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**DOES FAMILY COMPLEXITY IN CHILDHOOD EXPLAIN RACE-ETHNIC
DISPARITIES IN ADULT FERTILITY BEHAVIORS?**

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Does Family Complexity in Childhood Explain Race-Ethnic Disparities in Adult Fertility Behaviors?

Abstract

Research in Norway and Sweden suggests that, like other family behaviors, family complexity is transmitted across generations via offspring multipartner fertility. To the extent that intergenerational transmission of family complexity occurs in the U.S. and affects the chances of childbearing in a stable union similarly across race-ethnic groups, such processes may explain race-ethnic fertility differentials. Using data from the National Longitudinal Survey of Youth, 1997 Cohort, we test whether adolescent family complexity—which incorporates both family structure and the presence of half- or step-siblings—is associated with the timing and context of first births and the risk of multipartner fertility. We find that sibling ties in adolescence add little explanatory power in predicting future fertility above and beyond family structure, which is associated with all fertility outcomes. We also find strong race-ethnic differences across fertility outcomes, but that accounting for family complexity in adolescence does not attenuate associations. Using predicted probabilities from interaction models, we find that adolescent family complexity likely does not explain differences in fertility because its influence on fertility varies by race-ethnicity. Our results suggest that, in the U.S., (1) family structure is a stronger predictor of fertility experiences than is family complexity, and (2) the consequences of growing up in a complex family for fertility behaviors vary by race-ethnicity. We situate our findings in research regarding the intergenerational transmission of family behavior and race-ethnic disparities in fertility as well as literature on the importance of social policy context for ameliorating family structure differences.

Key Words: family complexity, intergenerational transmission, multipartner fertility, race-ethnicity, racial disparities, first birth context.

Introduction

Although growth in family complexity (a concept that includes both family structure and the presence of half- or step-siblings) seems to have leveled off in recent years (Manning et al. 2014), related behaviors such as nonmarital fertility and multipartner fertility (having children with different partners, abbreviated as MPF) remain common in the United States. About 40% of all births occur outside of marriage (J. A. Martin et al. 2018), and 10% of all individuals 15 and older, and 20% of those with two or more children, have MPF (Monte 2019). Moreover, rates of nonmarital fertility and MPF are considerably higher among race-ethnic minorities and the disadvantaged (Carlson and Furstenberg Jr. 2006; Guzzo 2014; Guzzo and Furstenberg Jr. 2007a, 2007b; J. A. Martin et al. 2018; Meyer et al. 2005). Differentials in the experiences of childbearing, particularly childbearing within a stable partnership, are part of the broader trends in American families that seem increasingly bifurcated (Cherlin 2010; McLanahan 2004).

The reasons why underlying fertility disparities, particularly race-ethnic differences, remain even after accounting for socioeconomic characteristics are unclear. One potential explanation is that individuals whose parents experienced certain family behaviors are more likely to experience those behaviors themselves in adulthood. In the U.S., there is substantial evidence of intergenerational transmission of fertility behaviors (Barber 2001; Högnäs and Carlson 2012) as well as union formation and stability (Amato and Patterson 2017; Kamp Dush et al. 2018; Ryan et al. 2009). In this paper, we extend the literature on intergenerational transmission to incorporate family complexity, testing whether experiencing family complexity during adolescence influences adults' risk of childbearing outside of a stable partnership, focusing on first birth timing, first birth union context, and MPF. To our knowledge, only one study, using Norwegian and Swedish data, has directly established a link between having family complexity during childhood and adults' fertility (Lappegård and Thomson 2018). Additionally,

we explore whether the intergenerational transmission of family complexity may explain race-ethnic differences in fertility behaviors, as experiences of family complexity are considerably higher among race-ethnic minorities (Amorim and Tach 2019; Manning et al. 2014). We use the National Longitudinal Survey of Youth, 1997 cohort (NLSY97), which is uniquely suited for this analysis. The NLSY97 has information on experiences of family complexity during adolescence, rich data on childbearing, permits identification of MPF in young adulthood, and includes oversamples of Black and Hispanic individuals.

Background

Intergenerational Transmission of Family Behaviors

A growing body of work links adult family behaviors to family structure and change during childhood. For instance, men and women's age at first birth is sharply related to their mother's age at first birth (Barber 2001), and an adult child is more likely to have a first birth outside of marriage if either parent had ever had a nonmarital birth (Högnäs and Carlson 2012). Young adults also have an elevated risk of union instability (both cohabitation dissolution and marital divorce) if their parents had a history of union instability (Amato and Patterson 2017). If intergenerational processes are at play, then growing up outside of an intact biological-parent family and/or with step- or half-siblings in or outside of the household may be another family behavior reproduced across parents and children, impacting the timing and union context of first births as well as the chances of experiencing family complexity (via MPF) oneself. Children who grow up in non-intact families, particularly stepfamilies, tend to enter family roles (like parenthood and partnerships) earlier than their peers in married biological parent families (Amato and Kane 2011; Ryan et al. 2009; Wolfinger 2003). The earlier schedule of family

formation is accompanied by a high proportion of births in unstable unions, both of which increase the risk of MPF (Edin and Tach 2012; Guzzo 2014; Monahan and Guarin 2019).

Through what processes and mechanisms are family structure and family behaviors transmitted across generations? Certainly, the selectivity of family instability could be a factor in the intergenerational transmission of family behaviors. Less advantaged parents are more likely to experience family instability and complexity, and the strong intergenerational transmission of socioeconomic status in the U.S would suggest that their children would be similarly disadvantaged (Chetty et al. 2014). If this is the case, it is not family structure per se that is being transmitted across family structure but, rather, socioeconomic status that links adults' fertility behaviors with that of their parents.

Other work, however, suggests a direct effect of family structure on adult children's outcomes independent of socioeconomic status (Fomby 2013; Fomby and Bosick 2013; Högnäs and Carlson 2012; M. A. Martin 2012). One such avenue through which parents' family experiences may influence adult children's family behaviors, though difficult to test empirically, is through socialization processes. By observing their parents' interactions with each other and with new romantic partners, children learn relationship skills upon which they can model their future romantic relationships. But when parents' relationships are unstable or nonexistent, children may have fewer opportunities to learn strong relationship skills (Amato and Patterson 2017). The stepfamilies that form when parents repartner also sometimes have poorer relationship quality and more conflict (Sweeney 2010). Thus, parents' own relationship difficulties may inhibit their children's ability to learn strong relationship skills, thereby increasing their offspring's chances of having children outside of stable partnerships. Similarly, parents' relationship behaviors may foster more liberal attitudes toward other family behaviors,

including normalizing relationship dissolution and repartnering (Amato and Patterson 2017); this, too, may be linked to future childbearing. In addition to socialization, both the social stress perspective (George 1989, 1993) and family stress theory (Conger et al. 1992; McCubbin and Patterson 1983) suggest that multiple family changes negatively alter parenting behaviors. Compared to non-intact families, biological-parent families tend to have higher-quality parenting, lower parental stress, and stronger coparental relationships (Beck et al. 2010; Cavanagh and Huston 2008; McLanahan and Beck 2010; Osborne and McLanahan 2007). Children who live in intact families, in turn, tend to have a lower risk of problem behaviors and poorer social development (Cavanagh and Huston 2006, 2008). In sum, there many reasons to expect that family structure during adolescence will directly impact adult fertility behaviors. Consistent with this argument, there are sizeable effects of child/adolescent family structure on fertility timing, union context, and MPF even when controlling for socioeconomic and psychosocial characteristics (Carlson et al. 2013; Fomby and Bosick 2013; Monahan and Guarin 2019).

The arguments above, however, are largely linked to family structure. Family complexity—which considers both family structure and the presence of half- or step-siblings—may represent a unique situation that may could also affect adult children’s risk of childbearing in unstable contexts. Adolescents with complex sibling ties perform worse academically and have more behavioral problems, school issues, and depression than their peers with only full siblings, even when controlling for family structure (Halpern-Meekein and Tach 2008; Strow and Strow 2008; Tillman 2008). By considering sibling ties, family complexity seems to capture additional stressors and ambiguities beyond those captured by family structure. For instance, children may compete for parent and stepparent attention and resources, and differential

treatment and rules across children may heighten resentment and conflict, leading to strained parent-child relationships. Complex family structures may further normalize non-traditional families, reducing the social costs of complex family formation in adulthood. Accounting for family complexity also allows for the identification of stepfamilies in which nuclear families are nested, as it is possible for a child to live with both biological parents but also have a half-sibling from either or both parents' prior union(s); such complex families are often missed when focusing solely on family structure.

To our knowledge, only one study has directly linked family complexity to adult fertility behaviors. Looking at MPF, Lappegard and Thomson (2018) find that having half-siblings does indeed increase the risk of MPF among adult children in Norway and Sweden, even when accounting for family structure and first birth characteristics (the study did not explicitly predict the timing or union context of first births). However, the risk of MPF was greatest for individuals who were not living with their biological parents, suggesting that family structure drives at least part of the link between family complexity and adult fertility behaviors. The authors interpret the general finding as evidence of differential socialization processes, though the administrative data used in their analyses were unable fully account for key mechanisms, such as parenting behaviors or income. Additionally, their study settings, Norway and Sweden, are considerably more homogenous and have less inequality and diversity among family types than in the U.S., along with greater support for families (Brady and Burroway 2012; Cohen 2015). As such, it is unclear whether the intergenerational transmission of family complexity, as evidenced by childbearing outside of a stable partnership, would occur in the same pattern in the U.S. and across race-ethnic groups, which we discuss in the next section.

Race-Ethnic Differences in Family Complexity and Fertility Behaviors

There are longstanding differentials in family and fertility behaviors across race-ethnic groups (Raley et al. 2015; Sweeney and Raley 2014). Black and Hispanic individuals begin childbearing at earlier ages than their White counterparts, and their births more frequently occur outside of marriage (J. A. Martin et al. 2018; Mosher et al. 2012). Whites, conversely, are more likely to marry (and do so at earlier ages) than Blacks, and their marriages tend to be more stable, with Hispanics generally falling in between Whites and Blacks (Allred 2018; Eickmeyer and Hemez 2017; Payne 2018). In terms of MPF, the latest estimates, using nationally representative data that directly asks individuals if they have children with more than one partner, show that, among mothers with two or more children, about 43% of Black mothers, 35% of foreign-born Hispanics, 24% of White mothers, and 23% of native-born Hispanics have MPF (Stykes and Guzzo 2019), with similar disparities among men (Monte, 2019). Race-ethnic differences in children's exposure to sibling complexity have narrowed over time, but gaps persist and remain partially unexplained (Amorim and Tach 2019).

Some, but not all, of race-ethnic disparities in family behaviors are driven by underlying socioeconomic differentials (Raley et al. 2015; Sweeney and Raley 2014). Early and nonmarital fertility as well as MPF are higher among disadvantaged individuals, but even when accounting for socioeconomic status, they remain higher among Black and Hispanic men and women relative to White men and women (Carlson and Furstenberg Jr. 2006; Guzzo and Furstenberg Jr. 2007a; J. A. Martin et al. 2018). To the extent that family complexity—and not just family structure—is transmitted across generations (Lappegård and Thomson 2018), the higher levels of family complexity Black and Hispanic adults experienced during their own childhood may be a key explanatory factor for ongoing race-ethnic differentials in the timing, context, and stability in

which childbearing occurs. Thus, we hypothesize that accounting for socioeconomic status, parenting and psychosocial characteristics, and adolescent family complexity may reduce or explain race-ethnic differences in the timing and context of first births and, further, that accounting for these background characteristics, as well as first birth characteristics, can explain race-ethnic differences in MPF.

Even if such characteristics are associated with the likelihood of experiencing childbearing outside of stable relationships, however, they may not fully explain race-ethnic differences. Especially relevant for the current research, family complexity may be less consequential for some groups than others. Harcourt and colleagues (2015), for example, find that complex families influenced White children's well-being but not Black children's well-being. The association between family structure transitions and child well-being (Lee and McLanahan 2015), family instability and adolescent risk behavior (Fomby et al. 2010), and the intergenerational transmission of family behaviors also varies by race-ethnicity (Högnäs and Carlson 2012). Systemic and large-scale differences in the lives of minorities in the U.S. relative to their White counterparts, such as living in impoverished neighborhoods, experiencing higher levels of incarceration, and differential access to educational and employment opportunities, likely have direct impacts on family behaviors and could weaken any intergenerational linkages among Black and Hispanic parents and children. For instance, the targeted mass incarceration of Black and Hispanic men has negatively impacted the formation and stability of unions at both the aggregate and individual levels (Western and Wildeman 2009). We cannot, unfortunately, account for macro influences on family behaviors.

Current Study

In this study, we ask whether family complexity in one's own childhood explains race-ethnic differences in three fertility behaviors: (1) the likelihood and timing of a first birth, (2) union

status at first birth (for those who have a birth), and (3) the risk of having a subsequent birth with a new partner (for those who have a birth), i.e., having MPF. Further, given some research suggesting that the intergenerational transmission of family behaviors may be weaker for some groups than for others, we also test whether the effect of family complexity during adolescence on adult fertility behaviors differs by race-ethnicity. We account for a range of family and individual sociodemographic, psychosocial, and family background characteristics that might confound the associations between race-ethnicity, adolescent family complexity, and fertility behaviors. This article adds to broader discussions of race-ethnic differences in family behaviors and the intergenerational transmission of family behaviors.

Method

Data

We use data from the National Longitudinal Survey of Youth 1997 Cohort (NLSY97). The NLSY97 is a nationally representative panel study of 8,984 adolescents at Wave 1 when respondents were 12-18 years old. Data were collected annually from 1997 to 2011 and biennially thereafter, current through 2015; in the last wave of data collection, respondents ranged in age from 26-32. The NLSY97 oversamples Black and Latino respondents. The sample and the oversample were collected through two, stratified, multistage area probability samples at the household level (Bureau of Labor Statistics 2016). The NLSY97 is well suited to address our research questions because of detailed birth and partnership histories that allow us to ascertain partner-specific births, a battery of indicators about family structure during childhood, and the oversample of Black and Latino respondents. Another key advantage of the NLSY97 for ascertaining MPF is its identification of the other parent for each child of a given respondent.

Obtaining MPF in this way is less prone to error than using union and childbirth histories to pinpoint the occurrence of MPF (Guzzo and Dorius 2016).

Sampling Frame and Sample Selection

Because we measure family complexity in adolescence (i.e., up to age 18, reflecting the oldest age at the baseline round of data collection), our sampling frame is those whose first birth occurred after age 18. We do this to ensure temporal ordering between one key independent variable (family complexity in adolescence) and the dependent variables (timing of first birth, union status at first birth, fertility after a first birth). This, of course, likely cuts out the most disadvantaged members of the population: those who have a very early first birth. To better understand whether our results are likely affected by our analytical sample selection, we conducted a basic sensitivity test to examine how family complexity in adolescence covaries with having a birth before age 18 for the full sample of NLSY97 respondents and by race-ethnicity (Appendix Table AI). In short, a greater proportion of those who did not grow up with both biological parents had a birth prior to age 18; differences by sibling complexity in births before age 18 occur largely to Whites. Because we eliminate the most disadvantaged members of our sample—those with a birth before age 18—our findings are likely conservative in estimating true associations between the independent variables (race-ethnicity and family complexity in adolescence) and the dependent variables (timing of first birth, union status at first birth, new-partner fertility after a first birth) and may be more or less conservative across race-ethnic groups.

Analytic Sample Construction

We have three analytic samples. Beginning with the full sample of 8,984 NLSY97 respondents, we drop 792 respondents whose first birth was prior to age 18, 73 respondents whose race was marked as mixed/other, and 29 respondents who were missing data on family complexity in

adolescence. Our first analytic sample is the remaining 8,090 individuals and is used in analyses predicting timing of first birth; they represent those that would have responded to the NLSY survey whose first birth was at age 18 or later. Our second analytic sample is limited to those who had a first birth, 4,756 individuals, and is used in the analysis predicting union status at first birth. For our third analytic sample, used in analyses predicting MPF, we drop four respondents who had illogical dates on any birth (e.g., third birth is reported to have occurred earlier than second birth). The result is a third analytic sample of 4,752 individuals.

Key Independent Variables

We capture race-ethnicity, our first key independent variable, with three categories: White, Black, and Hispanic. We do not disaggregate Hispanic by nativity because foreign-born Hispanics comprise only 3% of the full sample. We draw on a variable that categorizes respondents as Black, Hispanic, mixed race (dropped), or Non-Black, Non-Hispanic. For brevity, we categorize Non-Black, Non-Hispanic as White since most individuals who fall in this category are White.¹

Our second key independent variable combines information on family structure and the presence of half- or step-siblings during adolescence (i.e., through, but not including, age 18). Because respondents are ages 12-18 when they begin at baseline, we measure family complexity up to age 18 (instead of as of the first round), to cover the same period of exposure to family complexity in adolescence across respondents. We draw family structure information from a series of questions that ask about respondent's family structure arrangements and household rosters at age 12 and the years 1997-2003 (when the youngest respondents turned 18). We

¹ 237 individuals in our first analytic sample and 68 individuals in our second and third analytic samples are listed as White in the current study, but are technically Non-Black, Non-Hispanic. They are either American Indian, Eskimo, or Aleut; Asian or Pacific Islander; or something else.

dichotomize family structure to “both biological parents” versus “not both biological parents”—the latter indicates any other arrangement; we lacked sufficient cell sizes to further disaggregate by single mother, single father, stepfamily, or other when combined with the sibling information. We draw sibling information from household rosters in the years 1997-2003 (when the youngest respondents turned 18) and non-residential relationship roster in 1997 (information on non-residential relationships was only collected in this year). We dichotomized this information by indicating whether a respondent ever listed as having a residential (1997-2003, up to age 18) or non-residential (1997 only) half- or step-sibling. These dichotomizations resulted in four categories: both biological parents, no half- or step-siblings; both biological parents, any half- or step-siblings; not both biological parents, no half- or step-siblings; not both biological parents, any half- or step-siblings.

Dependent Variables and Analyses

As noted above, we have three dependent variables: first birth/timing, union context of first birth, and multipartner fertility (MPF), all taken from the detailed fertility and partnership histories in the NLSY97. After presenting the sample characteristics by race-ethnicity, we present bivariate associations between family complexity and our three fertility indicators (ever had a birth, union status at first birth, MPF) for the analytical sample overall and by race-ethnicity. Our multivariable analysis proceeds in four stages. First, we use discrete-time event history models to examine how family complexity in adolescence is related to whether someone has a first birth and its timing. We expand our first analytic sample of 8,090 individuals from person records to person-month records ($n=888,187$), where respondents enter at the month they turn 18 (conditional on being childless) and drop out once they have a first birth or censor out at the month of the last interview. Here, the dependent variable is a time-varying, dichotomous variable

that takes the value of 1 when a first birth occurs, and 0 in all other months. We use logistic regression to predict the odds of a birth in the next month (versus no birth). We present odds ratios (ORs). In an event history predicting first births, ORs ratios over 1 essentially indicate an earlier age at first birth.

Second, we use multinomial logistic regression to predict union status at first birth, among those who have had a birth (second analytic sample of 4,756 parents); note that time-varying union status is not included in the prior analysis of having any birth because while it is clear that being in a union increases the risk of having a birth, we are specifically interested in the union context of first births. Thus, while the first analysis gets at timing of first birth, we do not use event history analysis here. Union status at first birth, the dependent variable for this analysis, has three categories: outside of a coresidential union (“non-union” in the tables for brevity); cohabiting; and marital.

Third, we use discrete time event history models to predict multipartner fertility, conditional on a first birth. We expand our third analytic sample of 4,752 parents into person months (n=405,498); recall that we have four fewer cases than the preceding analysis of first birth context due to illogical dates for higher-order births. The dependent variable for the analysis is time-varying by month and has three categories based on fertility histories and the ‘other parent’ roster of the NLSY97: no birth, a birth with the same fertility partner, and a birth with a new fertility partner (i.e., MPF). We use multinomial logistic regression to predict the odds of each outcome in the next month by rotating the reference category. After a first birth, individuals are “at risk” of having a child with a new partner (i.e., MPF). Individuals therefore enter the analysis when they have a first birth, and individuals exit the analysis the month of a birth with a new fertility partner (i.e., experiencing MPF) or the month of their last interview if

they do not have a birth with a new fertility partner. Following Lappegård and Thomson (2018), if an individual has a birth with the same fertility partner, that event is recorded, and that individual re-enters the analysis—because he or she is still at risk of having a child with a new partner and therefore experiencing MPF—but at higher parity. Thus, we control for time-varying parity (1, 2, 3, or 4 or more) as individuals who have second- or higher-order births with the same fertility partner can go on to eventually have MPF through a birth with a new partner. Education and age are similarly indexed to each birth. Education is measured categorically as highest degree attained—no degree (reference), high school or GED, or degree above high school—as well as a dichotomous variable indicating whether the respondent was enrolled at the time of birth. However, given the importance of the timing and context of entry into parenthood for the risk of MPF—and in direct consideration of the prior analyses—we index age and union status to the first birth. Age at first birth is measured categorically given expected non-linear associations with MPF status: 17 and younger, 18-19, 20-22, 23-26, and 27 and older. Finally, we measure union status at first birth as non-union, cohabiting, or married.

We also ask whether race-ethnicity modifies the association between family-complexity and each fertility outcome. Our fourth analytic approach answers this research question in that, for each fertility outcome, we run another analysis with all controls, but also include an interaction between race-ethnicity and family complexity (for full regression results from these models, see Appendix Table AII). From these interactions, we use the “margins” command in Stata to estimate the predicted probability of each fertility outcome by each combination of race-ethnicity and family complexity. We then use the “margins” command (Mize 2019) to estimate whether the risk of any fertility outcome within a race-ethnic group significantly varies by the respondent’s family complexity in adolescence.

All analyses control for sociodemographic characteristics that may otherwise confound our estimates; some of these are time-varying depending on the analysis. We control for: gender; respondent's mother's age at first birth; respondent's mother's education (measured as number of years of schooling completed); respondent's mother's parenting style (uninvolved, permissive, authoritarian, and authoritative) to proxy parenting behaviors; age (continuous and time-varying); time-varying income (continuous, measured as annual household income in the previous year, with a natural log transformation to account for its right skew); time-varying union status (never married, not cohabiting; never married, cohabiting; married; divorced, widowed, or separated); and time-varying program participation in the previous year, which includes Temporary Assistance for Needy Families (TANF)/Aid to Families with Dependent Children (AFDC); Women, Infants, and Children (WIC); Supplemental Security Income (SSI); and non-cash assistance. Time-varying urbanicity is a dichotomous variable, where 1 indicates urban, and 0 indicates rural or other.

The NLSY97 collects some data at the year level (e.g., annual household income in the last year), but some of our analyses are in person-months. We use the year-level value of income for each month of a given year. As an example, if in 2013, a respondent reported their annual household income in 2012 as \$55,000, the individuals' annual household income would be \$55,000 for all months that correspond to the year 2013. Additionally, because the NLSY97 did not sample in 2012 and 2014, some variables (i.e., income, program participation, and urbanicity) were not available during person-months at which individuals were at risk. For income in 2012, we averaged 2011 and 2013 income; for income in 2014, we averaged 2013 and 2015 income. For program participation and urbanicity, we coded individuals as 0 or 1 in the missing year if they had the same value in the surrounding years (e.g., if someone received

program assistance in 2013 and 2015, we coded them as 1 for 2014). If the surrounding years disagreed, then we coded as missing and used multiple imputation to fill in that year. For income, program participation, and urbanicity, if a value surrounding 2012 or 2014 (i.e., in 2011, 2013, or 2015) was missing, we used multiple imputation. Multiple imputation for these variables and other covariates were imputed using the “mi impute chained” command in Stata 14.2, using 10 imputations. We did not impute missing values for the dependent variable (von Hippel 2007) or the family complexity in adolescence variable, and there were no missing values for race, gender, age, age at each birth, and education at each birth; however, we used these variables to inform the imputation. Per the NLSY97 guidelines, we use the custom longitudinal weights when calculating descriptive statistics, but we do not weight regression analyses (National Longitudinal Surveys | Bureau of Labor Statistics n.d.).

Results

Descriptive Statistics

[Table I here.]

Table I shows weighted descriptive statistics for the full analytic sample and by race-ethnicity, with some variables conditional on having a birth. Beginning with the overall analytical sample, 42% of individuals grew up with both biological parents and no half- or step-siblings, with an additional 5% living with both biological parents but also having at least one half- or step-sibling. More than half of the sample did not live with both biological parents, and among these, having half-or step-siblings was fairly common. Overall, 28% of the sample reported having at least one residential half or step-sibling during adolescence. As expected, those who grew up in any arrangement besides both biological parents had a much greater prevalence of having half- or step-siblings—23% of the sample.

More than half of the analytical sample had at least one birth after age 18 and before the Round 15 survey, with an average age of just over 24 (recall that at the latest round, respondents ranged in age from 30-36). Among those with a birth, about half had a marital first birth, with the remainder split fairly evenly among cohabiting births (25%) and non-union births (27%). Most respondents with a birth had at least a high school degree at the time of their first birth (recall that the sample excludes those who had a birth prior to age 18), and 17% of parents went on to have MPF.

However, the overall analytic sample statistics mask great heterogeneity by race-ethnicity across measures. For example, 14% of Black men and women grew up with both biological parents and no half- or step-siblings compared with 40% and 48% of their Hispanic and White counterparts, respectively. Conversely, 39% of Black men and women had at least one half-or step-sibling compared to 29% of Hispanic and 26% of White men and women. Among those with any children, Black men and women were more likely than Hispanic men and women, who were more likely than White men and women, to experience earlier first births, a non-union first birth, and MPF.

[Table II here.]

Table II shows the weighted bivariate associations between family complexity and fertility behaviors, for the full analytical sample and by race-ethnicity. Those who lived in the least complex family—both biological parents, no half- or step-siblings—had the lowest proportion with a birth by the latest round (51%), the highest proportion married at first birth among those with a birth (65%), and the lowest proportion who went on to have a subsequent birth with a new partner among those with any births (12%). Those who lived in a family without both biological parents, conversely, have higher proportions who had a birth by the last round of

data (58%-64%), the highest proportion who were not in a coresidential union at first birth (33%-36%), and the highest proportion with MPF (28%-30%). Among those who lived in non-biological families, though, the differences are minimal between those with and without half- or step-siblings, especially for MPF. Generally, bivariate associations suggest that the biggest differences are between those who lived with both biological parents and those who did not.

However, there appears to be some variation across race-ethnicity, with differences between family complexity types appearing to be smaller for Black men and women than for Hispanic and White men and women. For instance, looking at MPF among Black adults with at least one child, the percentage ranges from 29% among those who lived with both biological parents and half- or step-siblings to 40% among those who lived without both biological parents, regardless of whether they had half- or step-siblings – a difference of only 11 percentage points across groups, with the highest percentage only about 38% higher than the lowest percentage. For Whites, the variation is larger both in absolute and relative terms, ranging from 10% to 25% (a 15-percentage point difference), with the highest and lowest percentages representing a 150% difference. In short, the descriptive statistics illustrate race-ethnic and adolescent family structure disparities in age at first birth, union status at first birth, and MPF. We turn to the multivariable analyses to address whether family complexity accounts for race-ethnic disparities in fertility behaviors.

Timing of First Birth

[Table III here.]

Table III shows odds ratios (ORs) from logistic regression predicting the odds of having a birth in the next month (versus no birth in the next month) using discrete-time event history models. An OR greater than one indicates that the respondents were more likely to have a birth,

essentially indicating earlier fertility. Beginning with race-ethnic differences in the odds of having a birth in the next month—shown in Table III, Model 1—results indicate that, compared to Black men and women, Hispanic and White men and women were significantly less likely to have a birth (OR = 0.91 and OR = 0.84, respectively,) as opposed to no birth, net of controls. Put differently, Black men and women have their first birth earlier than Hispanic and White men and women, consistent with prior research.

We are interested in whether family complexity in adolescence is linked to fertility behaviors and thus whether it may explain race-ethnic disparities in fertility behaviors. The answer to this question lies in Models 2 and 3. Turning to family complexity in adolescence (Model 2), those who grew up without both biological parents, regardless of sibling complexity, were more likely to have a birth in the next month than those who grew up with both biological parents and no half- or step-siblings. But in Model 3, which includes both race-ethnicity and family, we see that although the Hispanic-Black gap in odds of a birth are no longer significant, the White-Black gap changes little. Thus, even when controlling for family complexity during adolescence, Black adults enter into parenthood earlier than their White counterparts. Across models, Hispanic and White men and women were not significantly different from one another in their risk of a birth in the next month (not shown). Additionally, the association between family complexity and the odds of a first birth change in the presence of controls for race-ethnicity. In Model 3, only those who grew up without both biological parents and with half- or step-siblings were more likely to have a birth in the next month relative to those who grew up with both biological parents and without half- or step-siblings. In models in which we changed the family complexity reference category (not shown), we found that none of the other types of family complexity in adolescence (both biological parents, half- or step-siblings; not both

biological parents, no half- or step-siblings; not both biological parents, half- or step-siblings) were significantly different from one another in their odds of having a birth in the next month.

In terms of control variables in the full model (Model 3), men entered parenthood later than women. Mother's age at first birth was negatively associated with odds of a birth in the next month, but magnitude was small (OR = 0.99). Income and education accelerated the transition to parenthood, whereas current enrollment was associated with decreased odds of a birth in the next month.

[Figure 1 here.]

We also explored whether the influence of family complexity in adolescence on fertility timing works differently by race-ethnicity. Figure 1 shows predicted probabilities of a birth in the next month from models that include an interaction between race-ethnicity and family complexity. We find that, for Black men and women, those who grew up without both biological parents were significantly more likely than those who grew up with both biological parents and no half- or step-siblings to experience a birth in the next month, that is, to have a birth sooner. We did not find significant differences by family complexity in adolescence for Hispanic or White men and women. This suggests that family structure—but not necessarily complexity—in adolescence influences the timing of parenthood differently by race-ethnicity.

Union Status at First Birth

[Table IV here.]

Table IV shows relative risk ratios (RRRs) from multinomial logistic regression models predicting union status at first birth, given that the respondent has a birth. Across models, we find stark race-ethnic disparities in union status at first birth, consistent with prior work. Model 1, which includes controls for socioeconomic, demographic, and psychosocial factors but not

family complexity, shows that Hispanic and White men and women are 3.0 and 3.8 times as likely, respectively, to have a cohabiting first birth compared to a non-union first birth than their Black counterparts, net of controls. We find even larger race-ethnic disparities in the risk of a marital first birth versus a non-union first birth. Hispanic and White men and women are about 5.5 and 9.0 times as likely, respectively, to have a marital first birth than are Black men and women. Moreover, the final contrast shows that relative to Black men and women, both Hispanics and Whites are more likely to have a marital than cohabiting first birth. Next, we estimate the risk of union status at first birth by family complexity in adolescence in Model 2, which does not control for race-ethnicity. Those who grew up without both biological parents, regardless of sibling complexity, were less likely to have either a cohabiting (by 21-25%) or marital (by 60%) first birth relative to a non-union first birth and were about half as likely to have a marital than cohabiting first birth.

Although Model 2 demonstrated that adolescent family complexity does predict the union context of adults' first births, it does little to explain the association between race-ethnicity and union context. The ORs change little from Model 1 to Model 3, with both Whites and Hispanics more than three times as likely to have a first birth in a cohabiting union than no union relative to their Black counterparts, with differences even larger for marital births (OR = 4.8 for Hispanics and OR = 8.1 for Whites). However, the associations between family complexity and the union status of early first births are substantially attenuated in the presence of controls for race-ethnicity. Family structure (i.e., living outside of a two-biological parent household), but not sibling complexity, is associated with a decreased risk of a marital first birth relative to a non-union birth or a cohabiting birth, but there are no longer any significant differences in the risk of a cohabiting first birth relative to a non-union birth. Those who grew up in an arrangement other

than both biological parents were 36-43% less likely than those who grew up with both biological parents and no half- or step-siblings to have a marital first birth than a non-union birth and were 41%-46% less likely to have a marital first birth than a cohabiting first birth. In short, though we find that family structure—but not complexity via sibling ties—is linked to union status at first birth, we find no evidence that family complexity in adolescence mediates the stark race-ethnic disparities in union status at first birth.

In terms of controls, men, those with higher levels of income, those with more than a high school degree, and those who were not currently enrolled in school were more likely to have cohabiting or marital first birth than a non-union birth. Young adults whose mothers were permissive or authoritative were more likely to have a marital than cohabiting first birth relative to those with uninvolved mothers, with mothers' age at first birth also increasing the likelihood that a first birth occurred in marriage rather than cohabitation.

[Figure 2 here.]

As with first birth risks, we test the possibility that family complexity is differentially associated with first birth union context by race-ethnic group. This is shown in Figure 2, with one panel for each union status at first birth. As a reminder, these figures plot predicted probabilities of a given union status at first birth, estimated by a model that interacts race-ethnicity and family complexity and includes all controls. Family complexity in adolescence works differently by race-ethnic group in predicting non-union and cohabiting first births, but similarly by race-ethnicity in predicting a marital first birth. Panel A shows that White men and women who grew up without both biological parents were more likely to have a non-union first birth than those who grew up with both biological parents, regardless of sibling complexity. Among Hispanics, those who grew up without both biological parents (regardless of sibling

complexity) were more likely to have a non-union first birth than those who had neither sibling nor parent complexity. Family complexity in adolescence was not associated with the risk of a non-union first birth for Black men and women. Panel B shows that Black and White men and women—but not their Hispanic counterparts—who grew up without both biological parents had an increased probability of a cohabiting first birth compared to those who grew up with both biological parents and no half- or step-siblings. Panel C, which focuses on the probability of a marital first birth, shows some similarities across race-ethnicity: those who grew up with both biological parents and no half- or step-siblings were more likely to have a marital first birth than those who grew up without both biological parents, regardless of sibling complexity. For White men and women only, those who grew up with both biological parents and with half- or step-siblings were more likely to have a marital first birth than those who did not grow up with both biological parents but had half- or step-siblings; this suggests that for marital first births among Whites, family structure seems to matter more than family complexity. In short, race-ethnicity moderates the association between family complexity (but, really, family structure) in adolescence and union status at first birth, particularly for non-union first births.

Multipartner Fertility

[Table V here.]

Table V shows relative risk ratios (RRRs) from multinomial logistic regression results predicting fertility in the next month, conditional on a first birth, using discrete-time event history models; we are particularly interested in the risk of a birth with a new partner—that is, MPF—relative to having a birth with the same partner. We also display the risk of having no birth versus having a birth with the same partner and versus having a birth with a new partner. Model 1 shows that although there are no differences in the risk of having a birth with the same partner, there are

differences among the risk of a new-partner birth (i.e., MPF). Hispanic and White men and women are 42% and 27%, respectively, more likely to have no birth than a birth with a new partner and 37% and 24% less likely, respectively, than are Black men and women to have a birth with a new partner (versus the same partner) in the next month. Model 2 shows how family complexity in adolescence, and a host of controls, are associated with having a birth with a new partner (i.e., MPF). Again, while there are no differences in the risk of a subsequent birth with the same partner, there are differences in the risk of a birth with a new partner. Those who grew up without both biological parents—without half- or step-siblings (RRR=1.45), or with half- or step-siblings (RRR=1.55)—were at greater risk of having a birth with a new partner (versus the same partner) and were less likely (RRR = 0.70 for both groups) to have no birth (versus a new partner) in the next month.

As shown in Model 3, adding controls for family complexity in adolescence does not account for the race-ethnic disparity in the risk of MPF, nor are there substantial changes in the link between family complexity and MPF in the presence of controls for race-ethnicity (unlike the previous two analyses). Both White and Hispanic parents are more likely to have no birth than a birth with a new partner and less likely to have a subsequent birth with a new partner than with the same partner compared to Black parents. There were no significant differences between Hispanic and White men and women in their risk of MPF (not shown). Individuals who were not living with both biological parents in adolescence, regardless of whether they had half- or step-siblings, are more likely to have a subsequent birth with a new partner than with the same partner and less likely to have no birth than a birth with a new partner.

Turning to the associations of control variables, we found strong associations between circumstances at first birth and the risk of MPF. Those with a degree above high school

(compared to no degree), those who delayed first birth, and those who were married or cohabiting at first birth (compared to a non-union first birth) all were at considerably reduced risk of MPF (Model 3). Program assistance decreased the odds of having no birth relative to either another birth with the same partner or a new partner but was unrelated to MPF.

[Figure 3 here.]

Figure 3 shows the predicted probability of a birth in the next month, testing whether family complexity in adolescence works differently by race-ethnicity. The most striking finding is that, although Black men and women are considerably more likely to have MPF (Table V), the risk of MPF for this group does not vary at all by family structure nor sibling complexity in adolescence. In contrast, White and Hispanic men and women who grew up without both biological parents, regardless of sibling complexity, were more likely to experience MPF compared to their same-race counterparts who grew up with both biological parents and no half- or step-siblings. This suggests that family complexity in adolescence does not explain race-ethnic disparities in MPF, in part, because intergenerational processes affect the risk of MPF differently across groups.

Sensitivity Tests

We conducted two sets of sensitivity tests to ensure the robustness of our results. We first test whether the results were sensitive to the inclusion of step-siblings, who do not represent a biological parents' fertility behaviors and so may not necessarily be part of the intergenerational transmission process; this could essentially 'dilute' the link between parental experiences and child behaviors. We used a categorization of family complexity that involves just half-siblings instead of half- or step-siblings. Results from full models (including all controls and race-ethnicity) are in Appendix Table AIII and are substantively similar to our presented findings: we

find that growing up with half siblings does not add much explanatory power to future fertility above and beyond the influence of family structure. Race-ethnic differences remain significant.

Our second set of sensitivity tests examines whether family complexity in adolescence is connected to adult MPF indirectly through age at first birth or first birth union context. Although we control for age at first birth and first birth union context in our analyses predicting a new partner birth (i.e., MPF), it is possible that controlling for these variables does not fully capture a process in which family complexity in adolescence predicts later MPF entirely through its linkages to an early or non-marital first birth. As such, we ran a series of stratified models, where we first ran models separately for three categories of age at first birth (18-19, 20-24, and 25 and older) and for two categories of marital status at first birth (not married and married). Results for this test are in Appendix Table AIV and show comparisons of a new partner birth to a same partner birth and include the same set of controls as in the main models. In terms of family complexity, the sensitivity tests for these stratified results are congruent with our presented findings, with one exception: our measure of family complexity is unrelated to the odds of a new partner birth when an individual's first birth occurred after age 24. However, the direction of the coefficient is still positive, and the lack of significance may be due, in part, to the sample's young age (30-36 in the latest round), meaning those who had children at later ages have not yet had sufficient time to have additional births.

However, there are some differences in terms of race-ethnicity. In the age-stratified models, differences between Whites and Blacks in the risk of MPF only exist for those whose first birth happened after age 24; among younger parents, there are no Black-White differences, consistent with other work showing that early fertility is a major risk factor for MPF. For Hispanics, those who had births as teens remain less likely to experience MPF than their Black

counterparts but those who had their first birth in the early twenties have similar risks as Black (and White) parents for MPF. Regardless, though, there is little evidence that adding family complexity—via sibling ties—provides additional explanatory power for MPF itself, or for explaining race-ethnic differences in MPF.

Discussion

There is a growing body of work on intergenerational transmission of family behaviors. Amato and Patterson (2017) have an excellent discussion of the pathways through which parental behaviors may later influence their adult children's behaviors. When parents' relationships are unstable, children may be unable to learn strong relationship skills, or they may adopt more liberal attitudes about unions. Additionally, parenting practices seem to differ across family structures (Beck et al. 2010; Cavanagh and Huston 2006; Osborne and McLanahan 2007), which could lead to differences in resources and psychosocial characteristics in adulthood that may influence adults' family behaviors. Whether complex sibling ties play an additional role in intergenerational processes is unclear but seems plausible. For instance, family structure alone does not necessarily identify some stepfamilies, as a child can live with both biological parents but have half-siblings from a parent's prior relationships. In this instance, at least one parent has a history of dissolution and repartnering, which may impact socialization, parenting behaviors, and parental resources. Additionally, having complex sibling ties may also translate into greater strains on resources or represent an additional source of stress for both parents and children. These various mechanisms, in turn, could impact children's later behaviors in adulthood, such that family complexity increases the odds of childbearing in less stable contexts. And indeed, there is evidence using Norwegian and Swedish data that childhood family complexity increases

the risk of adult MPF (Lappegård and Thomson 2018), though no research has examined the link to other fertility behaviors.

There is also a parallel literature on race-ethnic differences in family and fertility behaviors (Raley, Sweeney, & Wondra 2015; Sweeney and Raley 2014). On average, race-ethnic minorities experience fertility sooner and in less stable contexts than their White counterparts, an association that persists even when accounting for socioeconomic status. Drawing on the above arguments about intergenerational transmission of family complexity, though, may provide another potential way to understand differentials, as race-ethnic minorities, especially Black men and women, are more likely to have experienced complex family backgrounds (Amorim and Tach 2019; Manning et al. 2014). However, if intergenerational transmission works differently across groups, as suggested by some prior work (Fomby et al. 2010; Harcourt et al. 2015; Lee and McLanahan 2015), then family complexity may do little to explain race-ethnic differences.

Thus, we sought to investigate whether family complexity is transmitted across generations via the timing and union context of first births and multipartner fertility, and whether such a process may explain differential fertility behaviors across groups. Using the NLSY97, we tested whether family complexity—which encompasses not only family structure (living with two biological parents or not) but also the presence of half- or step-siblings—in adolescence predicts having births in less stable contexts, with a focus on race-ethnicity. Consistent with prior work, we found that Blacks have their first births sooner than their White counterparts, have their first births in less stable union contexts than their White or Hispanic counterparts, and have higher odds of having subsequent births with a new partner (i.e., MPF) than either White or Hispanics. Hispanics and Whites were quite similar in their risk of experiencing the various

fertility measures, which complicates the idea that Hispanics tend to fall in the middle of Blacks and Whites, e.g., in the case of nonmarital childbearing (Sweeney and Raley 2014).

Accounting for family complexity did little to attenuate the observed associations. In fact, unlike Lappegård and Thomson (2018), we find little evidence that family complexity is associated with fertility behaviors beyond the link between family structure and fertility. That is, growing up in a non-intact family increased the odds of childbearing earlier, in less stable unions, and with multiple partners, but there was little evidence that adolescent sibling complexity provided additional explanatory power. Why might our results differ from those of Lappegård and Thomson? Lappegård and Thomson used data that included the entirety of the childbearing years (16-45) whereas the data in the current analyses only observes men and women through ages 30-36. However, for this to differentiate our findings, the effect of half- or step-siblings would have to largely predict childbearing with a new partner in the late thirties and early forties. This seems unlikely since MPF tends to occur relatively early in one's childbearing career (mean age is 26 for women and 30 for men; Monte 2019). Another possible explanation is that context and policy environment differ dramatically between the U.S. and Norway and Sweden, with the U.S. having considerably fewer and weaker social policies to help disadvantaged families (Brady and Burroway 2012; Cohen 2015). To the extent that such policies ameliorate family structure differences, family complexity may become a salient characteristic differentiating family processes and resources in Norway and Sweden. In the U.S., though, the lack of support for families, particularly disadvantaged ones, means that the gap in resources and stressors between two-biological parent families and other family structures may be so wide that any additional challenges brought on by sibling complexity are relatively minor in comparison.

Finally, another potential explanation for why our findings differ from those of Lappegård and Thomson is that our setting—the U.S.—has considerably more race-ethnic diversity than their setting (Norway and Sweden). This was, in fact, a primary motivation for our analyses. Indeed, we find evidence of race-ethnic variation in intergenerational transmission processes. For instance, growing up outside of a family with both biological parents does not increase the odds of childbearing with a new partner for Blacks, but it does for Whites and Hispanics. Conversely, family structure predicts first birth timing for Blacks but not Whites and Hispanics. Still, we found little evidence that family complexity—as indicated by sibling ties—predicts fertility for any group, suggesting that family structure is a dominant predictor of future fertility patterns. Our findings affirm prior work suggesting that intergenerational processes work differently across groups and are least influential for Black men and women.

Limitations

A primary limitation is that our sample has not completed childbearing, so additional differences in fertility could still emerge. We were also unable to account for characteristics of half- or step-siblings, such as sibling's relative age (i.e., older or younger) or the duration of exposure to family complexity. Due to concerns about cell sizes, we were unable to further differentiate family types by additional characteristics such as union status (i.e., cohabiting versus married). Although we included covariates such as mother's parenting style to proxy parenting differences, the data do not contain measures that would allow us to identify underlying mechanisms, such as socialization processes or parenting resources. Finally, because we restricted family complexity measures to the oldest age in the first round of data and to capture exposure to family complexity during the entirety of adolescence, we excluded those with very early births (prior to age 18), though sensitivity tests discussed earlier suggest that, as in the main results, family structure

processes are more consequential for very early fertility than complex sibling ties. As such, our analyses provide a conservative test of the link between family structure, complexity, and offspring fertility.

Conclusion

Our findings contribute to, and bridge, two broader lines of research. First, we contribute to research on the intergenerational transmission of family behavior. In terms of a direct transmission of family complexity, we find little evidence that, in the U.S., having half- or step-siblings influences the context in which adults have children beyond the role of family structure. Instead, we found that simply not living with both biological parents affects adult children's fertility, increasing the risk that men and women have a first birth earlier, have their first birth in less stable contexts, and have children with more than one partner. Still, in highlighting a wider range of fertility behaviors than in past research, our research reaffirms the link between family structure and childbearing, at least for some groups

Second, we contribute to a body of research on race-ethnic disparities in fertility behaviors. We find that accounting for family complexity does little to explain race-ethnic differences, perhaps because family complexity—and really, as our results show, just family structure—is differentially transmitted across groups in terms of the context of childbearing. Although our paper cannot establish why intergenerational family transmission does not occur in the same way across groups, past research provides some insights. Högnäs and Carlson (2012) note that macro forces, like racial disparities in neighborhood quality and incarceration, may be at play. For example, neighborhood quality accounts for two-thirds of racial disparities in nonmarital childbearing (South and Baumer 2000). Additionally, 24% of Black children (compared with 11% of Hispanic children and 4% of White children) experience parental

incarceration (Turney and Goodsell 2018), which increases the risk of early parenthood (Turney and Lanuza 2017). Although family complexity has stalled in recent years (Manning et al. 2014) future research should elucidate how the consequences of complex family structures and processes vary by race-ethnicity and identify macro-level factors that contribute to differentials.

Appendix

Table AI. Unweighted Proportion of NLSY97 Sample Respondents with a Birth Before Age 18 by Family Complexity in Adolescence for Full Sample and By Race.

Family Complexity Variables	Family complexity in round 1 and a birth before age 18	Family complexity by age 18 and a birth before age 18
<i>Full Analytic Sample</i>		
Both bio parents, no half- or step-siblings	0.03 ^{b, c, d}	0.02 ^{c, d}
Both bio parents, half- or step-siblings	0.06 ^{a, c, d}	0.04 ^{c, d}
Not both bio parents, no half- or step-siblings	0.10 ^{a, b, d}	0.09 ^{a, b, d}
Not both bio parents, half- or step-siblings	0.12 ^{a, b, c}	0.12 ^{a, b, c}
<i>Among Black Men and Women</i>		
Both bio parents, no half- or step-siblings	0.06 ^{c, d}	0.06 ^{c, d}
Both bio parents, half- or step-siblings	0.05 ^{c, d}	no observations
Not both bio parents, no half- or step-siblings	0.14 ^{a, b}	0.12 ^a
Not both bio parents, half- or step-siblings	0.14 ^{a, b}	0.15 ^a
<i>Among Hispanic Men and Women</i>		
Both bio parents, no half- or step-siblings	0.05 ^{c, d}	0.04 ^{c, d}
Both bio parents, half- or step-siblings	0.09	0.07 ^{c, d}
Not both bio parents, no half- or step-siblings	0.13 ^a	0.13 ^{a, b}
Not both bio parents, half- or step-siblings	0.13 ^a	0.14 ^{a, b}
<i>Among White Men and Women</i>		
Both bio parents, no half- or step-siblings	0.01 ^{b, c, d}	0.01 ^{b, c, d}
Both bio parents, half- or step-siblings	0.06 ^a	0.05 ^{a, d}
Not both bio parents, no half- or step-siblings	0.04 ^{a, d}	0.04 ^{a, d}
Not both bio parents, half- or step-siblings	0.09 ^{a, c}	0.08 ^{a, b, c}

Notes: NLSY97 is National Longitudinal Survey of Youth, 1997 Cohort.

Comparisons are within birth outcome: a = significantly different from both biological parents, no half- or step-siblings at $p < 0.05$. b = significantly different from both biological parents, no half- or step-siblings at $p < 0.05$. c = significantly different from not both biological parents, no half- or step-siblings at $p < 0.05$. d = significantly different from not both biological parents, half- or step-siblings at $p < 0.05$.

Table AII. Interaction Results from Full Models Used to Produce Predicted Probabilities

Variables	Timing of First Birth	Union Status at First Birth		Fertility after First Birth	
		Cohabiting vs. Non-Union	Marital vs. Non-Union	No Birth vs. Same Partner Birth	New Partner Birth vs. Same Partner Birth
	OR	RRR	RRR	RRR	RRR
Race					
Black	ref.	ref.	ref.	ref.	ref.
Hispanic	1.03 (0.103)	5.94*** (1.911)	4.53*** (1.137)	0.74* (0.105)	0.38*** (0.094)
White	0.94 (0.086)	7.58*** (2.326)	7.17*** (1.643)	0.81 (0.108)	0.50** (0.115)
Family Complexity in Adolescence					
Both bio parents, no half- or step-siblings	ref.	ref.	ref.	ref.	ref.
Both bio parents, half- or step-siblings	1.06 (0.164)	1.86 (0.823)	0.85 (0.336)	1.21 (0.307)	1.24 (0.455)
Not both bio parents, no half- or step-siblings	1.20 (0.114)	1.96* (0.590)	0.53** (0.129)	0.81 (0.113)	0.81 (0.175)
Not both bio parents, half- or step-siblings	1.23* (0.121)	2.29** (0.698)	0.50** (0.130)	0.89 (0.128)	0.89 (0.198)
Interactions					
Black # Both bio parents, no half- or step-siblings	ref.	ref.	ref.	ref.	ref.
Black # Both bio parents, half- or step-siblings	ref.	ref.	ref.	ref.	ref.
Black # Not both bio parents, no half- or step-siblings	ref.	ref.	ref.	ref.	ref.
Black # Not both bio parents, half- or step-siblings	ref.	ref.	ref.	ref.	ref.
Hispanic # Both bio parents, no half- or step-siblings	ref.	ref.	ref.	ref.	ref.
Hispanic # Both bio parents, half- or step-siblings	0.98 (0.203)	0.63 (0.359)	0.98 (0.524)	0.92 (0.271)	1.20 (0.582)
Hispanic # Not both bio parents, no half- or step-siblings	0.87 (0.106)	0.50 (0.181)	1.04 (0.328)	1.31 (0.215)	2.04* (0.576)
Hispanic # Not both bio parents, half- or step-siblings	0.88 (0.111)	0.44* (0.159)	1.13 (0.376)	1.24 (0.213)	1.90* (0.555)

White # Both bio parents, no half- or step-siblings	ref.	ref.	ref.	ref.	ref.
White # Both bio parents, half- or step-siblings	1.05 (0.189)	0.54 (0.295)	1.15 (0.560)	0.83 (0.230)	0.82 (0.378)
White # Not both bio parents, no half- or step-siblings	0.89 (0.095)	0.58 (0.197)	1.38 (0.396)	1.29 (0.196)	1.77* (0.460)
White # Not both bio parents, half- or step-siblings	0.89 (0.098)	0.37** (0.128)	1.05 (0.311)	1.23 (0.194)	1.75* (0.462)
Male	0.92** (0.028)	1.35*** (0.109)	1.20* (0.100)	0.92* (0.035)	0.90 (0.068)
Duration	0.97*** (0.001)			1.05*** (0.002)	1.02*** (0.004)
Duration Squared	1.00* (0.000)			1.00*** (0.000)	1.00 (0.000)
R's Mother's Age at First Birth	0.99* (0.004)	0.99 (0.010)	1.02 (0.010)	1.01 (0.005)	1.00 (0.009)
R's Mother's Education	0.99 (0.006)	1.00 (0.018)	1.02 (0.018)	1.00 (0.008)	1.02 (0.015)
R's Mother's Parenting Style					
Uninvolved	ref.	ref.	ref.	ref.	ref.
Permissive	0.99 (0.052)	0.84 (0.115)	1.14 (0.169)	0.97 (0.064)	0.94 (0.112)
Authoritarian	0.96 (0.059)	0.84 (0.130)	0.92 (0.156)	1.07 (0.086)	1.13 (0.157)
Authoritative	0.97 (0.051)	0.86 (0.114)	1.15 (0.164)	1.02 (0.066)	1.02 (0.119)
Urban ^a	0.98 (0.033)	0.94 (0.089)	0.88 (0.084)	1.03 (0.046)	0.98 (0.084)
Income (Natural Log)	1.06*** (0.011)	1.06** (0.022)	1.28*** (0.039)	0.93*** (0.016)	0.96 (0.024)
Education					
No Degree	ref.	ref.	ref.		
HS/GED	1.21** (0.078)	0.96 (0.137)	2.42*** (0.509)		

Degree above HS	4.38*** (0.338)	1.80** (0.365)	16.63*** (4.054)		
Currently Enrolled	0.40*** (0.023)	0.58*** (0.081)	0.74* (0.104)		
Program Assistance				0.83*** (0.037)	1.08 (0.089)
Union Status at First Birth					
Non-Union				ref.	ref.
Cohabiting				0.78*** (0.043)	0.50*** (0.045)
Married				0.63*** (0.035)	0.20*** (0.023)
<i>Characteristics at Most Recent Birth</i>					
Education					
No Degree				ref.	ref.
HS/GED				1.04 (0.089)	0.92 (0.119)
Degree above HS				0.98 (0.100)	0.50*** (0.104)
Enrolled				0.98 (0.060)	1.04 (0.113)
Age					
18-19				ref.	ref.
20-22				1.05 (0.058)	0.87 (0.077)
23-26				1.27*** (0.077)	0.58*** (0.064)
> 26				2.50*** (0.181)	0.38*** (0.068)
Parity					
1				ref.	ref.
2				1.51*** (0.067)	1.02 (0.089)
3'				2.55***	1.06

				(0.206)	(0.173)
4+				2.90***	0.43*
				(0.410)	(0.173)
Constant	0.07***	0.13***	0.01***	19.92***	0.84
	(0.013)	(0.062)	(0.003)	(5.052)	(0.343)
Number of Individuals	8,090	4,756	4,756	4,752	4,752
Person-Months	888,187	n/a	n/a	405,498	405,498

Notes: Standard Errors in parentheses. Two-tailed tests of significance. *** $p < 0.001$; ** $p < 0.01$; * $p < 0.05$. OR = Odds Ratio; RRR = Relative Risk Ratio. ^a: For models predicting fertility after first birth, urban is measured at time of first birth

Table A3. Sensitivity Tests Using Half-Siblings for Family Complexity, Full Models

Variables	Union Status at First Birth			Fertility after First Birth	
	Timing of First Birth	Cohabiting vs. Non-Union	Marital vs. Non-Union	No Birth vs. Same Partner Birth	New Partner Birth vs. Same Partner Birth
	OR	RRR	RRR	RRR	RRR
Race					
Black	ref.	ref.	ref.	ref.	ref.
Hispanic	0.93 (0.042)	3.09*** (0.353)	4.88*** (0.627)	0.90 (0.053)	0.68*** (0.071)
White	0.86*** (0.033)	3.84*** (0.382)	8.14*** (0.899)	0.97 (0.052)	0.80* (0.074)
Family Complexity in Adolescence					
Both bio parents, no half-siblings	ref.	ref.	ref.	ref.	ref.
Both bio parents, half-siblings	1.06 (0.074)	1.10 (0.221)	0.94 (0.180)	1.08 (0.092)	1.24 (0.217)
Not both bio parents, no half-siblings	1.08* (0.041)	1.06 (0.115)	0.65*** (0.067)	1.01 (0.046)	1.35** (0.131)
Not both bio parents, half-siblings	1.11* (0.047)	1.08 (0.125)	0.55*** (0.065)	1.09 (0.057)	1.45*** (0.152)
Male	0.92** (0.028)	1.34*** (0.109)	1.20* (0.100)	0.92* (0.035)	0.90 (0.068)
Duration	0.97*** (0.001)			1.05*** (0.002)	1.02*** (0.004)
Duration squared	1.00* (0.000)			1.00*** (0.000)	1.00 (0.000)
R's Mother's Age at First Birth	0.99* (0.004)	0.99 (0.009)	1.02 (0.010)	1.01 (0.004)	1.00 (0.008)
R's Mother's Education	0.99 (0.006)	1.00 (0.017)	1.02 (0.017)	1.00 (0.007)	1.02 (0.016)
R's Mother's Parenting Style					
Uninvolved	ref.	ref.	ref.	ref.	ref.

Permissive	0.99 (0.052)	0.85 (0.114)	1.16 (0.168)	0.97 (0.064)	0.93 (0.110)
Authoritarian	0.96 (0.059)	0.84 (0.131)	0.96 (0.161)	1.07 (0.085)	1.11 (0.155)
Authoritative	0.98 (0.051)	0.86 (0.115)	1.17 (0.170)	1.02 (0.066)	1.01 (0.118)
Urban ^a	0.98 (0.033)	0.95 (0.090)	0.88 (0.084)	1.02 (0.047)	0.97 (0.086)
Income (Natural Log)	1.06*** (0.011)	1.06** (0.022)	1.30*** (0.044)	0.93*** (0.013)	0.96 (0.021)
Education					
No Degree	ref.	ref.	ref.		
HS/GED	1.21** (0.078)	0.95 (0.137)	2.36*** (0.496)		
Degree above HS	4.37*** (0.338)	1.80** (0.363)	16.10*** (3.901)		
Currently Enrolled	0.40*** (0.023)	0.58*** (0.076)	0.73** (0.087)		
Any Program Assistance				0.83*** (0.037)	1.10 (0.091)
Union Status at First Birth					
Non-Union				ref.	ref.
Cohabiting				0.78*** (0.043)	0.50*** (0.045)
Married				0.64*** (0.035)	0.20*** (0.023)
<i>Characteristics at Most Recent Birth</i>					
Education					
No Degree				ref.	ref.
HS/GED				1.04 (0.089)	0.92 (0.119)
Degree above HS				0.99 (0.100)	0.50*** (0.104)

Enrolled				0.98 (0.060)	1.03 (0.112)
Age					
18-19				ref.	ref.
20-22				1.05 (0.058)	0.88 (0.077)
23-26				1.28*** (0.077)	0.58*** (0.064)
> 26				2.51*** (0.180)	0.38*** (0.068)
Parity					
1				ref.	ref.
2				1.51*** (0.067)	1.01 (0.088)
3'				2.54*** (0.206)	1.05 (0.171)
4+				2.89*** (0.408)	0.42* (0.169)
Constant	0.08*** (0.013)	0.24*** (0.087)	0.00*** (0.002)	16.26*** (3.466)	0.50 (0.188)
Number of Individuals	8,090	4,756	4,756	4,752	4,752
Person-Months	888,187	n/a	n/a	405,498	405,498

Notes: Standard errors in parentheses. Two tailed tests of significance. *** p < 0.001; ** p < 0.01; * p < 0.05. OR = Odds Ratio; RRR = Relative Risk Ratio.

Table A4. Relative Risk Ratios Predicting a Birth with a New Partner (versus Same Partner) in the Next Month by Age at First Birth and First Birth Union Context

Variables	Age at First Birth			Union Context at First Birth	
	18-19	20-24	> 24	Non-Marital	Marital
Race-Ethnicity					
Black	ref.	ref.	ref.	ref.	ref.
Hispanic	0.56** (0.11)	0.79 (0.11)	0.49* (0.15)	0.56*** (0.07)	0.50* (0.14)
White	0.80 (0.14)	0.87 (0.12)	0.52** (0.13)	0.66*** (0.07)	0.53** (0.13)
Family Complexity in Adolescence					
Both bio parents, no half- or step-siblings	ref.	ref.	ref.	ref.	ref.
Both bio parents, half- or step-siblings	1.15 (0.37)	1.39 (0.35)	1.17 (0.50)	1.30 (0.28)	1.13 (0.42)
Not both bio parents, no half- or step-siblings	1.26 (0.24)	1.41* (0.20)	1.19 (0.32)	1.27* (0.15)	1.50 (0.33)
Not both bio parents, half- or step-siblings	1.57* (0.30)	1.46** (0.21)	1.06 (0.31)	1.36* (0.17)	1.61* (0.37)
Male	0.81 (0.12)	0.94 (0.10)	0.77 (0.16)	0.81* (0.07)	0.85 (0.15)
Duration	1.03*** (0.01)	1.02*** (0.01)	0.98 (0.01)	1.03*** (0.00)	1.00 (0.01)
Duration Squared	1.00* 0.00	1.00 0.00	1.00** 0.00	1.00*** 0.00	1.00* 0.00
R's Mother's Age at First Birth	1.01 (0.02)	1.00 (0.01)	0.99 (0.02)	1.01 (0.01)	0.97 (0.02)
R's Mother's Education	1.01 (0.03)	1.04 (0.02)	0.98 (0.04)	1.04* (0.02)	1.00 (0.03)
R's Mother's Parenting Style					

Uninvolved	ref.	ref.	ref.	ref.	ref.
Permissive	0.97 (0.20)	0.88 (0.15)	1.00 (0.36)	0.99 (0.14)	0.72 (0.20)
Authoritarian	1.28 (0.31)	0.93 (0.18)	1.47 (0.61)	1.16 (0.19)	0.97 (0.31)
Authoritative	1.17 (0.24)	0.91 (0.15)	0.94 (0.34)	1.04 (0.14)	0.88 (0.24)
Income (Natural Log)	0.95 (0.03)	0.96 (0.03)	0.99 (0.06)	0.94* (0.02)	1.02 (0.10)
Program Assistance	1.13 (0.17)	0.92 (0.10)	1.32 (0.31)	0.93 (0.09)	1.19 (0.25)
Urban at First Birth	0.87 (0.14)	1.04 (0.14)	0.93 (0.22)	0.86 (0.09)	1.52* (0.33)
Union Status at First Birth					
Not in Union	ref.	ref.	ref.		
Cohabiting	0.57*** (0.09)	0.49*** (0.06)	0.32*** (0.09)		
Married	0.43*** (0.09)	0.18*** (0.03)	0.11*** (0.03)		
Age at First Birth					
18-19				ref.	ref.
20-22				0.89 (0.09)	0.53** (0.13)
23-36				0.57*** (0.07)	0.31*** (0.09)
> 26				0.47*** (0.10)	0.15*** (0.06)
<i>Characteristics at Most Recent Birth</i>					
Education					
No Degree	ref.	ref.	ref.	ref.	ref.
HS/GED	0.79 (0.14)	1.20 (0.27)	0.76 (0.47)	0.97 (0.14)	0.59 (0.24)

Associate's	0.78 (0.58)	0.63 (0.20)	0.49 (0.32)	0.72 (0.18)	0.25** (0.13)
Enrolled				1.20 (0.16)	0.86 (0.25)
Parity					
1	ref.	ref.	ref.	ref.	ref.
2	0.78 (0.12)	0.85 (0.11)	1.53 (0.40)	0.80* (0.08)	1.34 (0.26)
3	0.88 (0.22)	0.76 (0.19)	1.83 (1.14)	0.75 (0.15)	1.50 (0.49)
4+	0.29* (0.18)	0.51 (0.28)	0.00 (0.00)	0.25** (0.13)	0.77 (0.58)
Constant	0.62 (0.38)	0.39 (0.22)	2.07 (2.48)	0.44 (0.19)	0.52 (0.66)
Number of Individuals	836	1,947	1,969	2,810	1,942
Person-Months	91,313	204,549	109,636	254,640	150,858

Notes: Standard errors in parentheses. Two tailed tests of significance. *** $p < 0.001$; ** $p < 0.01$; * $p < 0.05$.

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Table I. Weighted Descriptive Statistics (Mean or Proportion) for Imputed Analytic Sample and By Race-Ethnicity

	Full Analytic Sample	By Race-Ethnicity		
		Black	Hispanic	White
<i>Among Full Sample</i>				
Race-Ethnicity				
Black	0.15	1.00	0.00	0.00
Hispanic	0.13	0.00	1.00	0.00
White	0.73	0.00	0.00	1.00
Family Complexity in Adolescence				
Both Biological Parents, no Half- or Step-Siblings	0.42	0.14 ^{H, W}	0.40 ^{B, W}	0.48 ^{B, H}
Both Biological Parents, Half- or Step-Siblings	0.05	0.05	0.06	0.05
Not Both Biological Parents, no Half- or Step-Siblings	0.30	0.48 ^{H, W}	0.31 ^{B, W}	0.26 ^{B, H}
Not Both Biological Parents, Half- or Step-Siblings	0.24	0.34 ^{H, W}	0.23 ^B	0.21 ^B
Male	0.53	0.54	0.56 ^W	0.52 ^H
Duration (months)	113.83	98.63 ^{H, W}	104.75 ^{B, W}	118.49 ^{B, H}
R's Mother's Age at First Birth	23.30	21.35 ^{H, W}	22.32 ^{B, W}	23.86 ^{B, H}
R's Mother's Education	12.98	12.47 ^{H, W}	10.98 ^{B, W}	13.43 ^{B, H}
R's Mother's Parenting Style				
Uninvolved	0.10	0.09 ^H	0.12 ^B	0.10
Permissive	0.36	0.31 ^{H, W}	0.35 ^B	0.37 ^B
Authoritarian	0.12	0.15 ^{H, W}	0.11 ^B	0.12 ^B
Authoritative	0.42	0.45 ^W	0.42	0.41 ^B
Income (Natural Log) at Baseline	10.18	9.45 ^{H, W}	9.89 ^{B, W}	10.38 ^{B, H}
Urbanicity at baseline	0.69	0.78 ^{H, W}	0.88 ^{B, W}	0.64 ^{B, H}
Ever had a birth	0.57	0.65 ^{H, W}	0.60 ^{B, W}	0.54 ^{B, H}
n (individuals)	8,090	2,018	1,689	4,383
<i>Among Those with a Birth</i>				
Age at First Birth	24.38	22.79 ^{H, W}	23.27 ^{B, W}	24.99 ^{B, H}
Union Status at First Birth				
Non-union	0.27	0.61 ^{H, W}	0.31 ^{B, W}	0.18 ^{B, H}
Cohabiting	0.25	0.23 ^H	0.31 ^{B, W}	0.25 ^H
Marital	0.48	0.16 ^{H, W}	0.38 ^{B, W}	0.57 ^{B, H}
Education at First Birth				
No Degree	0.05	0.09 ^W	0.07 ^W	0.04 ^{B, H}
High School/GED	0.68	0.79 ^W	0.79 ^W	0.62 ^{B, H}
Degree above High School	0.27	0.13 ^W	0.14 ^W	0.33 ^{B, H}
Enrolled in School at First Birth	0.10	0.13 ^W	0.11	0.09 ^B
Ever Had Multipartner Fertility	0.22	0.39 ^{H, W}	0.24 ^{B, W}	0.17 ^{B, H}
n (individuals)	4,752	1,328	1,047	2,377

Notes: Some proportions do not sum to 1 due to rounding. R's = Respondent's. ^B = significantly different from Black at $p < 0.05$; ^H = significantly different from Hispanic at $p < 0.05$; ^W = significantly different from White at $p < 0.05$.

Table II. Weighted Proportion in Each Fertility Outcome by Family Complexity in Adolescence for Full Sample and By Race-Ethnicity.

Family Complexity Variables	n (individuals in each category)	Ever had a birth	Among those with a Birth			
			Union Status at First Birth			Ever had Multipartner Fertility
			Non-Union	Cohabiting	Married	
<i>Full Analytic Sample</i>						
Both bio parents, no half- or step-siblings	3,028	0.51 ^{b, c, d}	0.16 ^{b, c, d}	0.19 ^{c, d}	0.65 ^{b, c, d}	0.12 ^{b, c, d}
Both bio parents, half- or step-siblings	422	0.58 ^{a, d}	0.23 ^{a, c, d}	0.24	0.53 ^{a, c, d}	0.17 ^{a, c, d}
Not both bio parents, no half- or step-siblings	2,602	0.58 ^{a, d}	0.33 ^{a, b}	0.30 ^a	0.37 ^{a, b}	0.28 ^{a, b}
Not both bio parents, half- or step-siblings	2,038	0.64 ^{a, b, c}	0.36 ^{a, b}	0.30 ^a	0.34 ^{a, b}	0.30 ^{a, b}
<i>Among Black Men and Women</i>						
Both bio parents, no half- or step-siblings	266	0.50 ^{b, c, d}	0.56	0.10 ^{c, d}	0.34 ^{c, d}	0.31 ^c
Both bio parents, half- or step-siblings	94	0.68 ^a	0.55	0.18	0.26 ^d	0.29 ^d
Not both bio parents, no half- or step-siblings	960	0.66 ^a	0.61	0.24 ^a	0.15 ^a	0.40 ^a
Not both bio parents, half- or step-siblings	698	0.70 ^a	0.62	0.27 ^a	0.11 ^{a, b}	0.40 ^b
<i>Among Hispanic Men and Women</i>						
Both bio parents, no half- or step-siblings	669	0.60	0.26 ^{c, d}	0.27 ^c	0.47 ^{c, d}	0.16 ^{c, d}
Both bio parents, half- or step-siblings	106	0.60	0.25	0.32	0.43	0.24
Not both bio parents, no half- or step-siblings	513	0.57	0.35 ^a	0.34 ^a	0.3 ^a	0.30 ^a
Not both bio parents, half- or step-siblings	401	0.64	0.37 ^a	0.34	0.30 ^a	0.32 ^a
<i>Among White Men and Women</i>						
Both bio parents, no half- or step-siblings	2,093	0.50 ^{c, d}	0.12 ^{c, d}	0.18 ^{c, d}	0.70 ^{b, c, d}	0.10 ^{c, d}
Both bio parents, half- or step-siblings	222	0.56	0.15 ^d	0.23 ^c	0.61 ^{a, c, d}	0.14 ^d
Not both bio parents, no half- or step-siblings	1,129	0.55 ^{a, d}	0.21 ^{a, d}	0.31 ^{a, b}	0.48 ^{a, b}	0.22 ^a
Not both bio parents, half- or step-siblings	939	0.62 ^{a, c}	0.26 ^{a, b, c}	0.31 ^a	0.43 ^{a, b}	0.25 ^{b, d}

Notes: Some proportions may not sum to 1 due to rounding. n indicates the number of people that experienced that fertility outcome, and is not weighted. Row percentages are displayed.

Comparisons are within birth outcome: ^a = significantly different from both biological parents, no half- or step-siblings at p<0.05. ^b = significantly different from both biological parents, no half- or step-siblings at p<0.05. ^c = significantly different from not both biological parents, no half- or step-siblings at p<0.05. ^d = significantly different from not both biological parents, half- or step-siblings at p<0.05.

Table III. Odds Ratios from Logistic Regression showing Odds of a Birth (vs. No Birth) in the Next Month.

	Model 1	Model 2	Model 3
Race-Ethnicity			
Black	ref.		ref.
Hispanic	0.91*		0.93
	(0.040)		(0.042)
White	0.84***		0.86***
	(0.032)		(0.033)
Family Complexity in Adolescence			
Both bio parents, no half- or step-siblings		ref.	ref.
Both bio parents, half- or step-siblings		1.09	1.07
		(0.075)	(0.074)
Not both bio parents, no half- or step-siblings		1.11**	1.08
		(0.042)	(0.042)
Not both bio parents, half- or step-siblings		1.13**	1.11**
		(0.046)	(0.045)
Male	0.92**	0.93*	0.92*
	(0.028)	(0.028)	(0.028)
Duration	0.97***	0.97***	0.97***
	(0.001)	(0.001)	(0.001)
Duration squared	1.00*	1.00*	1.00*
	(0.000)	(0.000)	(0.000)
R's Mother's Age at First Birth	0.99*	0.99**	0.99*
	(0.004)	(0.008)	(0.004)
R's Mother's Education	0.99	0.99*	0.99
	(0.006)	(0.006)	(0.006)
R's Mother's Parenting Style			
Uninvolved	ref.	ref.	ref.
Permissive	0.99	1.00	0.99
	(0.051)	(0.052)	(0.052)
Authoritarian	0.96	0.97	0.96
	(0.059)	(0.059)	(0.059)
Authoritative	0.97	0.99	0.98
	(0.050)	(0.051)	(0.051)
Urban	0.99	1.01	0.98
	(0.033)	(0.033)	(0.033)
Income (Natural Log)	1.06***	1.06***	1.06***
	(0.010)	(0.010)	(0.011)
Education			
No Degree	ref.	ref.	ref.
HS/GED	1.20**	1.21**	1.21**
	(0.077)	(0.078)	(0.078)
Degree above HS	4.27***	4.34***	4.37***
	(0.328)	(0.335)	(0.338)

Currently Enrolled in School	0.40*** (0.022)	0.40*** (0.023)	0.40*** (0.022)
Constant	0.09*** (0.014)	0.08*** (0.012)	0.08*** (0.013)
Individuals	8,090	8,090	8,090
Person-Months	888,187	888,187	888,187
F Test	428.58***	404.24***	364.21***

Notes: Standard Errors in parentheses. *** $p < 0.001$; ** $p < 0.01$; * $p < 0.05$

Table IV. Relative Risk Ratios from Multinomial Logistic Regression Predicting Union Status at First Birth.

	Model 1			Model 2			Model 3		
	Cohabiting vs. Non- Union	Marital vs. Non- Union	Marital vs. Cohabiting	Cohabiting vs. Non- Union	Marital vs. Non- Union	Marital vs. Cohabiting	Cohabiting vs. Non- Union	Marital vs. Non- Union	Marital vs. Cohabiting
Race-Ethnicity									
Black	ref.	ref.	ref.				ref.	ref.	ref.
Hispanic	3.00*** (0.339)	5.52*** (0.690)	1.84*** (0.242)				3.06*** (0.351)	4.80*** (0.613)	1.57*** (0.210)
White	3.79*** (0.371)	9.03*** (0.971)	2.38*** (0.270)				3.85*** (0.383)	8.12*** (0.887)	2.11*** (0.243)
Family Complexity in Adolescence									
Both bio parents, no half- or step-siblings				ref.	ref.	ref.	ref.	ref.	ref.
Both bio parents, half- or step-siblings				0.90 (0.174)	0.72 (0.130)	0.80 (0.146)	1.10 (0.220)	0.92 (0.176)	0.86 (0.157)
Not both bio parents, no half- or step-siblings				0.75** (0.079)	0.40*** (0.040)	0.53*** (0.054)	1.09 (0.120)	0.64*** (0.063)	0.59*** (0.061)
Not both bio parents, half- or step-siblings				0.79* (0.086)	0.40*** (0.042)	0.51*** (0.054)	1.05 (0.119)	0.57*** (0.063)	0.54*** (0.058)
Male	1.34*** (0.108)	1.22* (0.101)	0.91 (0.073)	1.28** (0.100)	1.12 (0.088)	0.88 (0.071)	1.35*** (0.109)	1.20* (0.099)	0.89 (0.072)
R's Mother's Age at First Birth	0.99 (0.010)	1.03* (0.010)	1.03** (0.010)	1.01 (0.010)	1.04*** (0.010)	1.03** (0.010)	0.99 (0.010)	1.02 (0.010)	1.03* (0.010)
R's Mother's Education	1.00 (0.018)	1.01 (0.017)	1.01 (0.017)	0.99 (0.016)	1.02 (0.016)	1.03* (0.016)	1.00 (0.018)	1.02 (0.017)	1.02 (0.017)
R's Mother's Parenting Style									
Uninvolved	ref.	ref.	ref.	ref.	ref.	ref.	ref.	ref.	ref.
Permissive	0.84 (0.115)	1.17 (0.173)	1.38* (0.194)	0.79 (0.104)	1.04 (0.147)	1.31 (0.183)	0.85 (0.115)	1.13 (0.168)	1.33* (0.187)
Authoritarian	0.85 (0.131)	0.93 (0.156)	1.10 (0.179)	0.78 (0.117)	0.82 (0.131)	1.04 (0.171)	0.85 (0.131)	0.93 (0.156)	1.09 (0.179)
Authoritative	0.86 (0.114)	1.19 (0.171)	1.38* (0.189)	0.77* (0.098)	0.97 (0.133)	1.26 (0.172)	0.87 (0.115)	1.15 (0.164)	1.32* (0.181)

Urban	0.95 (0.090)	0.86 (0.081)	0.90 (0.081)	0.85 (0.075)	0.72*** (0.062)	0.85 (0.074)	0.95 (0.090)	0.88 (0.084)	0.93 (0.085)
Income (Natural Log)	1.06** (0.021)	1.31*** (0.040)	1.24*** (0.039)	1.08*** (0.022)	1.34*** (0.042)	1.24*** (0.041)	1.06** (0.022)	1.28*** (0.039)	1.21*** (0.038)
Education									
No Degree	ref.	ref.	ref.	ref.	ref.	ref.	ref.	ref.	ref.
High School Degree or GED	0.95 (0.136)	2.56*** (0.537)	2.70*** (0.559)	0.95 (0.131)	2.38*** (0.485)	2.51*** (0.520)	0.95 (0.137)	2.40*** (0.505)	2.52*** (0.523)
Degree above High School	1.76** (0.353)	18.77*** (4.560)	10.69*** (2.464)	1.70** (0.335)	15.10*** (3.548)	8.89*** (2.054)	1.80** (0.364)	16.40*** (3.994)	9.11*** (2.112)
Currently Enrolled	0.59*** (0.081)	0.74* (0.105)	1.27 (0.183)	0.57*** (0.075)	0.71* (0.093)	1.25 (0.183)	0.59*** (0.082)	0.73* (0.104)	1.25 (0.180)
Constant	0.28*** (0.095)	0.00*** (0.001)	0.01*** (0.004)	0.55 (0.190)	0.01*** (0.006)	0.02*** (0.011)	0.25*** (0.093)	0.01*** (0.002)	0.02*** (0.009)
Number of Individuals					4,756				

Notes: Standard Errors in parentheses. Two-tailed tests of significance. *** $p < 0.001$; ** $p < 0.01$; * $p < 0.05$.

White men and women were significantly more likely than Hispanic men and women to have a cohabiting first birth (RRR = 1.26; $p = 0.042$) and a marital first birth (RRR = 1.69; $p < 0.001$) compared to a non-union first birth, and more likely to have a marital first birth compared to a cohabiting first birth (RRR = 1.34; $p = 0.07$). These differences did not substantively change across models.

Those who grew up without both biological parents and without half- or step-siblings, compared to those who grew up with both biological parents and half- or step-siblings, were less likely to have a marital (versus cohabiting) first birth (RRR = 0.69; $p = 0.040$), as well as a marital (versus a non-marital, non-cohabiting) first birth, but only when we did not control for race.

Those who grew up without both biological parents and with half- or step-siblings, compared to those who grew up with both biological parents and half- or step-siblings, were significantly less likely to have a marital first birth compared to a non-union first birth (RRR = 0.61; $p = 0.009$) and cohabiting first birth (RRR = 0.63; $p = 0.012$). This did not change substantively across models.

Table V. Relative Risk Ratios from Multinomial Logistic Regression Predicting Fertility in the Next Month after First Birth.

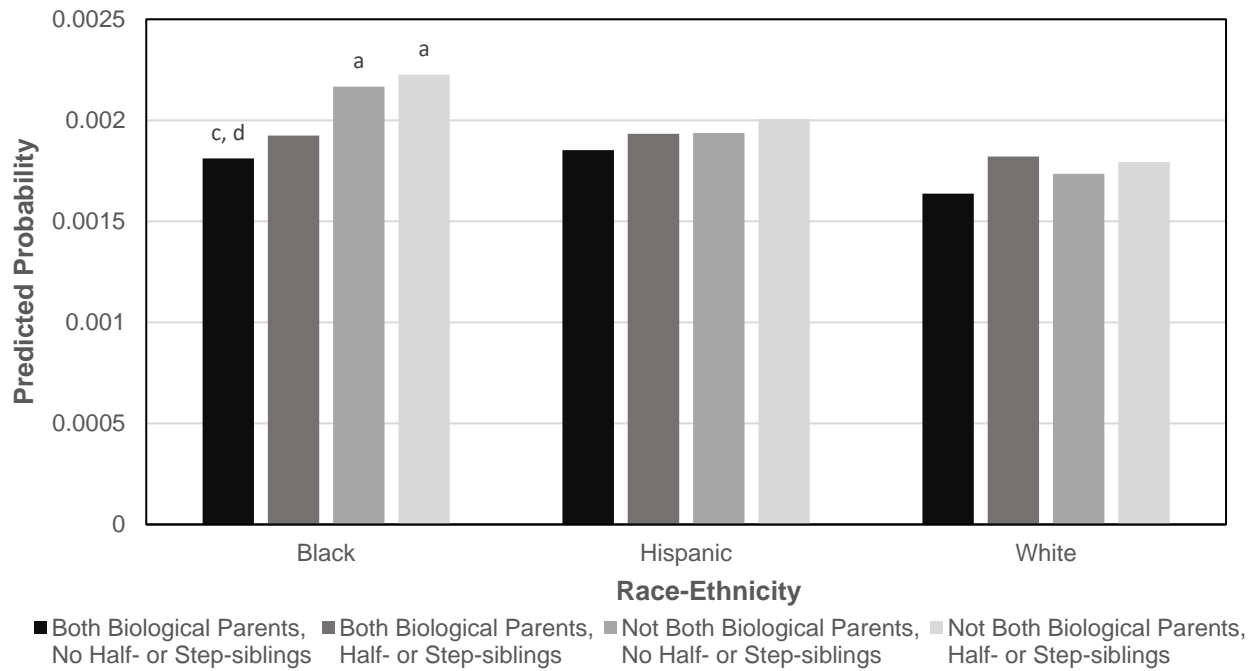
	Model 1			Model 2			Model 3		
	No Birth vs. Same Partner Birth	No Birth vs. New Partner Birth	New Partner vs. Same Partner Birth	No Birth vs. Same Partner Birth	No Birth vs. New Partner Birth	New Partner vs. Same Partner Birth	No Birth vs. Same Partner Birth	No Birth vs. New Partner Birth	New Partner vs. Same Partner Birth
Race-Ethnicity									
Black	ref.	ref.	ref.				ref.	ref.	ref.
Hispanic	0.89 (0.053)	1.42*** (0.120)	0.63*** (0.064)				0.90 (0.054)	1.33*** (0.114)	0.68*** (0.070)
White	0.96 (0.051)	1.27** (0.095)	0.76** (0.069)				0.97 (0.052)	1.21* (0.092)	0.80* (0.074)
Family Complexity in Adolescence									
Both bio parents, no half- or step-siblings				ref.	ref.	ref.	ref.	ref.	ref.
Both bio parents, half- or step-siblings				1.08 (0.091)	0.84 (0.128)	1.29 (0.223)	1.08 (0.091)	0.86 (0.132)	1.25 (0.218)
Not both bio parents, no half- or step-siblings				1.02 (0.047)	0.70*** (0.060)	1.45*** (0.141)	1.01 (0.048)	0.75** (0.066)	1.34** (0.133)
Not both bio parents, half- or step-siblings				1.09 (0.054)	0.70*** (0.062)	1.55*** (0.156)	1.08 (0.054)	0.74*** (0.067)	1.45*** (0.149)
Male	0.92* (0.035)	1.03 (0.067)	0.89 (0.067)	0.92* (0.035)	1.03 (0.067)	0.90 (0.067)	0.92* (0.035)	1.03 (0.067)	0.90 (0.067)
Duration	1.05*** (0.002)	1.03*** (0.003)	1.02*** (0.004)	1.05*** (0.002)	1.03*** (0.003)	1.02*** (0.004)	1.05*** (0.002)	1.03*** (0.003)	1.02*** (0.004)
Duration Squared	1.00*** (0.000)	1.00* (0.000)	1.00 (0.000)	1.00*** (0.000)	1.00* (0.000)	1.00 (0.000)	1.00*** (0.000)	1.00* (0.000)	1.00 (0.000)
R's Mother's Age at First Birth	1.00 (0.004)	1.00 (0.008)	1.00 (0.009)	1.01 (0.004)	1.01 (0.008)	1.00 (0.009)	1.01 (0.005)	1.00 (0.008)	1.00 (0.009)
R's Mother's Education	1.00 (0.008)	0.98 (0.012)	1.02 (0.015)	1.01 (0.007)	0.98* (0.011)	1.03* (0.014)	1.00 (0.008)	0.980 (0.012)	1.02 (0.015)
R's Mother's Parenting Style									

Uninvolved	ref.	ref.	ref.	ref.	ref.	ref.	ref.	ref.	ref.
Permissive	0.97 (0.064)	1.06 (0.105)	0.91 (0.109)	0.97 (0.064)	1.04 (0.103)	0.93 (0.111)	0.97 (0.064)	1.04 (0.104)	0.93 (0.111)
Authoritarian	1.07 (0.085)	0.95 (0.108)	1.13 (0.156)	1.07 (0.085)	0.95 (0.108)	1.12 (0.155)	1.07 (0.085)	0.95 (0.108)	1.12 (0.155)
Authoritative	1.01 (0.066)	1.02 (0.100)	0.99 (0.115)	1.02 (0.066)	0.99 (0.097)	1.02 (0.119)	1.02 (0.066)	1.00 (0.098)	1.01 (0.118)
Income (Natural Log)	0.93*** (0.016)	0.97 (0.017)	0.96 (0.023)	0.93*** (0.016)	0.97 (0.017)	0.96 (0.023)	0.93*** (0.016)	0.97 (0.017)	0.96 (0.024)
Program Assistance	0.83*** (0.037)	0.76*** (0.053)	1.09 (0.089)	0.83*** (0.037)	0.76*** (0.054)	1.08 (0.089)	0.83*** (0.037)	0.77*** (0.054)	1.08 (0.089)
Urban at First Birth	1.02 (0.046)	1.05 (0.078)	0.98 (0.084)	1.01 (0.045)	1.06 (0.077)	0.96 (0.080)	1.02 (0.046)	1.06 (0.079)	0.97 (0.083)
Union Status at First Birth									
Non-Union	ref.	ref.	ref.	ref.	ref.	ref.	ref.	ref.	ref.
Cohabiting	0.78*** (0.044)	1.55*** (0.112)	0.51*** (0.046)	0.77*** (0.042)	1.67*** (0.116)	0.46*** (0.040)	0.78*** (0.043)	1.57*** (0.113)	0.50*** (0.045)
Married	0.63*** (0.035)	3.22*** (0.319)	0.20*** (0.022)	0.63*** (0.033)	3.36*** (0.321)	0.19*** (0.020)	0.64*** (0.035)	3.12*** (0.310)	0.20*** (0.023)
<i>Characteristics at Most Recent Birth</i>									
Education									
No Degree	ref.	ref.	ref.	ref.	ref.	ref.	ref.	ref.	ref.
HS/GED	1.04 (0.088)	1.16 (0.115)	0.90 (0.116)	1.04 (0.089)	1.14 (0.113)	0.92 (0.119)	1.04 (0.089)	1.13 (0.113)	0.92 (0.119)
Degree above High School	0.97 (0.098)	2.08*** (0.378)	0.47*** (0.097)	0.98 (0.099)	1.94*** (0.353)	0.51** (0.105)	0.98 (0.099)	1.96*** (0.358)	0.50*** (0.104)
Enrolled	0.98 (0.060)	0.95 (0.086)	1.03 (0.112)	0.98 (0.060)	0.93 (0.084)	1.05 (0.113)	0.98 (0.060)	0.95 (0.085)	1.03 (0.112)
Age									
18-19	ref.	ref.	ref.	ref.	ref.	ref.	ref.	ref.	ref.
20-22	1.06 (0.058)	1.21** (0.083)	0.88 (0.077)	1.06 (0.058)	1.19* (0.082)	0.89 (0.078)	1.05 (0.058)	1.20** (0.083)	0.88 (0.077)
23-26	1.28***	2.21***	0.58***	1.28***	2.17***	0.59***	1.28***	2.19***	0.58***

	(0.077)	(0.203)	(0.063)	(0.078)	(0.199)	(0.065)	(0.077)	(0.202)	(0.064)
> 26	2.52***	6.67***	0.38***	2.51***	6.52***	0.39***	2.52***	6.58***	0.38***
	(0.181)	(1.088)	(0.066)	(0.181)	(1.064)	(0.069)	(0.181)	(1.074)	(0.067)
Parity									
1	ref.	ref.	ref.	ref.	ref.	ref.	ref.	ref.	ref.
2	1.51***	1.49***	1.01	1.51***	1.49***	1.01	1.51***	1.49***	1.01
	(0.067)	(0.112)	(0.088)	(0.066)	(0.112)	(0.088)	(0.067)	(0.112)	(0.088)
3	2.54***	2.43***	1.05	2.53***	2.44***	1.04	2.54***	2.42***	1.05
	(0.205)	(0.344)	(0.170)	(0.205)	(0.345)	(0.169)	(0.206)	(0.343)	(0.171)
4+	2.88***	6.97***	0.41*	2.88***	6.90***	0.42*	2.89***	6.92***	0.42*
	(0.406)	(2.655)	(0.167)	(0.406)	(2.627)	(0.169)	(0.408)	(2.635)	(0.169)
Constant	17.41***	22.20***	0.79	15.37***	36.05***	0.43*	16.32***	31.25***	0.52
	(3.708)	(6.250)	(0.271)	(3.388)	(10.620)	(0.153)	(3.610)	(9.332)	(0.190)
Number of Individuals					4,752				
Person-Months					405,498				

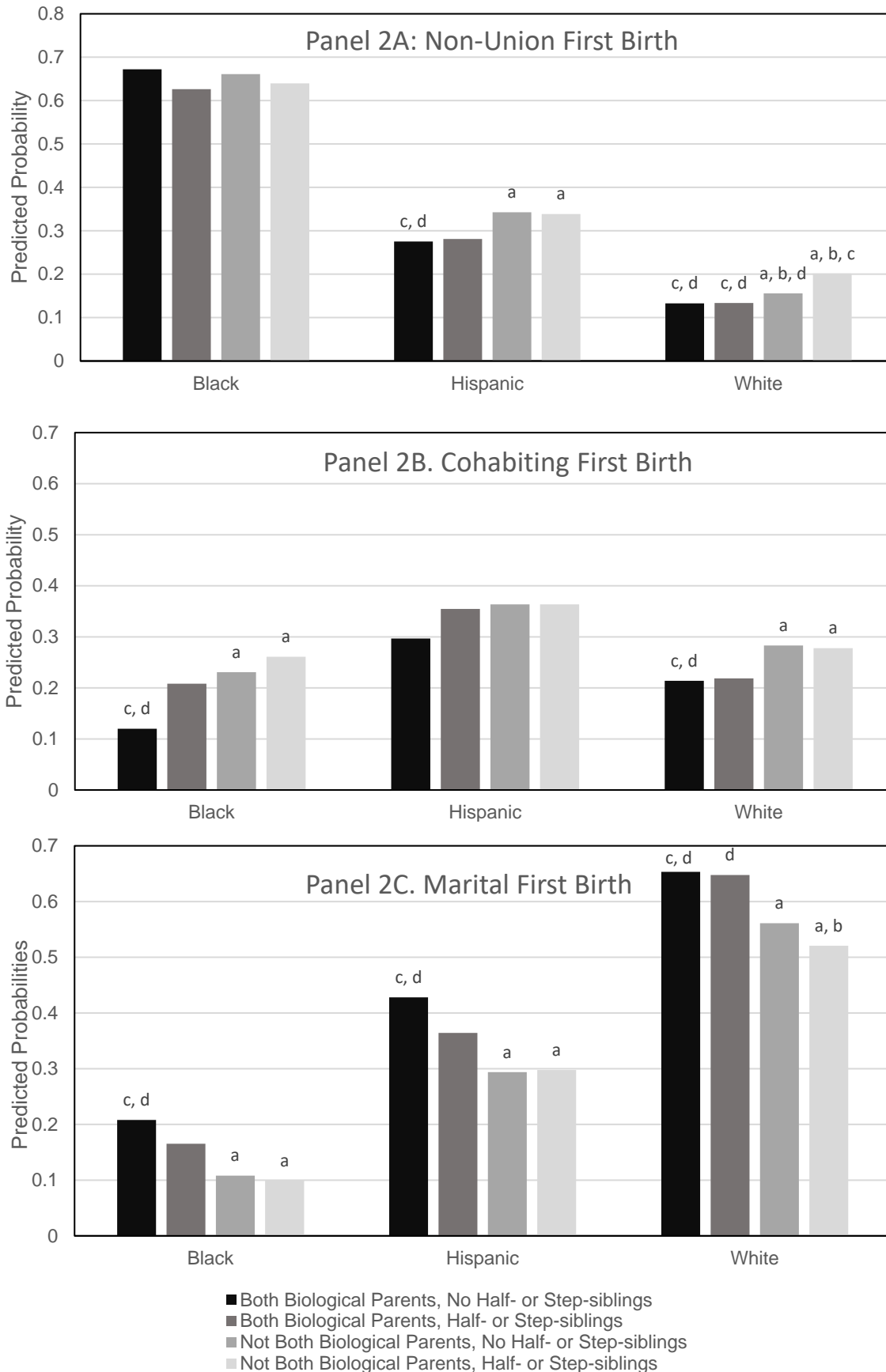
Notes: Standard Errors in parentheses. Two-tailed tests of significance. *** p < 0.001; ** p < 0.01; * p < 0.05

Figure 1. Predicted Probability of a Birth in the Next Month.



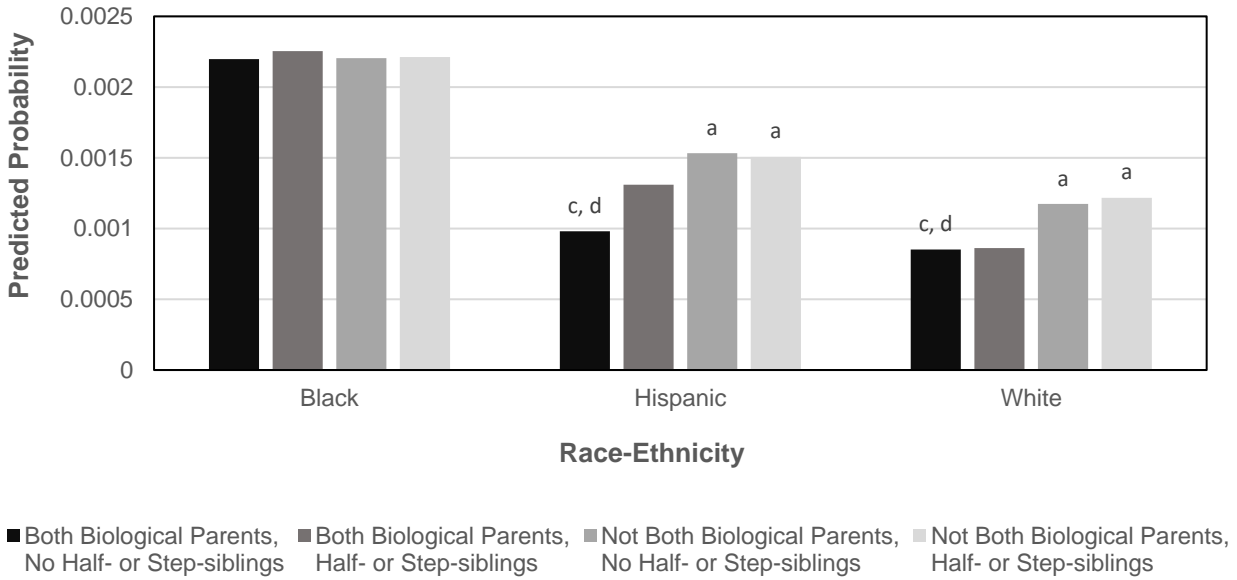
Notes: Predicted probabilities come from margins command in Stata 14. Regression command includes an interaction between race and family structure, and controls for the following variables: gender, duration, duration squared, respondent's mother's age at first birth, respondent's mother's education, respondent's mother's parenting style, urbanicity, income (logged), education, and whether respondent is currently enrolled in school. Comparisons are within-race: ^a = significantly different from both biological parents, no half- or step-siblings at $p < 0.05$. ^b = significantly different from both biological parents, no half- or step-siblings at $p < 0.05$. ^c = significantly different from not both biological parents, no half- or step-siblings at $p < 0.05$. ^d = significantly different from not both biological parents, half- or step-siblings at $p < 0.05$.

Figure 2. Predicted Probability of Union Status at First Birth



Notes: Predicted probabilities come from margins command in Stata 14. Regression command includes an interaction between race and family structure, and controls for the following variables: gender, respondent's mother's age at first birth, respondent's mother's education, respondent's mother's parenting style, urbanicity, income (logged), education, and whether respondent is currently enrolled in school. Comparisons are within-race: ^a = significantly different from both biological parents, no half- or step-siblings at $p < 0.05$. ^b = significantly different from both biological parents, no half- or step-siblings at $p < 0.05$. ^c = significantly different from not both biological parents, no half- or step-siblings at $p < 0.05$ ^d = significantly different from not both biological parents, half- or step-siblings at $p < 0.05$.

Figure 3. Predicted Probability of a Birth with a New Partner in the Next Month.



Notes: Predicted probabilities come from margins command in Stata 14. Regression command includes an interaction between race and family structure, and controls for the following variables: gender, duration, duration squared, respondent's mother's age at first birth, respondent's mother's education, respondent's mother's parenting style, income (logged), whether respondent has received any program assistance, education at first birth, enrollment at first birth, age at first birth, urbanicity at first birth, union status at first birth, and current parity. Comparisons are within-race: ^a = significantly different from both biological parents, no half- or step-siblings at $p < 0.05$. ^b = significantly different from both biological parents, no half- or step-siblings at $p < 0.05$. ^c = significantly different from not both biological parents, no half- or step-siblings at $p < 0.05$. ^d = significantly different from not both biological parents, half- or step-siblings at $p < 0.05$.