***	.092***	.099***	.037***	.041**
Wald χ^2		99.9***		10.86*		9.53**		6.27*		2.50

Note. Wald χ^2 = Wald test for parameter constraints with two degrees of freedom.

Petren

100' > d

10' > d
**
50' > d
*
01' > d
+

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