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EARLY LIFE PARENTAL LOSS AND THE TIMING OF FAMILY
FORMATION EVENTS IN YOUNG ADULTHOOD

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Early Life Parental Losses and the Timing of Family Formation Events in Young Adulthood

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Abstract

Demographic differences in patterns of family formation, including the timing of key family formation events such as union formation and the transition to parenthood, are well-documented. These differences reflect and contribute to cycles of inequality through their consequences for educational attainment, family stability, and labor force participation. An under-explored contributor to intergenerational transmission of inequality is differential exposure to early family losses across racial groups. Using data from a nationally representative longitudinal panel study, this paper examines how the loss of a parent prior to age 18 contributes to the timing of key family formation milestones during the transition to adulthood. Results indicate that early parental deaths are significantly associated with changes in the timing of first union formation and the transition to parenthood across racial groups, with maternal deaths strongly contributing to accelerated union formation, particularly among Black Americans.

Early Life Parental Losses and the Timing of Family Formation Events in Young Adulthood

Randi Elizabeth Saunders

Patterns of family formation are shaped by and reproduce systems of social stratification. Race differences in the type and timing of family formation events such as cohabitation, first marriage, and the transition to parenthood are well-documented. Non-marital unions have grown most quickly and are less likely to result in marriage among the socially and economically disadvantaged (Ellwood and Jencks 2004; Furstenberg 2009; Manning, Smock, and Majumdar 2004). At the same time, early family formation is associated with greater opportunity costs with regards to education and employment, especially for young women (Roska and Velez 2012), and the intergenerational transmission of both poverty and early family formation are well-documented (Kim 2014; Barber 2001). There is a substantial literature investigating how early life course conditions, such as family instability or neighborhood context, may shape relationship formation behaviors, relationship norms, parental supervision, and beliefs about the meaning of parenthood (Sassler, Cunningham, and Lichler 2009; Fomby and Bosick 2013; Burton and Tucker 2009). These factors all contribute to but do not fully explain race differences in union formation and early parenthood. Umberson et al. (2017) posit that race disparities in the loss of close family members at earlier points in the life course constitute an under-explored source of disadvantage, particularly for Black Americans. As the loss of close family members has significant ramifications for surviving relatives, it is likely that early life parental loss plays a role in shaping the family formation trajectories of surviving young adult children, and thus contributes to cycles of family disadvantage.

This study draws on a linked lives perspective to examine how parental loss prior to the transition to adulthood influences the timing of first union formation and the transition to parenthood. Parents play important roles in the lives of their grown children during the extended transition to adulthood, through the provision of financial and/or emotional support (Fingerman et al. 2015). As a result, the loss of one or both parents prior to or during the transition to adulthood may have significant consequences for the relationship and family formation behaviors of their young adult children. The loss of material support may contribute to incentives to leave home and transition to adult roles sooner (Teachman 2003), as young adults are forced to take on greater financial responsibility. At the same time, lower levels of family support may also prompt young people to rely more on romantic partners for emotional support and love, and young women experiencing low levels of family support may be more likely to move in with a romantic partner (Goldsheider and Goldsheider 1998; Valle and Tillman 2014). In addition, parenthood and union formation may provide a sense of purpose, commitment, and responsibility (Waite and Gallagher 2000), as well as a greater sense of stability and certainty in one's path (Friedman, Hechter and Kanazawa 1994). For these reasons, I hypothesize that early parental loss accelerates union formation and the transition to parenthood among young adults in the United States.

Understanding the relationship between parental loss and family formation behaviors may provide insight into a contributing factor in the “diverging destinies” documented in the United States, defined as growing racial/ethnic and class differences in family behavior. Black children are three times as likely to lose their mothers and twice as likely to lose their fathers by age 10 than white children, and remain twice as likely as their white counterparts to lose either parent by age 20 (Umberson et al. 2017). The consequences of such “off-time” or early losses on the timing of first union formation and the transition to parenthood may be particularly important, as family formation behaviors initiated during the transition to adulthood increasingly contribute to the diverging destinies of American families and children (Kearney and Levine 2016). Using nationally representative longitudinal panel data, I draw attention to how this unique form of disadvantage contributes to the reproduction of inequality in American families.

Background

Diverging Destinies in U.S. Families

In recent decades, family formation norms have undergone significant changes. Age at first marriage has risen considerably, from 22 and 24 for women and men respectively in 1980, to 28 and 29 for women and men respectively in 2015 (Payne 2015). This delay in marriage has coincided with a rise in cohabitation across social groups. While the age at marriage has increased, age at first union formation has been relatively stable, with cohabitation largely replacing marriage as a type of first union (Manning, Brown, and Payne 2014). Fertility trends in the U.S. also reflect the postponement of family formation. Births to adolescents are currently at historic lows, having been more than halved since 1991 (Martin et al. 2013), and women of all races are delaying motherhood (Livingston 2018). Between 1970 and 2017, the mean maternal age at first birth increased from 21.4 to 26.8 (Guzzo and Payne 2018).

Despite these broad shifts, often characterized as a second demographic transition, significant race and class differences in family formation persist. Termed the “diverging destinies” hypothesis (McLanahan 2004), family scholars and demographers have identified two distinct trajectories of family formation in the United States. The first is characterized by a delay in marriage and fertility, low premarital fertility, and relatively stable union formation, and is concentrated among socially advantaged and more-educated groups. The second is characterized by early parenthood, high nonmarital fertility, and lower rates of marriage, and is more prevalent among the socially and economically disadvantaged (McLanahan 2004; Cherlin 2009). These diverging destinies have significant implications for the reproduction of inequality, resulting in greater disparities in children’s resources, greater family instability, higher risk of poverty, and greater risk of early family formation in subsequent generations (McLanahan 2004; Barber 2001; Kim 2014).

These variations become salient when considering race differences in family formation experiences and their implications for cycles of dis/advantage. While age at first marriage and the proportion of individuals who have never been married has risen considerably across racial groups, the retreat from marriage has been greatest among African-Americans (Ellwood and Jencks 2004; Manning, Brown and Payne 2014). The median age of first marriage has increased the most for Black women, causing the racial gap in age at first marriage to double between 1980 and 2010 (Payne 2012). African-Americans are also less likely to marry their cohabiting partners than their white counterparts (Manning, Smock, and Majumdar 2004). When unions are formed, they tend to last for shorter periods of time and are more likely to result in dissolution than marriage, compared to non-Hispanic white adults (Lamidi, Manning, and Brown 2019).

Race differences in the transition to parenthood are also significant: mean age at first birth is nearly three years younger for Black mothers compared to white mothers (Mathews and Hamilton 2016), and Black young adults continue to experience higher fertility than their non-Hispanic white counterparts (Monte and Ellis 2014). Almost two-thirds of Black children are born to unmarried mothers compared to one-quarter of white children (Ventura and Bachrach 2000; Kennedy and Bumpass 2007), and while a majority of non-marital fertility in the United States occurs within cohabiting relationships, nonmarital fertility for Black women is significantly less likely to occur with both parents living together (Lichter, Sassler, and Turner 2014). Black parents are also more likely to separate or experience union dissolution than white parents (Osborne, Manning, and Smock 2007), and having a child from a prior relationship decreases the odds of future union formation, and within subsequent unions, increases the likelihood of union dissolution (Graefe and Lichter 2002; Upchurch, Lillard, and Panis 2001).

Existing literature building on the diverging destinies theme identifies factors which partially, but not fully, explain race differences in family formation. Black young adults are more likely to see members of their communities who have complex family structures, including single parents, parents with children from multiple partners, and cohabiting but unmarried couples (Qian, Lichter, and Mellot 2005; South and Crowder 1999). Black and Hispanic youths are more likely than white youths to have been raised in homes in which multiple family transitions have occurred (Kennedy and Bumpass 2007; Fomby and

Cherlin 2007), and to have grown up with an absent or noncustodial parent than their white counterparts (Kennedy and Bumpass 2007). These facets of childhood home life can have significant implications for family formation behaviors in late adolescence and young adulthood. Parenting styles have been found to play a role in shaping the timing of the transition to parenthood (Pears et al. 2005), and family structure and conflict are known risk factors for early parenthood (Amato 2000; Albrecht and Teachman 2003; Wildsmith et al. 2012). However, prior literature has not considered the exposure to family member losses as a contributor to family instability with consequences for young adult family formation. Community norms regarding the acceptability, costs, and benefits of early parenthood also play a role, and more positive normative climates are more frequently found in disadvantaged neighborhoods (Browning and Burrington 2006; Harding 2007; Weitzman et al. 2017). Poverty is frequently cited as a contributing factor, but while South and Crowder (2010) find that exposure to poverty over the childhood life course significantly predicts risk of nonmarital fertility, they also find that race differences in exposure to poverty during childhood fail to explain race differences in nonmarital fertility. The question of why Black Americans are more likely to transition to parenthood early is still not fully answered by these established factors.

Similarly, existing scholarship is unable to fully explain race differences in patterns of union formation. Individuals from lower socioeconomic backgrounds and from non-intact families are more likely to cohabit, and do so at earlier ages (Valle and Tillman 2014; McLanahan and Percheski 2008). Economic barriers which exist for marriage but not for cohabitation may partially explain disproportionately low rates of marriage among African-Americans (Gibson-Davis, Edin and McLanahan 2005), as do lower levels of marital expectations among African-American young adults (Crissey 2005). Moreover, individuals with divorced parents express more negativity towards marriage (Riggio and Weiser 2008), a factor which may be important due to higher divorce rates among African-American couples (Phillips and Sweeny 2005). At the same time, factors related to family life and economic realities may prompt accelerated transition to cohabitation within dating relationships. Many cohabiters move in with partners early in the relationship because of changing employment, housing needs, and for convenience (Guzzo 2006; Sassler 2004), and African-Americans disproportionately experience unstable employment and difficulty moving out of a parent's home during the transition to adulthood (Danziger and Ratner 2010).

While these practical, external factors may play a prominent role in union formation decisions, union formation may also be relationship-driven, reflecting perceived closeness and commitment within relationships (Sassler 2004; Surra and Gray 2000). Accelerated cohabiters (Sassler 2004) may cite the intensity of their attraction and the speed of their relationship development as a sign that they are meant to move in together. However, race differences in relationship quality suggest that regardless of perceived closeness, dynamics within Black young adults' relationships may lead to eventual union dissolution. Some studies do find that African-American young adults are more likely to experience hostile or unsupportive relationships (Kurdek 2008; Halliday Hardie and Lucas 2010), making long-term partnership more difficult. African-American youth are also less likely than white youth to report being introduced to a partner's parents, holding hands, informing friends that they are part of a couple, and also report less interaction with their dating partners when compared to white youths (O'Sullivan et al. 2007; Giordano, Manning and Longmore 2005). A false sense of perceived closeness due to heightened emotional intimacy following a major life event such as the loss of a parent may contribute to young adults forming unions which are unsustainable.

What is clear from the existing literature is that social disadvantage plays an important and complex role in shaping family formation trajectories. While family structure and environment, neighborhood context, and social norms all contribute to race differences in family formation behaviors, additional forms of disadvantage are deserving of examination including the role of early family losses. Family instability, multiple partnering, and serial cohabitation have all been identified as patterns subject to intergenerational transmission (Sassler, Cunningham, and Lichter 2009; Barber 2001; Kim 2014). As much research has identified relationships with parents as being important in the social development of

young adults, race differences in the timing of parental loss may partially explain race differences in family formation trajectories.

The Role of Parents in the Transition to Adulthood

A growing body of literature points to the importance of family relationships during the transition to adulthood, especially parental relationships. The elongated period of transition to adult roles has increased the amount of time for which young adults rely on their families for support (Furstenberg 2010). Literature on intergenerational support points to the persistent flow of material and emotional support to grown children during this period of the life course (Fingerman et al. 2015; Schoeni and Ross 2005), although the amount and type of support provided varies across racial and socioeconomic groups (Halliday Hardie and Seltzer 2016). Swartz and colleagues (2011) find that parents act as “scaffolding” and “safety nets” during the transition to adulthood, providing additional support in response to negative life events and transition challenges.

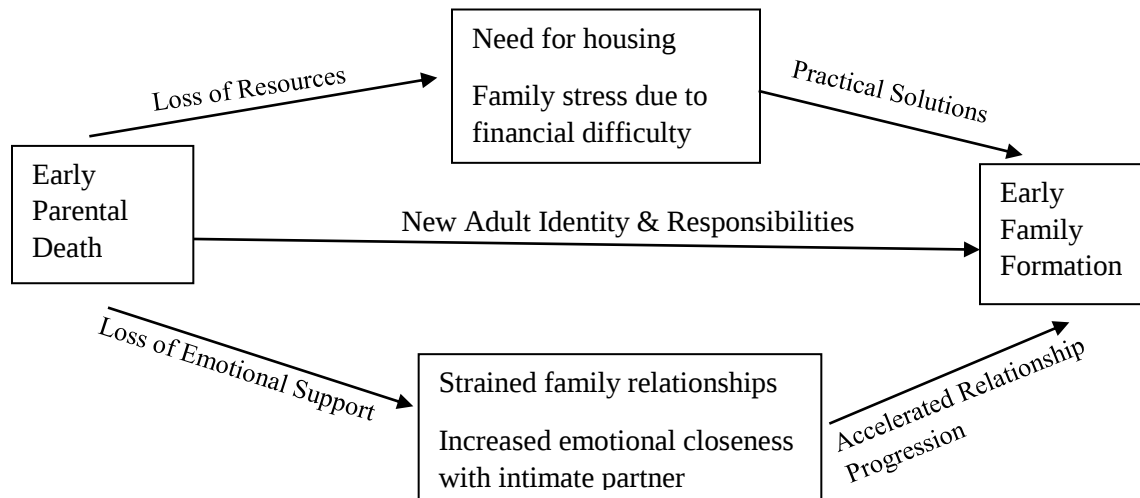
Parental support during the emerging adult years has a number of ramifications for young adult life chances. Higher levels of parental support are associated with greater educational attainment (Swartz, McLaughlin and Mortimer 2016) and may allow young adults to engage in longer job searches or make other career decisions they may not otherwise be able to make. Young people who are able to rely on their parents for support are better able to respond to periods of unemployment and relationship instability (Settersten and Ray 2010). Intangible support from parents is also important for young adults’ development. Emerging adulthood is marked by a number of new experiences and role transitions, and young adults frequently rely on parents for advice and guidance in making decisions (Fingerman et al. 2009). Parental support may delay union formation by allowing young adult children to live independently or with friends (Sassler et al. 2018); among lower-income families, coresidence with young adult children may substitute as a form of housing support (Aquilino 2006; Fingerman et al. 2015).

At the same time, the absence of parental support can have significant consequences for young adults. Differences in parental support across socioeconomic groups has been identified as a hidden form of inequality, with more advantaged youth able to receive greater levels of support, and disadvantaged youth receiving less or different support from their parents (Swartz 2008). Social and academic institutions, such as colleges, assume high levels of parental involvement and support (Furstenberg 2010); the absence of such support can present additional challenges for young adults interacting with these institutions. These differences in parental support contribute to and can exacerbate inequality throughout the life course, including with regards to family formation. The absence of parents may result in young adults being more likely to live on their own and to have engaged in early family formation (Turney and Lanuza 2017). From a practical perspective, the absence of parental support may contribute to many common reasons for the transition to cohabitation, including financial necessity and a need for housing (Sassler and Miller 2011). Intangible support, or lack thereof, may also be important, as individuals whose parents are absent or who have strained relationships with parents may have less available emotional or instrumental support. Lower levels of family support may prompt young people to rely more on romantic partners for emotional support and love, and young women experiencing low levels of family support may be more likely to move in with a romantic partner (Goldsheider and Goldsheider 1998; Valle and Tillman 2014). The ability of parents to provide such support may be complicated by losses in the family, which may create financial limitations, limit emotional support from the surviving parent, and shift roles within the household; these limitations may have significant consequences for family formation behavior.

I hypothesize that early parental loss accelerates family formation behaviors through two potentially related pathways. The first is a loss of material resources, potentially straining existing relationships, creating incentives to leave school in order to work, and increasing the need for alternative housing. Practical concerns, as well as the adoption of a new adult identity as individuals transition to the labor force or leave their parents’ home, may prompt family formation behaviors. The second pathway is the loss of emotional support, caused by the loss of a parent who may have provided such support and

strained relationships with other family members; this, in turn, may increase the importance of intimate relationships, prompting early cohabitation or parenthood. These pathways are outlined in Figure 1, below. Although aspects of this model are difficult to measure, such as the loss of emotional support, this theoretical framework guides the analysis used in this study.

Figure 1. Theoretical Pathways Linking Early Parental Death and Family Formation



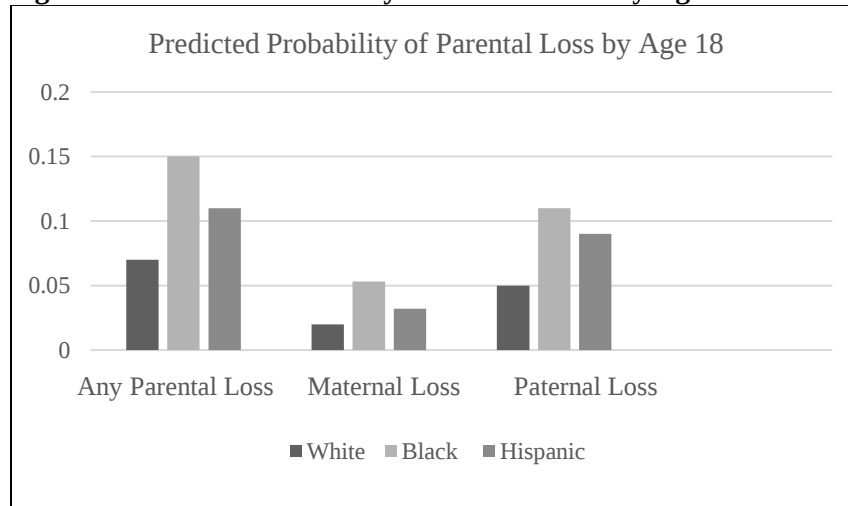
Family Loss as a Source of Racial Disadvantage

Disproportionate exposure to family losses may serve as a unique source of racial disadvantage shaping family formation trajectories, particularly exposure to parental deaths. Blacks in the U.S. already experience several forms of disadvantage with regards to the formation and maintenance of intimate relationships, including more strain in adult relationships (Umberson et al. 2014), greater risk of union dissolution throughout the life course (Phillips and Sweeny 2005; Osborne, Manning, and Smock 2007; Lamidi, Manning, and Brown 2010), and higher levels of social isolation (McPherson, Smith-Lovin, and Brashears 2006). Family losses may contribute to these disparities in several ways. Repetti et al. (2002) note that the development of secure attachment from childhood through the emerging adult years is important for relationship formation and stability in adulthood, and find that early losses may interfere with these attachment patterns and contribute to reduced opportunities for supportive relationships throughout the life course. Psychological distress following loss may strain relationships with intimate partners (Umberson 2003). Early losses may also contribute to a diminished sense of personal control, which may inhibit the willingness of bereaved persons to form new close relationships (Umberson et al. 2015).

Race differences in life expectancy in the United States are well-documented, with African-Americans dying at significantly younger ages than white Americans (Hummer and Chinn 2011; Geronimus, Bound and Colend 2011). Umberson and colleagues (2017) find that as a result of these racial disparities in health and mortality, Black Americans lose more family members over the life course, and lose them at earlier ages. As a result, Black children are more likely to lose one or both biological parents over the course of their childhood and emerging adulthood years. Existing literature has examined how the loss of parents through mechanisms such as divorce and incarceration impact children and young adults (Fomby and Cherlin 2007; Turney and Lanuza 2017; Gottlieb 2016) and contribute to race disparities in health, well-being, and family formation (Turney and Lanuza 2017; Cavanaugh, Crissey,

and Raley 2006; Amato and Patterson 2016), but few studies expressly consider race differences in exposure to loss as a source of disadvantage impacting multiple domains of life for survivors.

Figure 2. Predicted Probability of Parental Loss by Age 18



(Source: NLSY97)

The loss of a family member is one of the most stressful life events many Americans experience, and it can have long-lasting and far-reaching consequences (Stroebe et al. 2007). Stress proliferation (Pearlin et al. 2005) refers to the process by which stressful life events alter an individual's social environment such that additional stressors emerge. For example, distress may impede educational attainment, with lasting consequences for socioeconomic success and health (Sharkey 2010). Parental loss contributes to residential instability, which in turn can disrupt education and the maintenance of other social ties (Berman et al. 2015). The loss of a family member can also strain relationships between survivors, due to new financial strains, shifts in roles within relationships, and differences in expectations regarding social support (Melhem et al. 2011; Umberson 2003; Stroebe et al. 2007).

While there is limited research specifically addressing parental loss and family formation, there is some evidence that parentally bereaved young adults are less likely to marry (Feigleman et al. 2017). Conversely, the loss of family members, including parents, may add to the desire to form meaningful connections, or may add to the necessity of accelerating existing partnerships. Parentally bereaved young adults are more likely to have strained relationships with surviving parents, and are also more likely to have been asked to leave the parental home by the surviving parent (Feigleman et al. 2017). Having to move out may in turn increase the necessity of cohabitation, or make cohabitation seem more convenient for young adults. Family strain may prompt greater reliance on romantic partners for emotional support, accelerating existing relationships (Valle and Tillman 2014). This may contribute to accelerated union formation among bereaved young adults; there is some evidence, for example, that bereaved young adult women are more likely to seek social support, and are more likely to cohabit (Taylor et al. 2000; Høeg et al. 2018). Similarly, Umberson et al. (2015) find that young men who experienced high levels of childhood adversity may choose to form intimate partnerships and have children at younger ages in response to feelings of stress and social isolation.

Data and Methods

This study uses data from the National Longitudinal Survey of Youth 1997 cohort (NLSY97). The NLSY97 is a nationally representative longitudinal panel study of youth ages 13-17 in 1997. Follow-up surveys were administered annually from 1997-2011, and bi-annually after 2011. The initial sample included 4143 white respondents, 2334 Black respondents, 1901 Hispanic respondents, and 336

respondents of other racial groups. By 2015, 6860 respondents had experienced at least one union formation, and 5457 respondents had experienced the birth of their first child. The NLSY97 also provides information on employment, education, childhood family structure, relationship types, and timing of family formation events.

Table 1. Summary Statistics

	Number of Respondents (N=8509)	% of Sample
Race		
White	4355	51.18
Black	2299	27.02
Hispanic	1855	21.8
Sex		
Male	4395	51.65
Female	4114	48.35
Highest Degree Earned by 26 (n=7038)		
Less than High School	797	11.32
High School	4193	59.58
Some College/Associates	431	6.12
Bachelor's Degree	1428	20.29
Higher than Bachelor's	189	2.69
Family Structure		
Two Parent Home at Baseline	5312	62.43
Parental Loss Before Age 18	846	9.94

Parental Loss: The NLSY97 includes a question posed to respondents under age 18 from 1997-2002 checking if either parent has passed away, and a question asking the age at which the respondent experienced this loss. Using these questions, variables were constructed to reflect age at parental loss, age at paternal loss, and age at maternal loss. A binary indicator of parental loss prior to age 18 was then constructed to capture the loss of a parent as a minor. Binary indicators were also created to identify the loss of a mother and the loss of a father separately.

Union formation: the NLSY97 includes created variables containing the century-month of first cohabitation and first marriage for each respondent who has reported having been in a cohabiting and/or married relationship. An additional variable was constructed using the cohabitation and marriage timing variables to reflect the transition to first union of any kind, also in century-months. Century-months in the NLSY97 begin with January 1980, and *age at first union* was calculated as the difference between the century-month of first cohabitation/marriage and the century-month of birth. Using the age at first union in century-months, the *time to union formation from age 18* was then calculated.

Transition to parenthood: the NLSY97 includes the century month of birth for each child a respondent reports having given birth to or fathered. A variable was created combining the century months of birth for the first child born as reported in each wave from 1997 to 2015. An *age at parenthood* variable was then calculated as the difference between the century-month of the first child's birth and the century-month of the respondent's birth. Using the age at parenthood, the *time to parenthood from age 18* was then calculated.

Demographic variables: Gender is denoted using the respondent's designated sex as of the first wave of the study. Race was coded using both the race and ethnicity variables included in the NLSY97.

For this study, “white” denotes non-Hispanic whites, “Black” denotes non-Hispanic Blacks, and “Hispanic” denotes Hispanic respondents belonging to any racial group. A small percentage of the sample, classified as “other race”, was excluded from these analyses due to a lack of statistical power within the group.

Socioeconomic controls: In keeping with previous literature, two measures of socioeconomic status are included in these analyses: family income at baseline, and adult educational attainment. Childhood socioeconomic status was captured using the log of household income, calculated by combining the responding parent’s reported income, their partner’s reported income, and “other income” from either the responding parent or their partner. Adult education was measured by using the highest degree earned as of age 26. In particular, because high school graduation is such a key predictor of family formation behavior, models include a binary indicator reflecting whether or not a respondent graduated from high school by age 26. Because age 26 marks the end of the period of study, further educational attainment after that age would not be able to predict prior family formation behavior. Approximately 10% of the sample had not graduated high school as of age 26.

Table 2. Descriptive Statistics

	No Early Parental Loss (n=8091)	Early Parental Loss (n=893)
Household Size	4.6 (.02)	4.5 (.16)
Family Income	45320 (164)	26765 (377)***
Pr (No HS Degree)	0.09 (.00)	0.18 (.00)***
Age at First Union (months)	270.58 (.08)	266.01 (.25)***
Age at First Child (months)	283.14 (.11)	267.98 (.29)***
Pr (Parent Before Union Formation)	0.22 (.00)	0.28 (.00)***

ⁱ p<.10 *p<.05 **p<.01 ***p<.001

As seen in Table 2 (above), respondents who experienced early parental came from different socioeconomic backgrounds, and had different patterns of timing for family formation events. Respondents who lost a parent prior to age 18 had significantly lower average family incomes at baseline. They were also significantly less likely to have a high school degree by age 26. The mean age of first union formation for this group was 266 months, or 21.2 years. In comparison, respondents who did not experience early family loss had a mean age at first union formation of approximately 271 months, or 22.6 years. For respondents who lost parents early, the mean age at first child (either born or fathered) was approximately 268 months, or 22.3 years, compared to 283 months, or 23.4 years. These differences are significant, and indicate an accelerated adoption of family formation behaviors by bereaved young adults. The predicted probability of having a child before entering a union was also found to be significantly higher for respondents who had lost a parent prior to age 18.

Most variables had either no or small amounts of missing data (1-3%). However, some variables had significant numbers of missing observations. These included household income (26.82), and highest degree earned (9.37%). In keeping with prior scholarship, missing data were imputed via multiple imputation (Rubin 1987), using the ICE command in Stata (Royston 2005). The ICE command allows for imputation using a chained equations approach in which, for each variable, a conditional distribution for missing data, given all other, non-missing data, is specified (e.g., OLS for continuous variables, multiple logistic for categorical variables). The ICE procedure operates on the assumption that these conditional distributions are derived from underlying multivariate distributions. Repeated draws are pulled from the conditional distribution using Gibbs sampling to generate a multivariate distribution from

which imputed values can then be drawn (van Buuren, Boshuizen, and Knook 1999; Haas and Fosse 2008). Imputation-specific model results are then pooled using the micombine procedure in Stata (Roysten 2005). The procedure is compatible with the hazard model approach adopted in this study.

Analytic Strategy

Data were analyzed using discrete-time event history models. Analysis was performed using Stata 15. The duration variables previously described, capturing the number of months elapsed between age 18 and the time of first union formation and the transition to parenthood, were used as the outcome.

Models were first fit estimating the bivariate relationship between parental loss prior to age 18 and each outcome variable. A second set of models were fit for each outcome accounting for demographic variables such as race and sex. A third set of models were fit for each outcome accounting for both demographic and socioeconomic indicators. Sobel-Goodman tests were used to assess mediation effects of socioeconomic indicators. The fourth set of models fit for each outcome tests for interaction effects between race and parental loss. Additional models were fit to estimate the effects of maternal loss and paternal loss separately. Models were tested to ensure that results were not biased by the inclusion of imputed data.

Results

Does parental loss matter for timing of first union formation?

Models predicting risk of union formation can be found in Table 3, below. Results are reported as hazard ratios, along with their standard errors. Most models including all parental losses together do not find a significant relationship between parental loss and timing of first union formation; however, when socioeconomic controls are added, parental loss does become significant.

Table 3. Proportional Hazard Models of Time to First Union (months since age 18) on Parental Loss

	Model 1 (HR)	Model 2 (HR)	Model 3 (HR)	Model 4 (HR)
Parent Loss by Age 18	0.9975 (.00)	1.0013 (.00)	0.9752 (.00)***	1.0078 (.01)
Race (ref: white)				
Black		0.9778 (.00)***	0.9465 (.00)***	0.9476 (.00)***
Hispanic		1.0507 (.00)***	1.0228 (.00)***	1.0318 (.00)***
Female (ref: male)		1.1418 (.00)***	1.1532 (.00)***	1.1531 (.00)***
Log(Family Income at Baseline)			0.9886 (.00)***	0.9886 (.00)***
No HS Degree by Age 26			1.3354 (.00)***	1.3353 (.01)***
Black x Parental Loss				0.9738 (.00)*
Hispanic x Parental Loss				0.9137 (.01)***

ⁱ p<.10 *p<.05 **p<.01 ***p<.001

Initial models do not find a significant difference in the timing of first union formation for individuals who lost parents prior to age 18 compared to those who did not. No significant bivariate relationship was established, nor did one emerge once demographic controls were added. However, with the addition of socioeconomic covariates, parent loss by age 18 is found to reduce the risk of union formation by approximately 2.5%.

All models including demographic indicators find anticipated race and sex differences. Consistent with prior literature, Black respondents are at approximately 5.4% lower risk of early union formation compared to either white or Hispanic respondents; Hispanic respondents experience 5% higher risk of early union formation. Women are also significantly more likely than men to form a union in any given month, by a factor of 1.1418. These differences are consistent across all models accounting for race and sex, with hazard ratio coefficients varying only slightly between them.

Model 3 introduces socioeconomic covariates which have been established as playing a role in family formation behaviors. Consistent with existing literature, as logged household income increases, the risk of early union formation decreases by a factor of 0.9886. Likewise, failure to graduate high school is associated with 33.5% higher risk of union formation. Sobel-Goodman tests reveal a strong mediation effect by failure to achieve a high school degree, accounting for a significant portion of parental loss's effect on union formation. Supplementary analyses revealed that respondents who lost their parents before age 18 were more than twice as likely to lack a high school degree.

This mediation effect, combined with the interaction effects revealed in Model 4, may help explain why parental loss no longer appears to be significant in the final model. All other hazard ratios remained similar to those estimated by the previous models, but significant race-loss interaction effects were found in Model 4. Black respondents who had lost a parent prior to age 18 had an additional decrease in the risk of forming a first union by a factor of 0.9738. Hispanic respondents who had lost a parent prior to age 18 had an additional decrease in risk of union formation by 0.9137.

Does parental loss matter for timing of the transition to parenthood?

Models predicting risk of parenthood can be found in Table 4, below. As in the models for union formation, results are reported as hazard ratios, along with their standard errors. In the bivariate model, early parental loss is found to be a significant predictor of accelerated transition to parenthood. With the introduction of controls, this relationship is diminished, but in the full model with interaction effects, early parental loss is once again found to be a significant predictor of earlier parenthood.

Table 4. Proportional Hazard Models of Time to First Child (months since age 18) on Parental Loss

	Model 5 (HR)	Model 6 (HR)	Model 7 (HR)	Model 8 (HR)
Parent Loss by Age 18	1.0761 (.01)***	1.0377 (.01)***	1.0099 (.01) ⁱ	1.0159 (.01) ⁱ
Race (ref: white)				
Black		1.2398 (.00)***	1.2051 (.00)***	1.2075 (.00)***
Hispanic		1.1911 (.00)***	1.1585 (.00)***	1.1579 (.00)***
Female (ref: male)		1.0949 (.00)***	1.1113 (.00)***	1.1113 (.00)***
Log(Family Income at Baseline)			0.9886 (.00)***	0.9886 (.00)***
No HS Degree by Age 26			1.3886 (.01)***	1.3886 (.01)***
Black x Parental Loss				0.9834 (.01)
Hispanic x Parental Loss				1.0023 (.01)

ⁱ p<.10 *p<.05 **p<.01 ***p<.001

The first hazard model, estimating the bivariate relationship between parental loss and timing of the birth of a first child, finds that parental loss increases the risk of becoming a parent by 7.6%. This relationship holds in Model 6, when demographic controls are added, though the effect size is reduced to 3.77%. However, in Models 7 and 8, parental loss is only marginally significant ($p < .06$ and $p < .07$, respectively).

In keeping with existing literature on race differences in family formation, Black respondents are at a significantly higher risk of transitioning to parenthood, with 24% higher odds of having a child. Hispanic respondents, though not at as high a risk as Black respondents, have a 19% higher risk of parenthood than white respondents. Women are at significantly greater risk of parenthood than men in any given month, by a factor of 1.09 in the model without socioeconomic controls, and by a factor of 1.11 in models with socioeconomic controls. No race-loss interaction effects were found in models predicting time to first child born.

Socioeconomic variables have similar effects on the timing of having a first child as on the timing of first union formation. As logged family income at baseline increases by one point on the logged scale, the risk of becoming a parent decreases by a factor of 0.9886. Conversely, individuals who did not graduate from high school were almost 39% more likely to have a child between ages 18 and 26. As in the models predicting timing to first union formation, failure to graduate from high school had a strong mediating effect on the relationship between loss and time to first child born.

Does the gender of the deceased parent matter for the timing of union formation or parenthood?

Parent-specific hazard models were fit to identify differences in the consequences of maternal loss compared to paternal loss. These analyses expose a more complicated story underlying the patterns seen in the previous models, which grouped all parental losses together. Many of the hazard ratios produced in the previous models are influenced heavily by the effects of paternal loss on union formation and the transition to parenthood; these parent-specific models reveal that maternal loss often has a different effect on the family formation behaviors of bereaved young adult children.

Table 5. Proportional Hazard Models of Parent-Specific Loss on Time to First Union (months since age 18)

	Model 9 (HR)	Model 10 (HR)	Model 11 (HR)	Model 12 (HR)
Maternal Loss by Age 18	1.0512 (.01)***	1.1444 (.02)***		
Paternal Loss by Age 18			0.9734 (.01)**	0.9546 (.01)***
Race (ref: white)				
Black	0.9432 (.00)***	0.9454 (.00)***	0.9465 (.00)***	0.9471 (.00)***
Hispanic	1.0210 (.00)***	1.0262 (.00)***	1.0286 (.00)***	1.0236 (.00)***
Female (ref: male)	1.1538 (.00)***	1.1534 (.00)***	1.1533 (.00)***	1.1533 (.00)***
Log(Family Income at Baseline)	0.9889 (.00)***	0.9889 (.00)***	0.9885 (.00)***	0.9885 (.00)***
No HS Degree by Age 26	1.3322 (.01)***	1.3319 (.00)***	1.3367 (.01)***	1.3367 (.01)***
Black x Parental Loss		0.9080 (.02)***		0.9941 (.01)
Hispanic x Parental Loss		0.8298 (.02)***		0.9369 (.01)***

ⁱ $p < .10$ * $p < .05$ ** $p < .01$ *** $p < .001$

When parental losses are disaggregated by parent, a different story emerges. The loss of a mother is associated with 5% higher risk of early union formation without accounting for race-loss interactions; when those interactions are added, the effect of maternal loss is 14.4% increase in risk of early union formation. In contrast, the loss of a father is associated with a 4.6% *lower* risk of early union formation in model 8. Models 1-4, discussed above, obscure these differences by combining these losses into a single loss indicator; because the effects are opposite, the hazard ratios in earlier models often appear not to be significant, or trend towards the effects of paternal loss, of which there are significantly more cases.

Patterns of race and sex differences in union formation are consistent with previous models. Black respondents are at approximately 6% lower risk of union formation, and Hispanic respondents are at approximately 15% higher risk of union formation. These are relatively similar effect sizes as seen in earlier models grouping all losses together. Additionally, family income and lack of a high school degree have similar effects on the risk of early union formation as in previous models.

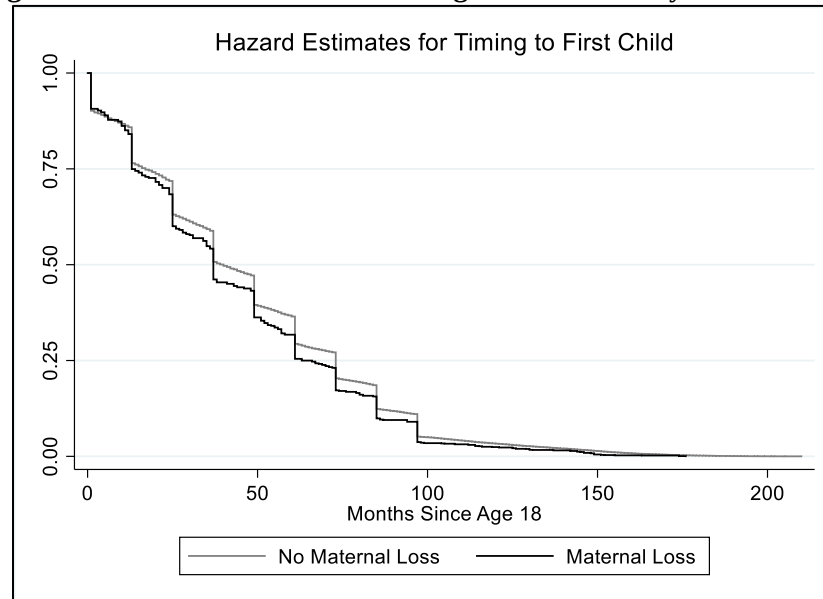
For maternal loss, there are significant race-loss interactions for both Black and Hispanic respondents. Black respondents experiencing maternal loss have an additional reduction in risk by 10.8%, and Hispanic respondents experiencing maternal loss have a reduction in risk by approximately 17%. This interaction counterbalances the race effect seen in these models, which predicts accelerated union formation for Hispanic respondents. For paternal loss, there is no race-interaction effect for Black respondents. However, Hispanic respondents experience reduced risk of union formation by 6.3%.

Table 6. Proportional Hazard Models of Parent-Specific Loss on Time to First Child (Months since Age 18)

	Model 13 (HR)	Model 14 (HR)	Model 15 (HR)	Model 16 (HR)
Maternal Loss by Age 18	1.0590 (.01)***	1.0479 (.02)**		
Paternal Loss by Age 18			0.9984 (.01)	1.0087 (.01)
Race (ref: white)				
Black	1.2042 (.00)***	1.2013 (.00)***	1.2061 (.00)***	1.2105 (.00)***
Hispanic	1.1583 (.00)***	1.1604 (.00)***	1.1589 (.00)***	1.1565 (.00)***
Female (ref: male)	1.1117 (.00)***	1.1114 (.00)***	1.1112 (.00)***	1.1111 (.00)***
Log(Family Income at Baseline)	0.9886 (.00)***	0.9886 (.01)***	0.9886 (.00)***	0.9885 (.00)***
No HS Degree by Age 26	1.3882 (.00)***	1.3877 (.00)***	1.3900 (.01)***	1.3900 (.01)***
Black x Parental Loss		1.0546 (.02)**		0.9614 (.01)**
Hispanic x Parental Loss		0.9476 (.02)*		1.0195 (.02)

ⁱ p<.10 *p<.05 **p<.01 ***p<.001

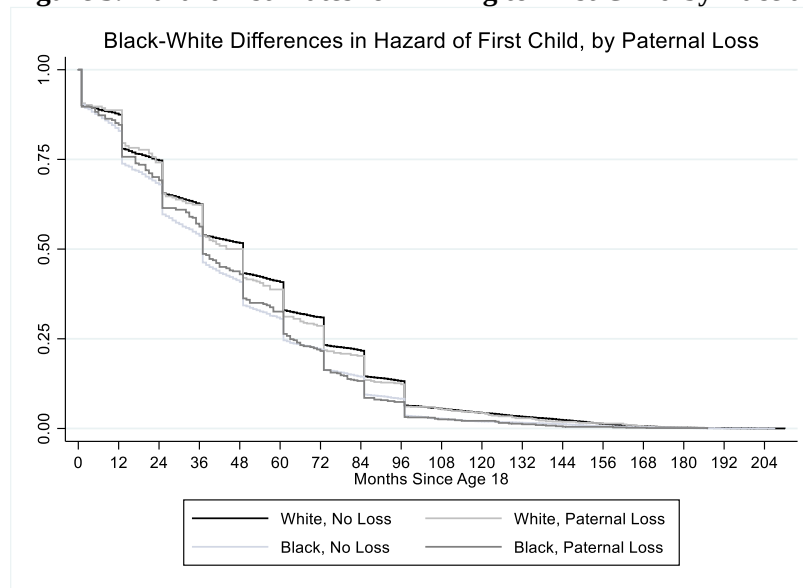
Like the parent specific models predicting time to first union formation, parent-specific models predicting time to first child born illustrate a significant difference between maternal and paternal loss. Maternal loss, in both models above, increases the risk of a respondent having a child by approximately 5% for young adults between the ages of 18 and 26. In contrast, the death of a respondent's father was not found to have any significant effect on the timing of their transition to parenthood, with the exception of a race-loss interaction effect for Black respondents who had lost their fathers.

Figure 3. Hazard Estimates for Timing to First Child by Maternal Loss

As seen in Figure 2, a significant difference in risk of having a first child exists between individuals who have and have not experienced maternal bereavement for the first several years past age 18. Hazards do not converge until at least 8 years later, after the end of the period of interest for this study.

Race and sex patterns of risk of having a child were similar to those seen in previous models. Compared to white respondents, Black respondents were 20% more likely to have a child and Hispanic respondents were 16% more likely to have a child between ages 18 and 26. Women were also 11% more likely to have a child in these years than men. The effects of family income at baseline and failure to graduate high school were also similar as in previous models.

In Model 14, strong race-loss interaction effects were found for both Black and Hispanic respondents experiencing maternal loss. For Black respondents who had lost their mothers, there was an additional risk of becoming a parent by a factor of 5%. For Hispanic respondents, the effect is the opposite: the loss of a mother was associated with a risk of becoming a parent reduced by approximately 5%. For Black respondents who had lost their fathers prior to age 18, risk of becoming a parent in the transition to adulthood was reduced by 4%. No significant race-loss interaction was found for Hispanic respondents who had lost their fathers.

Figure 3. Hazard Estimates for Timing to First Child by Race and Paternal Loss

As seen in Figure 3 (above), significant race-loss differences persist over time when paternal bereavement is considered. While white respondents who have not experienced the loss of a father are considerably less likely to have a child than those who have lost their fathers, the same does not hold for Black respondents. Paternally bereaved Black young adults had lower hazard estimates over time than their non-bereaved Black counterpart. These paternally bereaved Black young adults had hazard estimates closer to those of white young adults until several years after the beginning of the study period; the hazard ratios predicting risk of having a child do not converge for paternally-bereaved and non-bereaved Black young adults until around 72 months—or around age 24, six years after the start of the observation period.

Discussion

In this paper, I asked whether and how the loss of a parent prior to the age of 18 affects the family formation behaviors of young adults. The results show that early parental loss has a significant impact on the timing of first union formation, and on the timing of the transition to parenthood. Those who have lost a parent as a child or adolescent are at greater risk for early union formation and early parenthood during the transition to adulthood. These findings are consistent with prior literature linking early life adversity to early family formation.

The consequences of a parental loss, however, are dependent on which parent has passed away. The loss of one's father is associated with slower first union formation, whereas the loss of one's mother is associated with accelerated union formation. Similarly, the loss of one's mother prior to age 18 was associated with a higher risk of entering parenthood, while the loss of one's father did not matter except for Black respondents, for whom paternal loss is associated with a reduced risk of entering parenthood.

These results indicate that early parental losses—particularly early paternal losses—may explain some of the black-white gap in age at transition to parenthood. Black respondents remain at significantly higher risk of becoming a parent during the transition to adulthood; however, this difference is reduced when accounting for the effects of paternal loss. Considering the disproportionately high rate of paternal loss among Black Americans, such an effect would be significant at the population level. On the other hand, Black young adults who experience maternal bereavement experience an even greater risk of having a first child during the transition to adulthood. While paternal deaths greatly outnumber maternal

deaths, these differences should be noted in examining the relationship between exposure to loss and family formation behavior.

The relationship between parental loss and family formation behaviors is strongly mediated by socioeconomic indicators, particularly the increased likelihood that an individual will fail to obtain a high school degree. Respondents who had lost parents prior to age 18 were more than twice as likely to not graduate high school compared to those who had not lost parents. Prior literature has linked socioeconomic status to patterns of family formation, finding lower levels of childhood socioeconomic status and lower educational attainment to be associated with earlier family formation and greater union instability (Sassler 2010). Consistent with these findings, this study demonstrates that parental loss greatly increases the risk of not graduating high school, and subsequently contributes to the heightened risk of early union formation and early parenthood.

These mediation effects may explain some of the relative differences in the significance of maternal vs paternal bereavement. While maternal loss was a significant predictor of timing of both first union formation and the transition to parenthood, paternal loss held significance only for specific subgroups in predicting the transition to parenthood. The role of paternal loss may be more strongly mediated by socioeconomic covariates; for example, parental loss has a much stronger effect on the likelihood of a youth graduating from high school than maternal loss, though both have significant mediation effects.

Although it is clear that socioeconomic factors play a role in linking parental loss to family formation behaviors in the transition to adulthood, not all of the effects of loss are explained by reduced household income or failure to complete high school. The exception is the relationship between paternal loss and early parenthood (analysis not shown; $p > .05$), in which the entirety of the relationship is subsumed by socioeconomic controls. The remaining effect suggests that non-monetary factors, such as changes to internal family dynamics, support-seeking from intimate partners, or worsened relationships with the surviving parent may also operate as pathways linking early parental death to early family formation behaviors. Future research should explore these alternative pathways further, and may wish to account for how other forms of parental support may play a role in shaping these decisions.

There are limitations to this study to be acknowledged. First, due to the small number of respondents falling into the “other races” category, these analyses were restricted only to non-Hispanic white, non-Hispanic Black, and Hispanic respondents. The NLSY97 does not provide sufficient information to identify sub-groups within the Hispanic subsample, and so it is impossible to investigate any variation which may exist between different Hispanic groups. Second, limited information is available about the surviving parents of the respondents, or about how household dynamics may have changed following the loss of a parent. Third, due to left-censoring of the data, individuals who engaged in union formation or had their first child prior to the age of 18 were excluded from these analyses, although it is possible that such events occurred following the loss of a parent.

Despite these limitations, this study strongly suggests that the loss of one’s parents early in life shapes the timing of first union formation and the transition to parenthood. These family formation events have significant implications for the familial, educational, and career trajectories of young adults in the United States, and future research should consider how these and other forms of family loss may influence how young people perceive family formation events and utilize family formation behaviors to offset the consequences of parental bereavement.

Conclusion

These analyses contribute to our understanding of how cycles of inequality are reproduced through the loss of family members and formation of new families at younger ages. Young adults who have lost their parents during childhood or adolescence may face a loss of financial resources, be unable to graduate high school, encounter new housing needs, or look to romantic partners as primary sources of support, accelerating their family formation behaviors. These behaviors have lasting consequences for the educational and career opportunities available to individuals, as well as for their future family

formation trajectories. Unions established when individuals are relatively young are also more likely to dissolve, and individuals who engage in early family formation behaviors are more likely to experience multiple cohabitations and are less likely to marry (McLanahan and Percheski 2008). In turn, these family formation patterns contribute to disadvantage for subsequent generations, continuing the cycle of family inequality for already-disadvantaged groups, including lower-income populations and racial and ethnic minorities.

The relationship between early parental loss and early family formation behaviors should be considered by scholars concerned about the diverging destinies of American families. In particular, research examining race differences in family formation should consider the role of early life family losses in shaping the resources, coping behaviors, and opportunities available to Black and Hispanic Americans, whose risk of losses are greater across ages and across types of loss. In sum, the race differences in the risk of family losses at early ages may contribute to cycles of inequality for younger generations by influencing the timing of family formation behaviors among bereaved young adults.

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