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**FAMILY DEMOGRAPHIC INFLUENCES ON THE TIMING AND STABILITY OF  
FIRST COHABITING UNIONS**

A Dissertation in

Sociology & Demography

By

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## Abstract

Nonmarital cohabitation is an increasingly common union experience for individuals and a context for family building, both as a pre-cursor to marriage and a site of childbearing. Several factors may push or pull individuals into a first cohabiting union and impact the stability of their unions thereafter, including prior experiences in the family environment as well as concurrent behavior relating to childbearing and educational attainment. Much of the research looking at cohabitation formation and outcomes, however, has concentrated on cohabitation in early adulthood or focused on the experiences of women. Furthermore, in this literature there is often an implicit assumption that the influence of predictors on cohabitation timing or stability is constant across age at union entrance or cohabitation duration. The current thesis extends work in this area by examining the timing of entering into first cohabitations and the outcomes of these unions for both men and women, from adolescence through young adulthood, and considers whether the factors shaping these processes operate consistently across this age range. The analytic sample comes from nationally-representative data from Waves I and IV of the *National Longitudinal Study of Adolescent Health*.

Several dimensions of the family environment during adolescence and concurrent behavior across the transition to adulthood are considered as predictors of behavior in cohabiting unions. This thesis also examines whether these family and sociodemographic factors affect the risk of entering cohabiting unions in similar ways during adolescence, early adulthood, and later into young adulthood, and if these factors affect the risk of transitioning to marriage or breaking-up in similar ways across the duration of first cohabitations. Results indicate that exposure during adolescence to family instability, parental cohabitation, lower parental SES, and low family belonging are associated with elevated risk of entering into cohabiting unions, but primarily during adolescence and early adulthood. At older ages, many of these family factors are no longer associated with an elevated rates of cohabiting, as individuals from a variety of family backgrounds are increasingly likely to cohabit. Family factors, including having a low sense of belonging to one's family, are also associated with the stability of first cohabitations,

contributing to a lower likelihood of transitioning to marriage and a higher likelihood of union dissolution.

Results also indicate that pregnancy and childbearing may motivate entrance into first cohabitations and contribute to the likelihood that these unions transition to marriage or end in a break-up. However, the influence of pregnancy and childbearing on entering a cohabitation as well as their effect on the outcome of that union differs depending on the age of the individual and when in the cohabitation the childbearing occurs. Furthermore, results point to important gender and race differences in the role that pregnancy and childbearing plays in shaping first cohabitation experiences.

Findings from this thesis highlight the linkage between the adolescent family environment and first cohabitation experiences, lending support to a life course perspective which emphasizes the enduring influence of earlier experiences for later behavior. Additionally, results contribute to the existing literature on cohabitation and highlight the importance of considering the shifting influence of predictors across age and cohabitation duration.

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## *Chapter 1*

### **Introduction**

Over the past century, the American family system has undergone widespread changes (Casper & Bianchi, 2002). Norms surrounding the role that marriage and romantic unions play in organizing people's lives have shifted, as have behaviors (Cherlin, 2004). Americans are waiting longer to get married, and the median age at first marriage is at a historic high point, 26.5 for women and 28.7 for men (Manning, Brown & Payne, 2014). However, while young men and women are waiting longer to tie the knot, they are not waiting to form coresidential unions.

Rates of non-marital cohabitation have increased substantially over the past few decades. The percentage of women between the ages of 19 and 44 who have ever cohabited has increased considerably, from one-third of women in 1987 to over half (58%) in 2006-2007 (National Center for Family & Marriage Research, 2010). Cohabitation has also surpassed marriage as the most common context of first coresidential romantic unions (Bumpass & Lu, 2000; Kennedy & Bumpass, 2008).

This upward trend in nonmarital cohabitation is part of a larger cluster of changes in family life that have been unfolding over the past century including: the delay in marriage, the decoupling of marriage and procreation (and the rise in nonmarital childbearing), the decline in family size and marital fertility, and the increase in marital dissolution (Casper & Bianchi, 2002). Broad cultural and economic shifts, coupled with co-occurring demographic changes have been implicated as influential on the increasing acceptability and practice of non-marital cohabitation.

With the trend towards later age at marriage and increasing acceptance of premarital sexuality, cohabitation has become more common (Smock, 2000). However, the process of entering into these relationships may not always be clear-cut (Manning & Smock, 2005). The decision to move in together may be a deliberate act signaling increasing commitment, an alteration in living arrangements motivated by finances or convenience, or something that people just "slide" into in a non-deliberate and incremental way (e.g. Stanley, Rhoades & Markman, 2006). Regardless of the decision-making process and

underlying meaning of transitioning into a cohabiting relationship, empirical and qualitative research suggests that there are many factors which may push or pull individuals into cohabitations. These push and pull factors may be influential on the age when individuals decide to first cohabit, or whether individuals enter into cohabitations first or marry directly.

Cohabitation experiences are also intertwined with the progression of other key dimensions of the life course, such as education and childbearing (Amato, Landale, Havasevich-Brooks, Booth, Eggebeen, Schoen & McHale, 2008; Osgood, Ruth, Eccles, Jacobs & Barber, 2005; Schoen, Landale & Daniels, 2007). Given that cohabitation has become the most common site of first coresidential union formation, it is important to advance our understanding of factors that influence when young adults enter into their first cohabitations, and the trajectory of these first unions thereafter. Just as the first birth is a particularly salient fertility event that is influential on later fertility experiences (Rindfuss, Morgan & Swicegood, 1988), so too the transition to a first cohabitation may be an important event that is salient for the progression of romantic relationships and other life course events.

While cohabiting unions have become more prevalent, they are often short-lived. About half of all cohabiting couples either separate or marry within the first two years of establishing their union (Kennedy & Bumpass, 2008). And while this may seem to signal an inherent instability in cohabiting unions, the duration of cohabitations has actually been increasing over the past few decades. This increase in cohabitation duration is due in part to delays in marriage (Kennedy & Bumpass, 2008). Long-term cohabitation is not very common in the American family context (Heuveline & Timberlake, 2004). Rather, if cohabiting couples are still together after a few years they likely transform their relationships into marriages (Cherlin 2010). However, there is evidence that the proportion of cohabiters who marry their partners has decreased over the past few decades (Kennedy & Bumpass, 2008). Different factors may create stability for cohabiting unions, may motivate a transition to marriage, or lead to break-ups. And the impact of these factors likely varies across the duration of cohabiting unions. Examining the duration-specific influence of factors is not something that has been commonly examined in the literature,

and is a contribution of the current study. Events that transpire while individuals are in these unions may shape transition decisions, as may the experiences individuals bring with them into their unions.

This thesis examines how experiences during adolescence influence whether and when a person enters into a first cohabiting relationship, and in turn the outcomes of their first cohabitation.

Specifically, the current study focuses on how the adolescent family environment and behaviors during the transition to adulthood shape the timing of transitions into first cohabitations. By examining how earlier relationship experiences during adolescence influence later relationship formation and stability, this study sheds light on life course processes linking adolescence and young adulthood as well as the enduring influence of earlier relationship behavior and interactions on later romantic relationship development. This thesis also focuses on how other life course events, childbearing and education, impact the stability and progression of first cohabitations. Additionally, much of the prior research on union formation has focused on the experience of women. This study explores how entrance into first unions and the stability of first cohabitations operates for men and women, with careful consideration of how predictors may vary across gender. Two main research questions guide this investigation: 1) what influences the timing of entrance into a first coresidential union (cohabitation or marriage) and 2) what factors influence whether and when first-time cohabiters break up or marry?

To gain insight into the formation of first coresidential unions and the stability of first cohabitations, an event history modeling approach is used to capture the time-varying nature of these events. Data from a nationally representative sample of individuals from the *National Longitudinal Study of Adolescent Health* (Add Health) were used, with information drawn from Waves I and IV. This data enables us to capture the timing and outcomes of first unions, using information from respondents' detailed relationship history calendars. Furthermore, detailed childbearing calendars and educational attainment histories were used to capture the timing of childbearing and educational events and their impact on union formation and stability.



Much of the past research that has examined union formation behavior using Add Health has only used data up until Wave III, when respondents were between the ages of 18 and 26. This thesis looks further into young adulthood and is able to capture first union experiences that occurred at older ages, up until age 32. Therefore, this thesis examines factors which contribute to union formation in early adulthood as well as later on into young adulthood, and considers how the influence of factors on the nature and stability of first unions may change depending on the timing of union formation, something that is seldom considered in the literature.

Given the increasing salience of cohabiting unions for the individual life course as well as broader demographic trends in the American family (e.g. the rise in non-marital childbearing within cohabiting unions; Kennedy & Bumpass, 2008), it is important to advance our understanding of what contributes to when people first cohabit and the stability of these unions. Looking at how more distal family experiences are associated with approaches towards first coresidential romantic unions will deepen our understanding of the “long-arm” of family experiences for later behavior. Furthermore, there is limited research on how dimensions of the family environment growing up are related to transitions *within* cohabiting unions, with more research focusing on the link between family experiences and marital outcomes (e.g. Amato & Booth, 1997). An examination of how both more distal and more proximate factors influence the stability of cohabiting unions and when transitions are made within them is especially important given how commonplace cohabitation is in the American life course and how common childbearing has become a part of that experience.

Chapter 2 outlines what prior research has found regarding the timing and nature of first union formation as well as the stability of cohabiting unions. This chapter provides a background for thinking about the push and pull factors for union formation and the stability of cohabiting unions, and identifies how the current study addresses gaps in the literature. The chapter concludes by discussing the theoretical motivations for examining how adolescent family experiences are linked with later romantic union experiences.

## *Chapter 2*

### **Empirical & Theoretical Background**

There are many experiences in peoples' lives that may shape their approaches to coresidential romantic unions, when they decide to enter into one, and the eventual outcome of that union. These push and pull factors may be proximal, such as concurrent behavior and experiences, or more distal factors may shape the approaches individuals take towards forming unions and the outcomes of these relationships. This chapter outlines the current research on union formation and the stability of cohabiting unions with a focus on what the literature has found regarding the influence of more proximate predictors (socioeconomic factors and childbearing behavior) and more distal predictors (family experiences in adolescence).

#### **Entering Coresidential Unions**

The timing and type of first coresidential union varies across gender and race. Men consistently enter into marriages or cohabitations at older ages than women, with men's median age at marriage 27.6 years of age and a median age at cohabitation of 23.5, compared to 25.9 and 21.8 for women respectively (Manning et al., 2014). Racial differences are much larger for marriage than for cohabitation. Blacks have much lower rates of marriage than Whites and Hispanics and enter into marriages at older ages on average (Manning, et al, 2014; Copen, Daniels & Mosher, 2013; Raley, 2000). There is much more limited evidence of racial differences in the timing or prevalence of cohabitation (Manning et al., 2014; Copen et al., 2012).

Research suggests that the nature of union formation is strongly shaped by socioeconomic factors. While rates of cohabitation have increased for people of all education levels, individuals with less education continue to have higher rates of ever cohabiting (Kennedy & Bumpass, 2008). The timing of marriage has also been related to educational attainment, with more highly educated individuals delaying marriage but then marrying at higher rates (Cherlin, 2010). School enrollment reduces the risk of union

formation, especially marriage (Thornton, Axinn & Teachman, 1995), although more recent research suggests that school enrollment no longer acts as a barrier to cohabitation (Sassler & Goldscheider, 2004). Higher educational attainment is associated with increased marriage rates and decreased cohabitation rates (Thornton et al., 1995). In general this body of literature suggests that the pursuit of higher education delays marriage formation to a greater degree than cohabitation but that greater educational attainment is associated with higher rates of marriage compared to cohabitation.

Pregnancy and childbearing experiences may also influence union formation behavior. Research suggests that experiencing a nonmarital conception increases women's hazard of cohabitation, and it continues to increase throughout the pregnancy (Brien, Lillard & Waite, 1999). After the birth of a child White women experience a drop in the hazard of cohabitation whereas Black women experience a continued increase in the hazard of cohabitation throughout the first four years of their child's life. This research illuminates racial differences in the role of pregnancy in the union formation process; White women are much more likely to enter into a marriage after becoming pregnant than cohabit while Black women are more likely to cohabit. In general, Black women are far less likely to transition to a cohabitation or marriage when they become pregnant compared to White and Hispanic women, and more likely to break up with their partner before the birth of their child (Lichter, Sassler & Turner, 2014). Recent research indicates that there has been a decline in rates of "shotgun marriage" and even "shotgun cohabitation" in response to nonmarital conception; single and cohabiting women who become pregnant are less likely to marry and more likely to remain single or cohabiting (Smock & Greenland, 2010). Pregnancy, however, appears to be a much bigger precursor to cohabitation than it is to marriage (Lichter, et al., 2014). Gender differences also appear to exist in the link between prior childbearing and union formation, with coresident children increasing the likelihood that men enter into coresidential unions but women with children less likely to enter a union with a childless man and more likely to enter into a union with a man who has children (Goldscheider & Sassler, 2006). This research, however, looks at

transitions into any union (e.g. including post-divorce, second unions, etc) and is not focused on first union experiences.

Prior dating and sexual experiences have also been linked with expectations and approaches towards union formation. Adolescents who have been involved in dating have higher expectations to cohabit and marry than those who have never dated (Manning, Longmore & Giordano, 2007). Furthermore, teens with sexual experience have higher expectations for both cohabitation and marriage (Manning et al., 2007) and more positive attitudes about cohabitation (Willoughby & Carroll, 2010). Involvement in romantic relationships at the end of high school is associated with an increased risk of marriage and cohabitation in young adulthood (Raley, Crissey & Muller, 2007) with more steady experience predictive of marriage in young adulthood and any degree of relationship experience predictive of cohabitation (Meier & Allen, 2009). Sexual experience in adolescence increases the odds of cohabitation in young adulthood (Meier & Allen 2009; Raley et al., 2007).

Various characteristics of the family of origin may have enduring influence on the union formation behavior of young adults. Parental socioeconomic resources are related to the likelihood that offspring cohabit, with cohabitation more common among those from lower SES backgrounds (Schoen, Landale, Daniels & Cheng, 2009). Likewise, the timing of first cohabitation appears to be accelerated among those with less educated parents (Wilk, 2009). Parental SES may shape offspring cohabitation behavior through the opportunities and constraints which influence their socioeconomic attainment (e.g. Conger, Conger & Martin, 2010). Furthermore, a disadvantaged background may expose youth to more stressful environments and economic strain (Edin & Kissane, 2010) which may act to push individuals out of the parental home and into cohabiting relationships as offspring seek an “escape from stress”.

Family structure and related instability during the formative years may also be influential on offspring’s decisions to cohabit or marry. Several studies have found that individuals from non-intact family backgrounds are at an elevated risk of cohabiting and do so at earlier ages (Ryan, Franzetta,

Schelar & Manlove, 2009; Goldscheider & Goldscheider, 1998; Amato & Kane, 2011; Sassler, Cunningham & Lichter, 2009). There's some suggestion that the experience of parental divorce is more influential on the probability of offspring cohabitation than marriage (Thornton, 1991) and that individuals with divorced parents have more negative views about marriage (Riggio & Weiser, 2008). Other researcher, however, finds that parental divorce increases the risk of either partnership (Kiernan & Hobcraft, 1997). There is limited evidence of gender differences in the impact of family structure experiences for early cohabitation, with some suggestion that the effects of parental family structure history on union formation are stronger for women than men (Ryan, et al., 2009).

Exposure to different parental relationship experiences may also shape the approaches offspring take towards their own romantic unions. Youth who were exposed to family instability and more parental relationship transitions growing up are more likely to have their transition to adulthood marked by experiences of cohabitation and parenthood (Fomby & Bosick, 2013). Research also suggests that individuals who have a parent who has lived in a cohabiting union are more likely to cohabit themselves (Smock, Manning & Dorius, 2013; Sassler et al., 2009). Individuals whose parent(s) cohabit after a divorce are also more likely to cohabit themselves, while individuals whose parent did not cohabit after a divorce but rather remarried directly were no more likely to cohabit (Sassler et al., 2009). This suggests that parental cohabitation may be an important dimension of parental relationship history that may shape the approaches offspring take towards their own romantic unions. However, it is not clear whether parental cohabitation behavior helps to mediate family structure differences. That is, are family structure differences in union formation due in part to higher rates of parental cohabitation among individuals from non-intact family forms? Furthermore, it remains to be seen whether family structure and parental relationship histories influence the union formation behavior of individuals at different ages in similar ways. That is, does exposure to different family structure and parental relationship histories influence the union formation behavior of individuals during adolescence the same way as it does during early adulthood or later into young adulthood? In the current thesis we examine how the influence of these

factors may shift over time, in order to help us get a better handle of the “reach” of earlier experiences for offspring’s behavior and how it changes as offspring age.

There are several underlying mechanisms which may be driving the association between family structure and union formation behavior. First, family structure transitions have been linked with decreased academic achievement and attainment (e.g. Cavanagh, Schiller & Riegle-Crumb, 2006). Given that youth with less education are more likely to cohabit, perhaps the influence of family structure on cohabitation behavior is mediated by its influence on offspring educational trajectories.

Second, non-intact family structures may also contribute to earlier offspring cohabitation through their association with earlier sexual initiation. Kiernan and Hobcraft (1997) find that much of the association between parental divorce and earlier offspring union formation is mediated by youths’ earlier sexual activity. Additionally, family structure differences in parenting behavior (e.g. Kurdeck & Fine, 1993), particularly parental monitoring, may be a factor contributing to offspring’s increased risk of sexual initiation (Longmore, Manning, & Giordano, 2001) and in turn higher risk of early cohabitation (Meier & Allen, 2009). Some research, however, does not find that family structure differences in timing of offspring sexual initiation can be explained by parental involvement, but rather finds that each are independently associated with youths’ sexual activity (Pearson, Muller & Frisco, 2006).

Third, youth exposure to family structure instability and certain family arrangements, such as parental cohabitation, may influence offspring’s attitudes towards marriage and cohabitation, making them more cautious towards marriage or more open towards cohabitation (e.g. Thornton, 1991). The current study considers two dimensions of family structure history, exposure to parental cohabitation and number of maternal coresidential romantic partnerships, to better understand how exposure to different parental relationship behavior may contribute to the future relationship behavior of offspring and help mediate any family structure differences.

Fourth, higher levels of family conflict and economic stress in non-intact families may motivate youth to “escape from stress” and move into cohabitations with partners at earlier ages.

Finally, above and beyond family structure influences, parental marital quality may influence offspring views about marriage and cohabitation, making them more cautious about marriage or perhaps more interested in trying things out within a cohabiting relationship. A study by Amato and Booth (1997) lends support to this idea and finds that parental divorce proneness is linked with higher rates of cohabitation among offspring. However, other work by Amato and Kane (2011) does not find evidence for the additional influence of parental marital quality on offspring cohabitation rates beyond the family structure.

Several other aspects of the family environment may also influence offspring’s development of romantic relationships and their union formation behavior. The long-term influence of the adolescent family context and family relations on later cohabitation behavior is of primary interest in the current study. Given the salience of adolescence for social development (Crosnoe & Kirkpatrick-Johnson, 2011), relationships with parents during this critical period may have long term influences on offspring’s approaches towards romantic relationships. The parent-child relationship is an important site for development that shapes offspring’s behavior, emotions, and cognitive processes in ways that have been linked with their later behavior with romantic partners (Collins & Van Dulmen, 2006). Several dimensions of relations within the family may be influential on offspring’s approaches towards romantic relationships. Closer, more secure attachment to parents during adolescence is associated with greater social competence and psychosocial adjustment in adolescence and young adulthood (Smenta, Campione-Barr & Metzger, 2006). Furthermore, negative experiences in the family context predispose individuals for the development of various social and emotional impairments (Schaffer, 2000). Such negative experiences include things like exposure to conflict as well as parental relations that lack warmth and support. Weak parent-child bonds are assumed to lead to limitations in the capacity for establishing and

maintaining satisfactory love relationships through immature or impaired attachment schemas (Allen & Land, 1999).

Youth with nurturing and involved parents tend to have warmer, more supportive and less hostile relationships with romantic partners in young adulthood (Conger, Cui, Bryant & Elder, 2000; Collins, Welsh, & Furman, 2009). Research by Conger and colleagues (2000) suggests that warmth and support from parents promote the development of behavioral competence, which mediates the association between parenting behavior and relationship quality in young adulthood. That is, the interactional qualities experienced in the family of origin may shape the development of behavioral competencies in early adult romantic relationships. Correlational analyses in the study by Conger et al. (2000) suggest that young adults (mean age 20.7) who are in cohabiting relationships, relative to those in dating relationships, had parents who were less nurturing and involved in their interactions in early adolescence and less warm, less supportive, and more hostile in their marital interactions. The work by Ryan and colleagues (2009) also indicates that individuals who were closer with their parents during adolescence had lower odds of cohabiting before age 20. This suggests that people who cohabit at relatively young ages (20) compared to those who date in non-residential relationships come from more conflictual and less supportive family environments. Research has not examined how support in the family environment influences the union formation behavior of individuals at later ages in young adulthood, and whether the influence of such supportiveness on union formation varies depending on offspring's age; the current thesis examines this.

There has been limited research examining the role of earlier family relations on the timing of union formation. This research is also limited by only examining the link between family factors and union formation behavior among women. The current study extends this research by considering how dimensions of the adolescent family environment may shape the union formation of both women and men, and considers if these family factors influence relationship behavior in different ways across gender. The work by Amato et al. (2008), using latent-class analysis to determine the multi-dimensional pathways of family formation, educational, and employment behavior in the transition to adulthood, suggests that



adolescent females with few emotional and social resources are more likely to enter unions at earlier ages. In Amato's study several emotional and social resources, including closeness with parents, are combined into a single factor. Therefore, it would be informative to examine the independent influence of these resources on the union formation timing of both males and females. Thornton, Axinn and Xie (2007) also find that maternal closeness with other relatives is associated with decreased risk of cohabitation among offspring, but only when the cohabiters had no plans for marriage. This finding may indicate that greater cohesion in the broader family unit may act as a barrier to early cohabitation entrance, particularly when such cohabitations are not leading to marriage. Finally, Amato and Kane (2011) find that the influence of family structure on young women's risk of cohabitation is partially mediated by the earlier family environment; having a positive family environment in adolescence was negatively associated with the risk of cohabitation. The current study aims to extend the work done by Amato and Kane (2011) by examining the influence of multiple family experiences, including the quality of family relations as well as parental relationship history, on the union formation behavior of both men and women.

### **Stability of Cohabiting Relationships**

Past research examining factors which may contribute to cohabitation dissolution or marriage have focused on the role of economics (e.g. Smock & Manning 1997; Lichter, Qian & Mellot 2006), race (e.g. Brien, Lillard & Waite 1999), and childbearing (e.g. Manning & Smock 1995). Some studies find that economic resources, particularly men's, help promote marriage and/or deter separation (Smock & Manning, 1997; Bramlett & Mosher, 2002; Wu & Pollard, 2000; Sassler & McNally, 2003), while others indicate that rates of marriage among cohabiters do not differ by men's earnings (Oppenheimer, 2003; Sassler & McNally, 2003). Socioeconomic disadvantage has been found to reduce the odds of marriage (Manning & Smock, 1995; Lichter, et al, 2006; Bramlett & Mosher, 2002), while poverty increases women's risk of separation (Wu & Pollard, 2000). Education is also associated with cohabitation transitions, with less educated women less likely to have their cohabitation result in marriage (Manning, 2004). In general, these results indicate that socioeconomic resources, such as higher income and greater

educational attainment, may promote stability within cohabiting unions and increase the likelihood that cohabitations transition to marriage. Research also points to substantial racial differences in cohabitation transitions; black women are less likely to see their cohabitation lead to marriage and more likely to see it dissolve while cohabiting white women are more likely to marry (e.g. Bramlett & Mosher, 2002; Brien, et al., 1999; Manning & Smock, 1995).

While research has considered racial differences in the outcomes of cohabiting unions, research highlights the experiences of women within cohabiting unions and pays less attention to how the stability of first cohabiting unions may differ for men and women. Men and women express different ideas about the drawbacks of cohabitation and the role that cohabitation may play in the union formation process (Huang, Smock, Manning & Bergstrom-Lynch, 2011). Furthermore, men in cohabiting unions report less commitment to their partner than women in cohabiting unions (Pollard & Harris, 2013). Women also report lifelong commitment, love, and faithfulness within a relationship as more important than men (Meier, Hull & Ortyl, 2009). These gender differences in relationship values and perhaps the role that cohabitation plays in organizing individuals' lives might contribute to higher instability in men's cohabiting unions. The current study extends prior research by carefully considering gender differences in the stability of first cohabiting unions as well as how factors may impact the stability of men's and women's relationships in different ways.

The role of childbearing and pregnancy for cohabitation outcomes have also been considered in the literature. This research largely finds that pregnancy and childbirth within cohabiting unions may influence the cohabitating relationship in different ways. This work, again, often has only focused on how childbearing experiences influence the stability of unions for women, with limited attention paid to the experiences of men. Over time there has been a decline in the proportion of individuals who transition to marriage after giving birth to a child within a cohabiting union (Musick & Michelmore, 2012). Couples who give birth while cohabiting but never transition to marriage have a high likelihood of breaking up. This research, however, does not consider how the timing of births within a union

influences the stability and outcome of the cohabitation; this is considered in the current study with results suggesting this is an important oversight.

Research in this area also points to racial differences in the influence of pregnancy and childbirth on relationship stability. Cohabitation increases the risk of premarital pregnancy, with evidence that the odds of pregnancy increase more for Puerto Rican women than Blacks and Whites (Manning & Landale, 1996). For pregnant White women, cohabitating with their partner accelerates the transition to marriage, while cohabitation has no effect on the risk of marriage among pregnant black women and a strong negative effect among pregnant Puerto Ricans. Manning (2004) finds that the conception of a child within cohabitation is associated with greater stability in the parental relationship, if parents marry prior to the birth. However, conceiving a child within a cohabiting relationship was not associated with greater stability if the child was also born while parents were cohabiting. The odds of transitioning to marriage are lower for women who give birth within cohabitation, at least among Latina women (Manning, 2004; Lichter et al., 2014). However, the odds of cohabitation dissolution do not differ by whether women give birth within a cohabitating union, for Latina, Black and White women (Manning, 2004). Educational gradients also exist in the likelihood that non-marital conceptions or births lead to marriage, in ways that vary slightly by race (England, Schafer & Wu, 2012).

Children born to cohabiting parents are much more likely to see their parents separate than children born to married parents (Osborne, Manning & Smock, 2007). This difference is greatest for White children and is driven by differences in parental education, paternal substance abuse, and prior marriages and children. This body of research however, has only examined how having a child together influences the stability of parents' unions. Research has not addressed how bringing a child into a cohabiting union who is not the biological child of one's partner may impact the stability of that union. Research from the literature on married stepfamilies gives us some insight, with results suggesting that bringing one's biological child into a remarriage may contribute to greater instability in that relationship, particularly for women (Teachman, 2008; Goldscheider & Sassler, 2006).

Other characteristics of the cohabiting relationship and the partners involved may influence the course of their relationship. The older a woman is when she begins cohabiting the higher her odds of marrying and the lower her odds of separation (Manning, 2004), while younger women have higher odds of cohabitation dissolution (Bramlett & Mosher, 2002). Thornton, Axinn and Xie (2007) however, find a weak and insignificant association between the age at cohabitation and marriage rates of cohabiters. However, marriage rates were significantly related to the duration of cohabitation, with relatively low marriage rates during the first six months of the cohabitation that increased substantially over the next six months and decline in the subsequent six months (Thornton, et al., 2007). This pattern of marriage risk over the course of cohabitation helps to illuminate the speed of marriage transitions. It remains to be seen whether the speed and pattern of these transitions vary by the age when cohabiters first enter into their relationships.

Cohabitation duration is also associated with relationship instability. The longer people remain cohabiting without marrying the less stable their relationship is, particularly if they have plans for marriage (Brown, 2003). The duration of cohabitation prior to marriage is also predictive of future marriage instability, with marriages more susceptible to divorce if they are preceded by cohabitations of longer duration versus shorter duration (Bennett, Blanc & Bloom, 1988; Thomson & Colella, 1992). These findings suggest that, for many people, cohabitation is a step in the marriage process and the longer people wait to make take this next step, the more likely they are to break up, perhaps because they were sliding into marriage (e.g. Stanley, et al., 2006). Alternatively, this could reflect a sorting of individuals who are more committed to their relationships out of cohabitation into marriage earlier, leaving individuals with no plans for marriage remaining in cohabitations in a coresidential “dating” relationship; a more temporary state.

We know little about the role of prior family experiences on cohabitation outcomes. Cohabiting women who grew up in a two-biological parent family structure throughout childhood are more likely to make the transition to marriage (Bramlett & Mosher, 2002) while women who grew up in a single-parent

family are more likely to separate compared to women from two-parent families (Manning, 2004). Individuals who were exposed to more family transitions growing up also reported less relationship satisfaction in their cohabiting unions (Sassler et al. 2009), which suggests that exposure to family instability may contribute to instability in cohabiting relationships.

Research has not explicitly examined the influence of earlier family relationships on the outcome of offspring cohabitations. However, cohabiters have been found to report lower quality parental relationships than married individuals (Nock, 1995). Additionally, researchers using a Dutch sample have found associations between the degrees of commitment adolescents have to both their parents and friends and the level of commitment they have in their romantic relationships in young adulthood (De Goede, Branje, van Duin, VanderValk & Meeus, 2011). Adolescents with more nurturing and supportive relationships with their parents also tend to have higher quality, less conflictual relationships with romantic partners in young adulthood (Collins et al., 2009). Individuals who reported being closer with their parents during adolescence reported higher marital satisfaction in young adulthood (Flouri & Buchanan, 2002). Having a greater sense of cohesion or belonging to the family during adolescence has also been linked with greater intimacy in young adults' relationships (Feldman, Gowen & Fisher, 1998). Adolescents whose relations with their parents are characterized by more negative interactions tend to have worse conflict management skills in their later romantic unions (Linder & Collins, 2005).

Together, this suggests that having a strong parent-child bond growing up may positively shape the development of relationship skills in ways that promote commitment in romantic relationships. The current study examines the long-term influence of adolescent relations with parents on the stability of their first cohabiting relationships, whether and how quickly these relationships lead to marriage or end in separation. Furthermore, the current study explores how exposure to family instability and parental cohabitation may contribute to the stability of offspring's cohabiting relationships, and whether these dimensions of parental relationship history help to explain family structure differences.

## **Theoretical Framework**

According to the life course perspective, development is a life-long process in which previous experiences condition later ones (Elder, Johnson & Crosnoe, 2003). The progression of individuals through the life course is structured by their interactions with the social institutions in which they are embedded (Kohli, 2007), as well as their interactions with significant others with whom their lives are linked (Elder et al., 2003). While individuals play an active role in shaping their own development, the lives and development of others may act to constrain or support behavior (Elder & Shanahan, 2006).

The link between adolescent and young adult experiences may be particularly important to examine for a number of reasons. The transition to adulthood involves multiple transitions in several domains, such as education, work, and family, which all have important implications for future outcomes (Uhlenberg & Mueller, 2003). Furthermore, the pathway from adolescence to adulthood has become more prolonged and varied, with greater diversity in the sequencing and timing of transitions (Furstenberg, 2010). Given the prolonged nature of this transition and the increasing variation in these pathways, it's important to consider possible roots of this diversity and how adolescent experiences are linked with later transitions (Johnson, Crosnoe & Elder, 2011).

Adolescence may also be an important time to examine the roots of later romantic relationship behavior, such as cohabitation timing and stability. Adolescence is a time of tremendous developmental and behavioral change. These changes include: increasing complexity in interpersonal relations, identity formation, pubertal development, increasing risk behavior, and greater institutional complexity in school and work realms (Crosnoe & Kirkpatrick-Johnson, 2011). Interpersonal relationships contribute to development in important ways during this period. Early relationships with parents and peers shape individuals' expectations about interactions, help them to learn about empathy and reciprocity, and allow them to cultivate a sense of self-worth and efficacy (Joyner & Campa, 2006). Security and closeness in attachment with parents during adolescence is also associated with greater social competence and

psychosocial adjustment in adolescence and young adulthood (Smenta, et al., 2006). The nature of family relations during adolescence may also influence the academic achievement and attainment of youth, with closer more supportive parental relationships characterized by consistent monitoring and involvement associated with higher achievement and greater educational attainment (Spera, 2005). Relations with parents and peers may also be shaped or shape involvement with delinquent activity and substance use (e.g. Wang, Dishion, Stormshak, & Willet, 2011); in turn, delinquency in adolescence and drinking have been associated with earlier transitions into cohabiting relationships (Lonardo, Manning, Giordano, & Longmore, 2009; Williams, Wray-Lake, Loken & Maggs 2012). Through their influence on adolescent social competency and well-being, as well as socioeconomic attainment, parents (and to some extent peers) may influence the development and outcomes of early adult relationships.

The current study is also influenced by the “Development of Early Adult Romantic Relationships” (DEARR) model, proposed by Bryant and Conger (2002) which articulates the possible pathways through which adolescent family experiences influence later romantic relations in young adulthood. This theoretical model is rooted in attachment and socialization theories and offers “a developmental approach to understanding the course, stability, and quality of early adult romantic relationships” (Bryant & Conger 2002: pp. 78). According to this model, characteristics of the family of origin influence over time the development of romantic relationships in early adulthood through their influence on offspring’s 1) social and economic circumstances and 2) individual characteristics (Bryant & Conger, 2002). These characteristics of the family include: the nature of parent-child interactions, stability or change in family structure, and family socioeconomic status. Each of these characteristics/experiences may act to promote or inhibit romantic relationship development through the social and economic advantage or disadvantage that they convey or through their influence on the individual development of offspring. Family experiences, for example having warm and supportive parental interactions compared to hostile and coercive interactions, may promote the development of offspring’s interactional styles and competencies. In turn, the interactional styles, attributions and

cognitions, problem-solving skills, and emotional health of offspring, shape the approach and attributes of offspring's romantic relationships in early adulthood and finally the outcome or nature of these relationships.

These theoretical perspectives as well as prior literature lead to several hypotheses about how family experiences and concurrent behavior are associated with the timing and stability of first cohabiting unions. I hypothesize that coming from a non-intact family form, being exposed to more family instability, being exposed to parental cohabitation, having a parent with less education, having a low sense of family belonging during adolescence, having more sexual partners in adolescence, being Black, having less education, and being pregnant will be associated with a higher likelihood of entering into a cohabiting union, particularly at younger ages. I also hypothesize that coming from a non-intact family form, being exposed to more family instability, being exposed to parental cohabitation, having a parent with less education, having a low degree of family belonging during adolescence, having more sexual partners, being Black, having less education, and having a child with a different partner than one's cohabiting partner will be associated with a higher likelihood of breaking-up with one's partner and a lower likelihood of transitioning to marriage. On the other hand, I hypothesize that having more education, being White, and being pregnant will be associated with a higher likelihood of transitioning to marriage.

In the chapter that follows the methodological approach of this thesis is laid out, with a discussion of data, analytic strategy, and measures. Results are presented in Chapters 4-7, first looking at the entrance into first cohabiting unions and then the outcome of such unions. Finally, Chapter 8 provides a discussion of these findings and their contributions to the current literature.



## *Chapter 3*

### **Data, Methods, & Measures**

#### **Data & Sample**

Data analysis was conducted using Waves I and IV of the National Longitudinal Study of Adolescent Health (Add Health), a school-based survey of adolescents in grades 7 through 12 on their health and health-related behavior. This study is nationally representative, utilizing a stratified random sample of students from 134 public, private and parochial schools. The study commenced during the 1994-1995 academic year, with over 90,000 students completing an in-school questionnaire. Of this sample, 20,745 adolescents were also administered at-home questionnaires. A portion of this sample also had a parent, predominantly the mother, fill out a parental questionnaire ( $n = 17,670$ ). In 2007 and 2008, a fourth wave of data-collection took place with in-home interviews of original respondents, who were then adults between the ages of 24 and 32 ( $N = 15,701$ ). The overall sample is representative of schools in the United States in terms of ethnicity, urbanicity, school type, school size and region of the country. Additional information on the Add Health sampling frame, response rates and the quality of the data is well documented and available elsewhere (Harris, 2005).

The analytic sample for the current study is restricted to individuals who participated at both Wave I and Wave IV who had a valid sample weight ( $n = 14,800$ ). Individuals who said they had cohabited or married but were missing important date information to determine timing and type of first union were excluded ( $n = 662$ ). Individuals whose first residential union was homosexual were also excluded from the analytic sample ( $n = 258$ ), given that people in same-sex relationships face legal restrictions in access to marriage. Questions asking respondents about their gender and the gender of their cohabiting/marital partner were used to limit the analyses to heterosexual first cohabitations and marriages. Finally, individuals who entered into a union at age 15 or earlier ( $n = 206$ ) were excluded from the analytic sample, given legal restrictions on the age at marriage (typically age 16 with parental

consent). After these exclusions the final analytic sample for the first set of analyses was 13,674 individuals who were single at age 15 and at risk of entering into their first coresidential union. The second set of analyses examining the trajectory of first cohabiting unions was further restricted to the subset of individuals from the first sample whose first union was a cohabitation ( $n = 8,876$ ). After excluding a small number of individuals who were missing important date information on union duration ( $n = 54$ ) the sample size for the second set of analyses was 8,822 men and women whose first union was a cohabitation. Multiple imputation procedures were used to handle missing data. Analyses used appropriate weighting and adjustments for stratification and clustering to account for the complex survey design of Add Health, using the `svy` command in Stata 13.

### **Analytic Strategy**

The first set of analyses explores how adolescent family experiences and sociodemographic behavior influence the age when individuals first enter into a coresidential union. The analytic sample of single individuals are at risk of entering into either a cohabiting or a marital union. A discrete-time competing risk event history modeling approach is used to account for the competing risk that single people face of entering into a cohabitating or marital union. This method uses duration information on the month and year of union entrance to determine the age at first union formation and estimate the hazard of competing events. These models take the form of multinomial logistic regression models that estimate the relative risk of event occurrence at every time point (age) of risk exposure up until the person-year of union formation or until the respondent is censored by the end of the study period.

To assess the extent to which adolescent experiences mediate the link between family structure and union formation timing, I use the classic mediation assessment of Baron and Kenny (1986). This formulation asserts that a mediating variable must be significantly associated with both the independent and dependent variable, and the inclusion of the mediator must result in a substantial decline in the  $b$  coefficient for the independent variable. Following the convention of scholars in the public health field

(e.g. Foshee et al., 1998) as well as family demographers (Amato & Kane, 2011), I will assume that a 20% reduction in the sub-hazard rate of cohabitation or marriage is substantively significant and indicative of mediation.

The second set of analyses for this thesis examines whether and when individuals in their first cohabiting union break up or marry their partner, and what factors are associated with the outcome and stability of their unions. Among the sample of individuals in their first cohabiting union, breaking up with or marrying their partners are modeled as competing events using a discrete-time event history approach with union dissolution and marriage modeled as competing risks. These models use duration information on the timing of event occurrences (month and year) to estimate the hazard of competing events (union dissolution and marriage). These take the form of multinomial logistic regression models which estimate the relative risk of event occurrences, using information on the person-month of the first post-cohabitation entrance relationship event.

Adjustments were also made to control for the prior sorting of individuals into first cohabiting unions when looking at cohabitation transitions. Given that the selection process of entering into a first cohabitation is over multiple alternatives (e.g. marrying directly or remaining single versus entering a cohabiting union), a selection correction which accounts for this multinomial logit specification is preferred (Bourguignon, Fournier & Gurgand, 2007). Models that adjust for potential selection bias were employed using the correction proposed by Dubin and McFadden (1984). This correction essentially uses two inverse Mills ratios, one for the initial probability of cohabiting versus marrying directly and one for the initial probability of cohabiting versus remaining single. These corrections were generated after imputation and included in the final multivariate model.

## Measures

### Dependent Variables

The dependent variable for the first set of analyses is type of first residential union formed, if any. Information on the respondents' romantic relationship histories collected at Wave IV was used to identify the first union, and type of union. A series of decision-rules were used when respondents were missing information on the month of union formation or only reported a season when the union was formed. The union was coded as having formed in January if it was reported as having occurred in the winter, April if it was reported as occurring in the Spring, July if it was reported as having occurred in the Summer, and October if it was reported as occurring in the Fall. If only a year was reported but no month, the union was coded as having formed at the mid-point of the year (June). The same decision rules were used when coding the union transitions among first time cohabiters. Entrance dates of unions were ordered to identify the type of union the respondent entered into first. Individuals whose first marital and first cohabiting union dates were the same were considered as having a marital first union.

The unit of analysis was the person-year of observation. Marriage and cohabitation were treated as competing exits from the single state. In practice, each respondent contributed person-year observations until they experienced one of the competing events or they were censored by the end of the study (Allison, 1982). The 13,674 respondents in the sample contributed a total of 121,035 person years. The dependent variable, first residential union, is categorical and was coded as 0 "single (never married/cohabited)", 1 "marriage", or 2 "cohabitation". Individuals who had not married or cohabited by Wave IV were censored and their age at the Wave IV interview was used as their final person-year observation. At each person-year of observation from time 1 (age 15) until time  $t$  (the age at cohabitation or marriage entrance or, if censored, the age at the Wave IV interview) individuals were coded into one of these three categories. Individuals contributed a person-year observation for each age they remained single up until and including the age they entered into their first coresidential union, or were censored by

the Wave IV interview. This information was pooled together to determine the conditional probability of cohabitation and marriage formation using multinomial logistic regression models.

In the second set of analyses the age at cohabitation formation was used as an independent variable predicting the timing and type of cohabitation transition. This variable is time-constant and was measured as age in years at first cohabitation (range 16-32; mean = 21.33; se = 0.10). When comparing goodness of fit metrics, the continuous specification of age at first union fit the data better than categorical specifications or models with non-linear terms. This variable was also considered a moderator of the association between earlier experiences and first cohabitation outcomes.

The dependent variable for the second set of analyses is the union-transition, break-up or marriage, of individuals out of their first cohabiting relationship. From romantic relationship histories collected at Wave IV, relationship-specific information on the date of marriage (if applicable) or date of break-up (if applicable) were obtained. These events were ordered to determine the first relevant relationship transition experienced by individuals in their first cohabiting relationship. Individuals who said that their cohabiting relationship ended the same date of their marriage entrance were considered transitioning to marriage (n = 33). There was a subset of individuals who reported a break-up with their first cohabiting partner, but listed a start date with a different cohabiting partner before the end date of the first (n = 233). The date of break-up for these individuals was set to the entrance date of the next cohabitation. Another subset of respondents from this sample report that they are “still-together” with their first cohabiting partner, but they report either multiple occasions of cohabiting with that partner or report living with other romantic partners during that time frame that they lived with their partner (n = 184). These people were flagged and analyses were run excluding them; results were similar.

The unit of analysis for the cohabitation outcome study was person-month of observation, with the 8,822 respondents in the analytic sample contributing 228,577 person-months. Marriage and union dissolution were treated as competing routes of exit from the cohabiting state. The dependent variable,

cohabitation outcome, is categorical and was coded as 0 “still together (cohabiting)”, 1 “married”, or 2 “broken up”. Individuals who were still cohabiting with their first cohabitation partner at Wave IV were censored and considered “still together”. At each time-point from time 1 (the month and year of the cohabitation start) until time  $t$  (the month and year of the marriage or break up or, if censored, the month and year of the Wave IV interview) an individual was coded 0 “no transition, still cohabiting”, 1 “married”, or 2 “broken up”. The person-month information was pooled to determine the conditional probability of marriage and break-up, the relative-risk of cohabitation exits, using multinomial logistic regression models.

Respondents experienced a transition at various duration points, ranging from 1 month into the relationship to 156 months (13 years) into their cohabiting union. Given that the nature and meaning of making a transition to legal marriage or dissolving a cohabiting union is likely quite different in long-term cohabitations compared to cohabitations of shorter duration, the current analyses will focus on transitions that occur within the first seven years of a cohabiting union. The small proportion of the sample who did make a transition after year seven ( $n = 200$ ) are included in the analytic sample, but they are considered as “still together” in a union throughout the risk period. Therefore, period of risk examined is from the month when the respondent first began cohabiting up until they make a transition to marriage or break-up, are interviewed at Wave IV while still cohabiting, or until the first month of year seven (month 84).

### **Family Factors**

The current study investigates how several aspects of the family environment during adolescence may influence the experience of offspring in their first coresidential union – whether and when they first enter into their first coresidential relationship and whether and when they exit their first cohabiting relationship by breaking up or marrying. Several dimensions of the adolescent family environment will be examined: family belonging, parental marital quality, family structure, parental relationship history, and the family socioeconomic environment. These variables were measured at Wave I, with some

information collected from the adolescent respondent (family belonging, family structure) and other information obtained from the parent questionnaire (parental marital quality, parental relationship history, and parental education). These predictors were measured as time-constant variables, with the values from Wave I assigned for each person-year or person-month of observation. This measurement schema considers the long-term influence of the family environment experienced during adolescence on later romantic union behavior. Descriptive information on the ranges, means/proportions, and standard deviations for all variables are presented in Table 1 in Chapter 4 for the larger sample of single individuals and in Table 24 in Chapter 6 for the sample of first time cohabiters. Any means or proportions mentioned in this chapter refer to the full sample of 13,674, unless the variable is specific to the sample of cohabiters.

**Family Belonging** The sense of belonging to their family respondent's felt during adolescence was measured with four variables. These four items asked adolescent respondents at Wave I how much they felt that (1) their family pays attention to them, (2) people in their family understand them, (3) they want to leave home, and (4) they and their family have fun together. A scale took the mean of these four items as a measure of their sense of family belonging during adolescence (1 = not at all, 5 = very much). Initial tests of the linearity assumption in the first set of analyses indicated that a binary specification of family belonging fit the data significantly better than the linear specification (binary AIC = 76410.7 BIC = 76507.6; linear AIC = 77390.55 BIC = 77487.55). The mean level of family belonging and standard deviation from the mean for three groups of respondents by age at Wave I (age 11-14, age 15-16, age 17-21) were used to construct an age-adjusted measure. Individuals were divided into those with "low family belonging" (16%; one standard deviation below the age-adjusted mean; reference group), and those with "average-to-high family belonging" (84%; within one-standard deviation of the age-adjusted mean or higher). This dichotomous measure is an indicator of youth who report having had low levels of family belonging in adolescence (0 = average/high family cohesion, 1 = low family cohesion).

## **Family Structure & Parental Marital Quality**

Information about household structure

and the quality of parental relations during adolescence was used to assess the influence of both family structure and parental marital relations on offspring coresidential union behavior in young adulthood.

Information from the Wave I household roster gathered from the adolescent respondent and the family structure variable constructed by Add Health researchers at the Carolina Population Center were used to determine the structure of the respondent's residential family household at Wave I. In addition, information collected from the parent questionnaire about the quality of the residential parents' relationship was used to flag high- and low-distressed parental relationships (Amato & Kane, 2011). Two questions from the parental interview were used to capture positive and negative dimensions of parental relationships: marital happiness and conflict. These questions were: "On a scale of 1 to 10, how would you rate your relationship with your spouse/partner?" (1 = completely unhappy, 10 = completely happy), and "How much do you fight or argue with your spouse/partner?" (1 = a lot, 2 = some, 3 = a little, 4 = not at all). Parents who provided a rating of 7 or less on the happiness question and a 1 or 2 on the conflict item were labeled as "distressed" (Amato & Kane 2011). When responses to these questions were answered in a manner that made them "off-diagonal" (e.g. high conflict and high relationship quality, or low conflict and low relationship quality), a series of decision rules were used to categorize these relationships as high or low distress. Respondents whose parent reported that they fought with their partner "a lot" but had high relationship quality were put in the "high distress" category, while those who fought "sometimes" and had high relationship quality were put in the "low distress" category. Respondents whose parent reported that they fought with their partner only "a little" or "not at all" but reported very low relationship quality (a value of 5 or less on the scale of 10) were put in the "high distress" category, while those with mid-to-low relationship quality (value of 6 or 7) were put in the "low distress" category. Together this information was used to construct a categorical variable of family structure with 6 categories: 1) married biological parents, low distress (49%; reference group), 2) married biological parents, high distress (8%), 3) married step parents, low distress (11%), 4) married step



parents, high distress (2%), 5) single parent (22%) , 6) other family form (8%; including cohabiting step parents).

**Maternal Relationship History** Two measures are used to capture the relationship histories of respondents' mothers and the parental romantic behavior that respondents were exposed to growing up. Information from the Wave I parental questionnaire was used to construct these measures: parental cohabitation and number of mother's prior relationships. *Parental Cohabitation* is a binary indicator of whether the respondent's biological mother ever cohabited in the past 18 years. A series of questions in the parental questionnaire asked the responding parent about the last three coresidential relationships they had in the past 18 years and what type of relationship each was, a marriage or a cohabitation. Youth whose biological mother reported that at least one of their last three relationships in the past 18 years was a cohabiting relationship were given a one indicating exposure to parental cohabitation (17%). Youth who did not have a parent fill out a questionnaire, or whose questionnaire was filled out by a non-biological parent were given a one for exposure to parental cohabitation if they reported living with cohabiting parents in the Wave I household roster. The majority of responding parents were biological mothers (87%). Information on the responding parent's relationship with the adolescent respondent was used to determine that the parent was biological. This criterion was used to better approximate exposure to these relationships, given that youth are more likely to live with a biological parent for a longer period of time (Kreider, 2008).

*Number of mother's prior relationships* is a count variable indicating the number of coresidential relationships that the respondent's biological mother reported having in the past 18 years. A question from the Wave I parental questionnaire asked responding parents about the number of coresidential (marriages and cohabitations) that they lived in over the past 18 years. The sample of responding parents was limited to biological mothers in order to better approximate exposure to these relationships. This variable approximates exposure to multiple parental relationships and family structure instability during childhood and adolescence. Initial tests of the linearity assumption in the first set of analyses indicated

that a categorical specification of mother's prior relationships fit the data significantly better (difference in deviance = 916.2, DF = 2,  $p < 0.001$ , AIC = 60282.8, BIC = 60396.2). Three categories were created for the number of mother's prior relationships: one or fewer (72%; reference category), two relationships (19%), and three or more relationships (9%).

**Parental Education** The family socioeconomic environment during adolescence was assessed using a measure of parental education. This variable captures the highest level of maternal educational attainment with information from the Wave I parent questionnaire, or the adolescent questionnaire if missing on the parental questionnaire. Paternal educational attainment was used when the respondent did not have a residential mother. This categorical variable identified respondents whose parent had (1) less than a high school education (16%, reference category), (2) a high school education (38%), (3) some college education (21%), or (4) a Bachelor's degree or higher (26%).

### **Behavior in Adolescence & Young Adulthood**

**Adolescent Sexual Behavior** This study also examines whether the sexual behavior of youth during adolescence may be influential on later romantic union behavior, and whether such behavior helps to mediate the link between family structure and union formation. Adolescent sexual behavior was measured as the number of sexual partners a respondent had before age 18. This variable was measured as time-constant, with the same value at each person-year. Respondents were asked retrospectively at Wave IV two questions about the number of male sexual partners and female sexual partners they had before turning 18. Responses were used to create a count variable for the number of sexual partners prior to age 18 (range 0-30; mean = 2.78; se = 0.09). The final category reflects 30 or more sexual partners to deal with outliers. Tests of the linearity assumption indicated that a categorical specification of number of sexual partners before age 18 fit the data significantly better (difference in deviance = 12.66, DF = 2,  $p < 0.001$ , AIC = 80354.97, BIC = 80471.38). The count variable was transformed into a three group categorical variable: no sexual partners before age 18 (33%), one or two sexual partners before age 18

(35%), and three or more sexual partners before age 18 (32%; reference category). Comparisons to alternative specifications of this variable using different group cut-points indicated that this specification fit the data best.

**Educational Attainment** Information on the educational history of respondents collected at Wave IV (degrees earned and year of degree completion) was used to construct the educational attainment variable as a time-varying construct. While this information does not allow us to capture school enrollment per se or the experience of “some college”, this information enables us to construct respondents’ degree attainment as it unfolds over time and allows respondent’s education to vary over time. For both sets of analyses educational attainment was measured as a series of binary variables indicating educational attainment at each time point (age for analyses one, person-month for analyses two). For every person-year or person-month of risk exposure that the respondent may experience a censoring event (cohabitation or marriage in the first analyses, break-up or marriage in the second) they are given a value for their educational attainment up until that time point: less than a high school degree, high school degree, Associate’s degree, or Bachelor’s degree and beyond.

In instances where an event occurred in the same year or month that a degree was earned, the person-year or person-month value for educational attainment was scaled to reflect if the degree was earned prior to the censoring event. A series of decision rules were made to facilitate this process; high school degrees were assumed to have been earned in June, Associate’s and Bachelor’s degrees were assumed to have been earned in May. For example, if a respondent reported earning their high school degree in 1998 and getting married in April of 1998 at age 18, they were not considered as having earned their high school degree for the person-year of observation corresponding with age 18 and would be coded as having less than a high school degree. Alternatively, if a respondent reported earning their high school degree in 1998 and getting married in August of 1998 at age 18, they were coded as having earned their high school degree for the person-year observation corresponding with age 18. If an event occurred

in the same month as a degree was earned the respondent was coded as having earned the degree prior to the event occurrence.

**Childbearing** Three measures of childbearing were constructed using fertility histories retrospectively reported at Wave IV: having a child (parenthood), being pregnant/having a pregnant partner, and number of children. These variables were all measured in a time-varying manner. Information on the childbearing history of respondents was collected retrospectively at Wave IV with a series of questions about the dates of live births and the number of babies born at each birth. *Having a child* was measured so that for every person-year or person-month of risk exposure respondents were given a zero (no children) or a one (have a child). Having a child, parenthood, was treated as an absorbing state, and once a person was given a one for having a child, they continued to be measured as having a child for every person-year or person-month following the birth of their first child.

*Pregnancy* was measured using information on the birth dates of all children to determine the date when respondents (or their partners) first became pregnant. The start dates of pregnancies were measured as eight months prior to the birth dates, in order to account for early births and lack of knowledge about pregnancy early in the first trimester, following the convention of other family demographers (e.g. Budig, 2003). Respondents were coded “1” for pregnancy in the person-year(s) or person-months that corresponded with each period that they or their partner were pregnant. Thus, the binary indicator for pregnancy is time-varying across person-years and person-months so that people are given a one during periods when they are pregnant and a zero otherwise.

*Number of children* was measured as a count variable for the number of children a respondent had at each person-year or person-month of observation (range 0-7; mean = 0.86, se = 0.29). Therefore, the number of children increased over time for respondents as they had more children. Tests of the linearity assumption indicated that the model better fit the data when number of children was measured as a categorical variable (difference in deviance = 70.54, DF = 2,  $p < 0.001$ , AIC = 81552.24 BIC =

81668.68). The count of respondent's number of children was broken down into three categories: no children (90%; reference group), one child (8%), and two or more children (2%). Comparisons to alternative specifications of this variable indicated that the current schema fit the data best. As with educational attainment, all childbearing variables were scaled to reflect timing relative to the censoring event. Therefore, births and pregnancies were measured in the person-period if they occurred prior to the censoring event but not afterwards.

In the second set of analyses the childbearing variable of *have a child* was further broken down to reflect childbearing relative to union entrance and to capture who the childbearing partner was. Therefore, a categorical variable was constructed using information on the timing of childbirth and information on who the childbearing partner was (the first cohabiting partner or someone else). This variable reflected childbearing prior to entering the union with three categories: 1 "no children prior to cohabitation" (90%, reference category), 2 "had a child with partner prior to cohabitation" (5%), and 3 "had a child with another person prior to cohabitation" (5%). This variables help to capture the impact that bringing a child that is not the biological offspring of the cohabiting partner may have on the stability of that union. A second, time-varying childbearing variable was constructed to capture childbearing within the cohabiting union, with a binary indicator (0 = no children born within cohabiting union, 1 = child born within cohabiting union). This variable is time-varying but absorbing, where respondents were given a zero for every person-month of observation they did not have a child up until the birth of that child.

Two dimensions of pregnancy were examined in the second set of analyses. A binary, time-constant variable was created to help capture "shotgun cohabitations", where individuals were given a one if they or their partner were pregnant at the start of the cohabiting union (1 = pregnant at the start of cohabitation, 9%). Pregnancy within the cohabiting union was measured in a similar way to the first analyses, with individuals coded "1" for every person-month of observation that they or their partner were pregnant.

## **Controls and Moderators**

Two demographic variables were also used as controls in both sets of analyses, race and gender. Race was a time-constant variable measured at Wave I with four categories: non-Hispanic white (68%), non-Hispanic Black (16%; reference group), Hispanic (12%), and non-Hispanic other race (4%; including Asian and Native American). Gender was also included in all models as a time-constant variable with male respondents coded as one (50%) and female respondents coded as zero. Additionally, to test for gender and race differences in the association between predictors and union behavior, a series of interaction terms were tested. Significant interaction terms are discussed in the results chapters.

The next chapters present the results from the analyses described above.

## *Chapter 4*

### **Sample Characteristics for Age at First Union Analyses**

This chapter presents descriptive information about the larger analytic sample for the first set of analyses. Characteristics of the sample are presented in Table 1, with descriptive statistics for all predictors. These means and proportions are weighted with adjustments made for survey design using the `svy` command in Stata. Next, information is presented about who enters into a first cohabitation or marriage and who remains single until Wave IV. The timing of union entrance is also examined with descriptive statistics on age at union formation. Finally, results of event-history analyses are presented, including a life table of survival and hazard rates and graphical depictions of how risk of union formation unfolds across adolescence and young adulthood.

#### **Characteristics of the Sample**

The respondents in the sample of young men and women who had not yet entered a coresidential union at age 15 were on average 15 and a half when they were interviewed during the 1994/1995 school year (see Table 1). By Wave IV these respondents were 28 years old on average. The majority of respondents were white (68%), with 16% black, 12% of Hispanic ethnicity, and the remaining 4% belonging to other ethnic and racial groups (predominantly Asian and Native American). The parents of respondents had educational attainment levels that were comparable to the educational attainment of adults over age 18 at the time (US Census Bureau, 1995); sixteen percent had a parent who did not have a high school education, 38% had a parent with a high school degree, 21% of respondents had a parent with some college experience, and 26% had a parent who earned a Bachelor's degree or more. The majority of respondents were in a family headed by two biological married parents, most of who were in low-distress marriages (48%) with a small portion in high-distress marriages (8%). About 13% of the sample lived in a married stepfamily, with the majority of those involving a low-distress marriage. A little over a fifth of the sample were in a single parent family at Wave I (22%), with 8% of the sample in other family

arrangements. With regard to parental relationship history, about 17% of the sample had a parent report living in a cohabiting union in the past 18 years prior to the Wave I interview. Respondents' biological mothers reported on average 1.34 coresidential relationships during that time frame. Only 16% of respondents reported having a low degree of family belonging during adolescence. When the respondents retrospectively reported on their sexual history at Wave IV, they reported having on average 2.78 sexual partners before age 18; about a third of respondents reported having no sexual partners before age 18. By the Wave IV interview about 47% of the sample reported being a parent, with an average of 1.8 children among these parents.



**Table 1. Characteristics of the First Analytic Sample**

<b>Variable</b>	<b>Mean</b>	<b>Std. Error</b>	<b>Percentages</b>	<b>Range</b>
<b>Characteristics at Wave I</b>				
Gender (1 = male)			50%	0-1
Age	15.48	0.12		11-21
Race				
White			68%	0-1
Black			16%	0-1
Hispanic			12%	0-1
Other Race			4%	0-1
Parental Education				
Less than High School			16%	0-1
High School			38%	0-1
Some College			21%	0-1
Bachelor's or more			26%	0-1
Family Structure/Parental Marital Quality				
Two bio parents, low-distress			49%	0-1
Two bio parents, high-distress			8%	0-1
Step-parents, low-distress			11%	0-1
Step-parents, high-distress			2%	0-1
Single parent			22%	0-1
Other Family/Cohabiting Stepfamily			8%	0-1
Low Family Belonging (1 SD below mean)			16%	0-1
Parental Cohabitation			17%	0-1
Number of Mother's Prior Relationships	1.34	0.01		0-8
Categorical # of Mother's Prior Relationships				
One or fewer			72%	0-1
Two			19%	0-1
Three or more			9%	0-1
<b>Characteristics at Wave IV</b>				
Age	28.36	0.12		24-34^
Number of Sexual Partners before age 18	2.78	0.09		0-30
Categorical # of Sexual Partners before age 18				
None			33%	0-1
One or two			35%	0-1
Three or more			32%	0-1
Parenthood (had a child)			47%	0-1
Number of Children	0.86	0.29		0-7
Categorical Number of Children				
None			90%	0-1
One			8%	0-1
Two or more			2%	0-1
<b>Dependent Variable - First Union</b>				
Single at Wave IV			18%	0-1
Marriage is first union			16%	0-1
Cohabitation as first union			66%	0-1

Notes: ^ there are two 34 year olds; results are weighted and adjust for clustering & stratification

## Characteristics of Individuals by Union Formation Experience

Table 2 compares the characteristics of respondents by their union formation experience; means with different superscripts indicate statistically significant group differences. Results are weighted and adjust for the clustering and stratification of survey design. Among those individuals who were single at age 15 ( $n = 13,674$ ), the majority had entered into their first co-residential union by Wave IV, when they were on average age 21.5. Cohabitation was the most common first union type, with about 66% of the sample entering into a cohabiting union first (see Table 2). A much smaller proportion of individuals entered into a marriage directly, with about 16% of the sample entering a marriage as their first coresidential union. Finally, about 18% of the sample remained single into young adulthood having not entered into a coresidential union by Wave IV. The average age when respondents entered into their first union was 21.32 for cohabitations and 22.16 for marriages, a statistically significant difference. Respondents who remained single were on average 28 years old at the Wave IV interview. At age 18 the majority of respondents were still single (84%); about two percent of the sample had entered into a marriage directly, while about 14% of the sample had entered into their first cohabiting union. By age 21 about 56% of the sample had not entered into a coresidential union, with 37% having entered into their first cohabiting union and 7% having entered into their first marriage directly. By the age of 25 most of the sample had entered into a coresidential union, with 59% entering into a cohabitation first and 13% entering into a marriage directly; 28% of the sample remained single by the age of 25.

**Table 2. Characteristics of the First Union Groups**

Variable	Single at Wave IV			Marriage is First Union			Cohabitation is First Union		
	Mean/%	Std. Error	Range	Mean/%	Std. Error	Range	Mean/%	Std. Error	Range
Age at First Union/ Wave IV	28.01 <sup>a</sup>	0.14	24-33	22.16 <sup>b</sup>	0.13	16-31	21.32 <sup>c</sup>	0.10	16-32
<b>Characteristics at Wave I</b>									
Gender (1 = male)	57% <sup>a</sup>	0.02	0-1	45% <sup>b</sup>	0.02	0-1	50% <sup>c</sup>	0.01	0-1
Age	15.15 <sup>a</sup>	0.14	11-21	15.82 <sup>b</sup>	0.12	11-21	15.48 <sup>a</sup>	0.12	11-21
Race									
White	59% <sup>a</sup>	0.03	0-1	71% <sup>b</sup>	0.04	0-1	71% <sup>b</sup>	0.03	0-1
Black	21% <sup>a</sup>	0.03	0-1	8% <sup>b</sup>	0.01	0-1	16% <sup>a</sup>	0.02	0-1
Hispanic	14%	0.03	0-1	16%	0.03	0-1	10%	0.01	0-1
Other Race	6% <sup>a</sup>	0.01	0-1	5% <sup>b</sup>	0.01	0-1	3% <sup>ab</sup>	0.01	0-1
Parental Education									
Less than High School	13% <sup>a</sup>	0.01	0-1	19% <sup>b</sup>	0.02	0-1	16% <sup>ab</sup>	0.01	0-1
High School	34% <sup>a</sup>	0.02	0-1	35% <sup>a</sup>	0.02	0-1	39% <sup>b</sup>	0.01	0-1
Some College	20%	0.02	0-1	21%	0.01	0-1	21%	0.01	0-1
Bachelor's or more	33% <sup>a</sup>	0.03	0-1	25% <sup>b</sup>	0.01	0-1	24% <sup>b</sup>	0.02	0-1
Family Structure/Parental Marital Quality									
Two Biological Parents	63% <sup>a</sup>	0.02	0-1	66% <sup>a</sup>	0.02	0-1	52% <sup>b</sup>	0.01	0-1
low-distress	54% <sup>a</sup>	0.02	0-1	58% <sup>a</sup>	0.02	0-1	45% <sup>b</sup>	0.01	0-1
high-distress	9%	0.01	0-1	8%	0.01	0-1	7%	0.00	0-1
Stepfamily	9% <sup>a</sup>	0.01	0-1	13% <sup>b</sup>	0.01	0-1	15% <sup>b</sup>	0.01	0-1
low-distress	8% <sup>a</sup>	0.01	0-1	11% <sup>b</sup>	0.01	0-1	12% <sup>b</sup>	0.00	0-1
high-distress	1% <sup>a</sup>	0.00	0-1	2% <sup>ab</sup>	0.00	0-1	2% <sup>b</sup>	0.00	0-1
Single parent	22% <sup>a</sup>	0.02	0-1	16% <sup>b</sup>	0.01	0-1	24% <sup>a</sup>	0.01	0-1
Other Family/Cohabiting Stepfamily	6% <sup>a</sup>	0.01	0-1	5% <sup>a</sup>	0.01	0-1	9% <sup>b</sup>	0.01	0-1
Low Family Belonging	13% <sup>a</sup>	0.01	0-1	12% <sup>a</sup>	0.01	0-1	19% <sup>b</sup>	0.01	0-1
Parental Cohabitation	13% <sup>a</sup>	0.02	0-1	10% <sup>a</sup>	0.01	0-1	19% <sup>b</sup>	0.01	0-1
Number of Mother's Prior Relationships	1.24 <sup>a</sup>	0.04	0-6	1.23 <sup>a</sup>	0.03	0-7	1.39 <sup>b</sup>	0.02	0-8
Cat. # of Mother's Prior Relationships									
One or fewer	77% <sup>a</sup>	0.02	0-1	77% <sup>a</sup>	0.02	0-1	69% <sup>b</sup>	0.01	0-1
Two	16% <sup>a</sup>	0.02	0-1	17% <sup>a</sup>	0.01	0-1	21% <sup>b</sup>	0.01	0-1
Three or more	7% <sup>a</sup>	0.01	0-1	6% <sup>a</sup>	0.01	0-1	11% <sup>b</sup>	0.01	0-1
<b>Characteristics at Wave IV</b>									
Age	28.01	0.14	24-33	28.70	0.12	24-33	28.38	0.12	24-34
Number of Sexual Partners before age 18	1.63 <sup>a</sup>	0.12	0-30	1.91 <sup>a</sup>	0.11	0-30	3.31 <sup>b</sup>	0.11	0-30
Cat. # of Sexual Partners before age 18									
None	54% <sup>a</sup>	0.02	0-1	41% <sup>b</sup>	0.02	0-1	25% <sup>c</sup>	0.01	0-1
One or two	28% <sup>a</sup>	0.02	0-1	37% <sup>b</sup>	0.01	0-1	37% <sup>b</sup>	0.01	0-1
Three or more	18% <sup>a</sup>	0.01	0-1	22% <sup>b</sup>	0.01	0-1	38% <sup>c</sup>	0.01	0-1
Educational Attainment									
Less than High School	10% <sup>a</sup>	0.02	0-1	9% <sup>a</sup>	0.01	0-1	16% <sup>b</sup>	0.01	0-1
High School	34% <sup>a</sup>	0.02	0-1	34% <sup>a</sup>	0.01	0-1	40% <sup>b</sup>	0.01	0-1
Associates/Vocational Degree	13% <sup>a</sup>	0.01	0-1	21% <sup>b</sup>	0.01	0-1	18% <sup>c</sup>	0.01	0-1
Bachelor's or more	43% <sup>a</sup>	0.03	0-1	36% <sup>a</sup>	0.01	0-1	26% <sup>b</sup>	0.02	0-1
<b>Characteristics at First Union/Wave IV*</b>									
Educational Attainment									
Less than High School	10% <sup>a</sup>	0.02	0-1	13% <sup>a</sup>	0.01	0-1	25% <sup>b</sup>	0.01	0-1
High School	34% <sup>a</sup>	0.02	0-1	50% <sup>b</sup>	0.02	0-1	54% <sup>b</sup>	0.01	0-1
Associates/Vocational Degree	13% <sup>a</sup>	0.01	0-1	12% <sup>a</sup>	0.01	0-1	7% <sup>b</sup>	0.00	0-1
Bachelor's or more	43% <sup>a</sup>	0.03	0-1	25% <sup>b</sup>	0.02	0-1	14% <sup>c</sup>	0.01	0-1
Parenthood (had a child)	8%	0.01	0-1	9%	0.01	0-1	10%	0.01	0-1
Number of Children	0.13	0.02	0-5	0.11	0.01	0-4	0.13	0.01	0-6
Pregnant	< 1% <sup>a</sup>	0.00	0-1	13% <sup>b</sup>	0.01	0-1	9% <sup>c</sup>	0.01	0-1

Notes: Results are weighted, adjust for clustering, & based on multiply imputed data; Means with diff. superscripts are signif. diff. from one another at  $p < 0.05$ ;

\* these measures are gathered at the age of first union for respondents who have entered their first union, and at Wave IV for those who are single at Wave IV

Additional information on the characteristics of these three groups, individuals who entered into a cohabitation as their first union, a marriage as their first union, or who remained single at the final interview, are presented in Table 2. T-tests for equality of means were performed; select statistically significant mean level differences between the three groups are discussed here. A higher percentage of respondents who remained single were men (57%), followed by those who cohabited first (50%) and those who married directly (45%). A larger proportion of those were in either union type were white (71%) compared to those who remained single (59%). Significantly more respondents who remained single (21%) or who cohabited for their first union (16%) were Black compared to those who married directly (8%). Level of parental education also varied across union formation groups. Respondents who married directly had a greater portion of their parents without a high school degree (19%) compared to those who remained single (13%). Respondents who cohabited for their first union had a larger percentage of parents with a high school degree (39%) compared to those who remained single (34%) or married first (35%). A larger percentage of respondents who remained single into young adulthood had a parent with a Bachelor's degree (33%) compared to those who entered into a marriage (25%) or cohabitation (24%).

Individuals who entered into cohabitation directly were more likely to have been living in a non-intact family structure in adolescence, more likely to have a parent with a history of cohabitation, and have significantly more maternal romantic relationships that they were exposed to. Significantly fewer individuals who cohabited as their first union grew up in a married, two biological parent family (52%) compared to those who remained single (63%) or entered into marriage directly (66%). People who remained single were also less likely to have grown up in a stepfamily (9%) compared to those who entered into a cohabitation (15%) or a marriage directly (13%). A significantly smaller proportion of respondents who entered into marriage directly came from a single parent family (16%) compared to those who remained single (22%) or entered into cohabitations (24%). Compared to those who remained single or married directly, individuals who cohabited first had a significantly higher percentage of their

parents with a history of cohabitation (19%) and their mothers had significantly more romantic partners (1.39). A significantly higher percentage of individuals who entered into cohabitations as their first union experienced low levels of family belonging during adolescence (19%) compared to those who remained single (13%) or who married directly (10%).

The sexual behavior of respondents during adolescence also varied across these three union formation groups. Individuals who were cohabiting for their first coresidential union had significantly more sexual partners before age 18 on average (3.31) compared to those who remained single (1.63) or married directly (1.91).

Significant differences also emerge when looking at educational attainment, both in the overall degree attainment by the Wave IV interview and the education level of respondents when they entered into their first unions (or the Wave IV interview if they remained single). Significantly more respondents who entered into a cohabitation did not have a high school degree when they did so (25%) compared to individuals when they entered their marriages (13%) or single individuals (10%). Furthermore, among respondents who remained single, a smaller percentage had a high school degree (34%) compared to those prior to their first cohabitation (54%) or marriage (50%). At the time of their first cohabitation, fewer respondents in this union formation group had an Associate's degree (7%) than respondents at the time of their marriage (12%) or those who remained single (13%). A larger share of single respondents had a Bachelor's degree (43%), followed by respondents at the time of their marriage (25%) and individuals at the time of their cohabitation (14%).

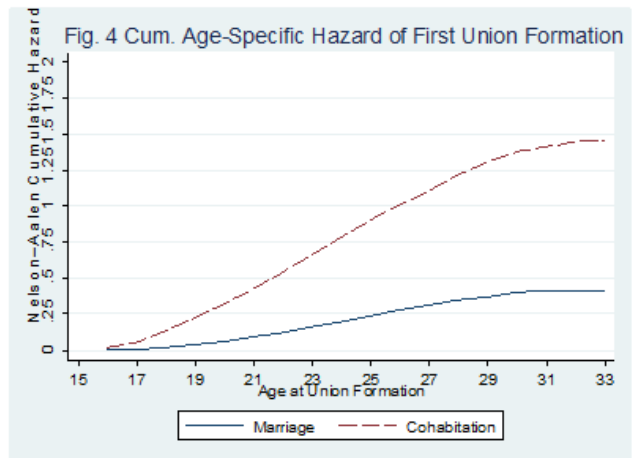
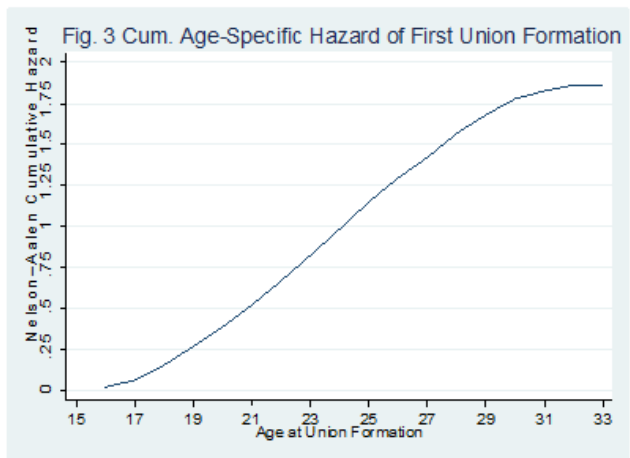
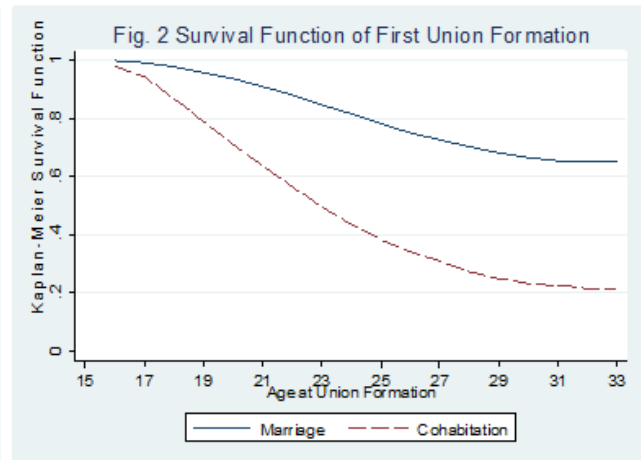
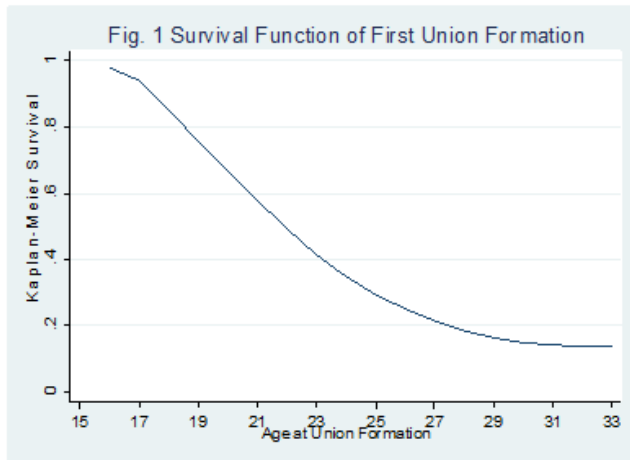
Finally, while there were no significant differences across groups in the percentage who had a child at the time of union formation or the number of children they had, there were differences in the percentage who were pregnant (or had a pregnant partner) at the time of union formation. While less than one percent of single individuals were pregnant at Wave IV, 13% of respondents were pregnant at the time they entered their first marriage compared to 9% of first time cohabiters.

## **Descriptive Event-History Results**

To describe how the risk of entering into a union varies over time, survival functions and hazard functions are used. At each age respondents have a probability of “surviving”, not entering a union, by that age; this is called the survival function. At age 15, everyone “survives” because everyone in our sample is single and the survival function is equal to one. Over time this survival rate declines monotonically as people experience a union formation event; the survival function is cumulative. The current analyses uses a non-parametric maximum-likelihood approach for estimating survival with a Kaplan-Meier survival function, which enables one to take into account censoring (see Table 3). Alternatively, one can look at the cumulative hazard function to see how respondents’ risk of entering into a union increases over time; this is the complement to the survival function. The survival function and the cumulative hazard functions are displayed graphically in Figures 1 and 3 respectively. Additionally, the survival and cumulative hazard functions are displayed with separate function lines for cohabitation and marriage in Figures 2 and 4 respectively. These graphs depict the higher survival rate, and therefore lower cumulative hazard, of entering into a marriage directly compared to entering into cohabitation as the first coresidential union.

**Table 3. Life Table of First Union Formation**

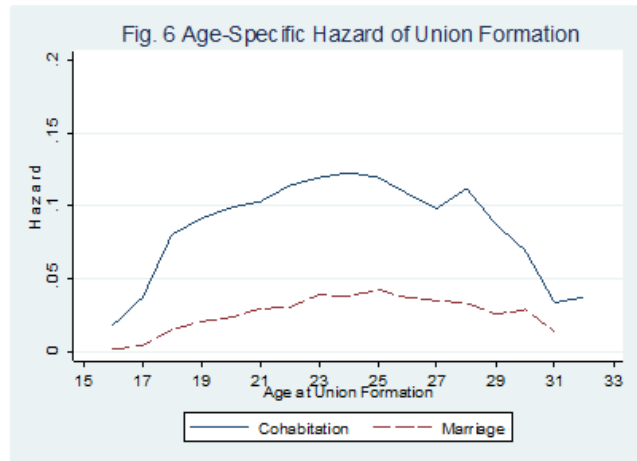
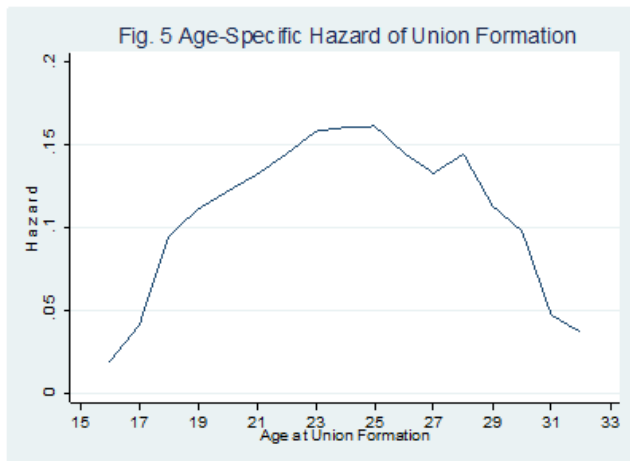
Age Interval	Total N at Beginning of Interval	Union Events	Lost to Censoring	Survival Rate	Standard Error	95% Confidence Interval		Cumulative Hazard	Standard Error	Age-specific Hazard	Standard Error	95% Confidence Interval	
						Lower	Upper					Lower	Upper
15-16	13674	0	0	1.000	-	-	-	0.000	0.00	0.000	-	-	-
16-17	13674	260	0	0.981	0.00	0.979	0.983	0.019	0.00	0.019	0.00	0.017	0.022
17-18	13414	549	0	0.941	0.00	0.937	0.945	0.059	0.00	0.042	0.00	0.038	0.045
18-19	12865	1223	0	0.851	0.00	0.845	0.857	0.149	0.00	0.100	0.00	0.094	0.105
19-20	11642	1296	0	0.757	0.00	0.749	0.764	0.243	0.00	0.118	0.00	0.112	0.124
20-21	10346	1261	0	0.664	0.00	0.656	0.672	0.336	0.00	0.130	0.00	0.123	0.137
21-22	9085	1200	0	0.577	0.00	0.568	0.585	0.423	0.00	0.141	0.00	0.133	0.149
22-23	7885	1137	0	0.494	0.00	0.485	0.502	0.507	0.00	0.155	0.00	0.146	0.164
23-24	6748	1068	0	0.415	0.00	0.407	0.424	0.585	0.00	0.172	0.01	0.162	0.182
24-25	5680	914	6	0.349	0.00	0.341	0.357	0.652	0.00	0.175	0.01	0.164	0.186
25-26	4760	768	147	0.291	0.00	0.284	0.299	0.709	0.00	0.179	0.01	0.166	0.191
26-27	3845	558	408	0.247	0.00	0.240	0.254	0.753	0.00	0.166	0.01	0.152	0.180
27-28	2879	382	390	0.212	0.00	0.205	0.219	0.788	0.00	0.153	0.01	0.138	0.169
28-29	2107	305	464	0.177	0.00	0.170	0.184	0.823	0.00	0.177	0.01	0.157	0.197
29-30	1338	151	452	0.153	0.00	0.146	0.160	0.847	0.00	0.146	0.01	0.123	0.169
30-31	735	72	366	0.133	0.00	0.126	0.141	0.867	0.00	0.140	0.02	0.107	0.172
31-32	297	14	229	0.123	0.00	0.115	0.132	0.877	0.00	0.080	0.02	0.038	0.122
32-33	54	2	45	0.115	0.01	0.102	0.129	0.885	0.01	0.066	0.05	0.000	0.156
33-34	7	0	7	0.115	0.01	0.102	0.129	0.885	0.01	0.000	-	-	-



At each age the analytic sample faces an age-specific hazard of entering into their first coresidential union. The pattern of age-specific hazards indicates the distribution of union formation risk across age. The survival function, cumulative hazard, and age-specific hazards are presented as a life table in Table 3. The age-specific hazard rates of union formation (entering either a marriage or cohabitation) are depicted graphically in Figure 5. The hazard of entering a union is low but increasing during late adolescence, with a larger increase at age 18, and continues to increase linearly during the early adult years (ages 19-23). After this period union formation flattens out and begins to decline during the mid-twenties (24-28). Finally, the hazard of union formation declines in the late twenties and early



thirties. Tests to determine the functional form of the baseline hazard of union formation support this specification, using four age groups (ages 15-18, 19-23, 24-28, 29 plus) to capture the changing hazard of union formation. Likelihood ratio tests were performed comparing the general specification of age to alternative specifications of age. The four age group specification was determined to be the most easily interpretable, parsimonious, and best-fitting model (loglikelihood = -40713.43, AIC = 81458.86, BIC = 81614.12). These four groups are referred to in results sections as reflecting adolescence (age 15-18), early adulthood (19-23), the mid-twenties (24-28), and the late-twenties/early-thirties (ages 29-33). Figure 6 displays the age-specific hazard of entering into a marriage or cohabitation. This graph highlights that while the overall shape of the sub-hazard of cohabitation and marriage are similar, the risk of entering into a marriage directly is much smaller at all ages compared to entering a cohabiting union.



### Group Differences in the Hazard of Union Formation

The risk of union formation, captured by the age-specific hazard rates, varies across key sociodemographic and family factors. Figures 7 through 19 illustrate how the overall hazard of union formation, as well as the hazard of entering a marriage or cohabitation, varies across groups. The risk of union formation is not uniform among women and men (see Figure 7). Women are at higher risk of entering into a marriage during adolescence up until the late-twenties, by which time the hazard lines cross, and it appears men have a slightly higher hazard of marrying directly. Women also have a higher

hazard of cohabiting during adolescence and early adulthood, but by the mid-to-late twenties (roughly 26 years old) these hazards cross, and men appear to have a slightly higher hazard of cohabiting

**Figure 7: Gender Differences in the Hazard of Union Formation**

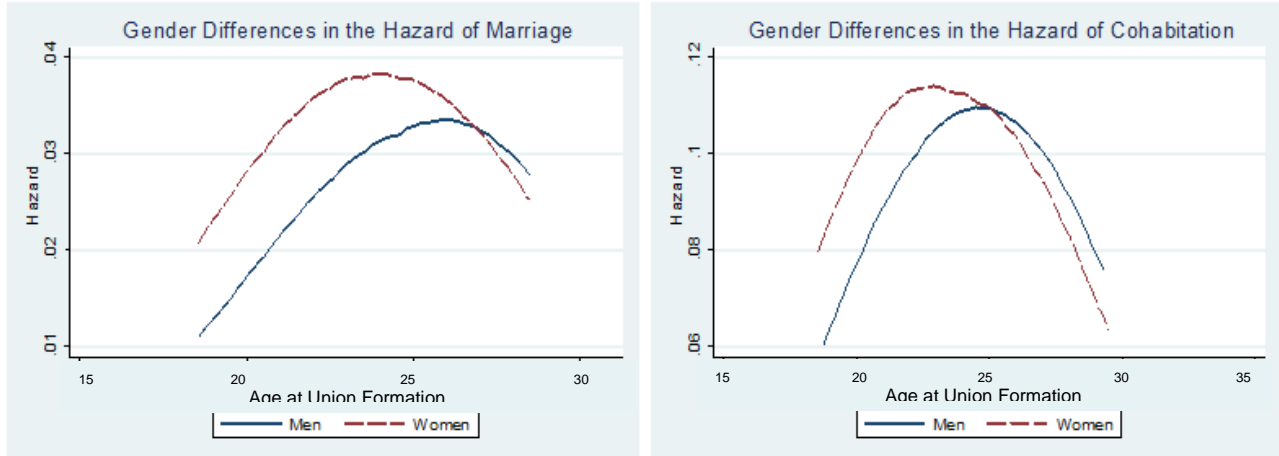
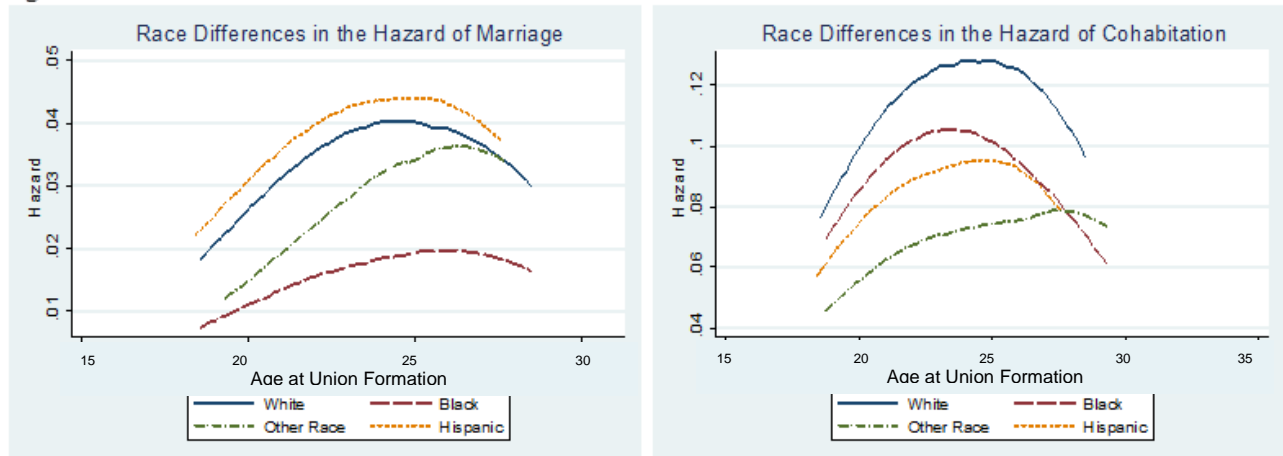


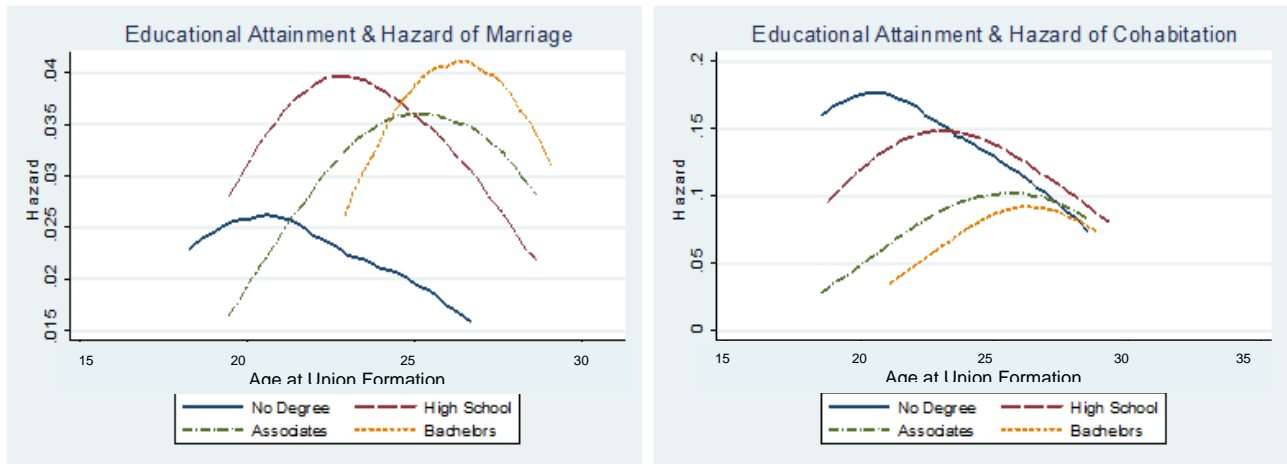
Figure 8 highlights racial variation in union formation. Comparing these two panels, one sees that Hispanics have a higher hazard of entering into a marriage directly compared to other racial and ethnic groups, but do not have as high of a hazard of cohabiting. Whites have the second highest hazard of marrying directly, but the highest hazard of cohabiting. This relatively higher hazard of cohabiting among whites increases until about age 25. Blacks have a very low hazard of marrying directly, but the second highest hazard of cohabiting. The “peak” age among blacks, the age when they have the highest hazard of entering into a cohabitation, also appears to be slightly younger than the peak age of cohabiting relative to the other racial and ethnic groups.

**Figure 8: Race Differences in the Hazard of Union Formation**



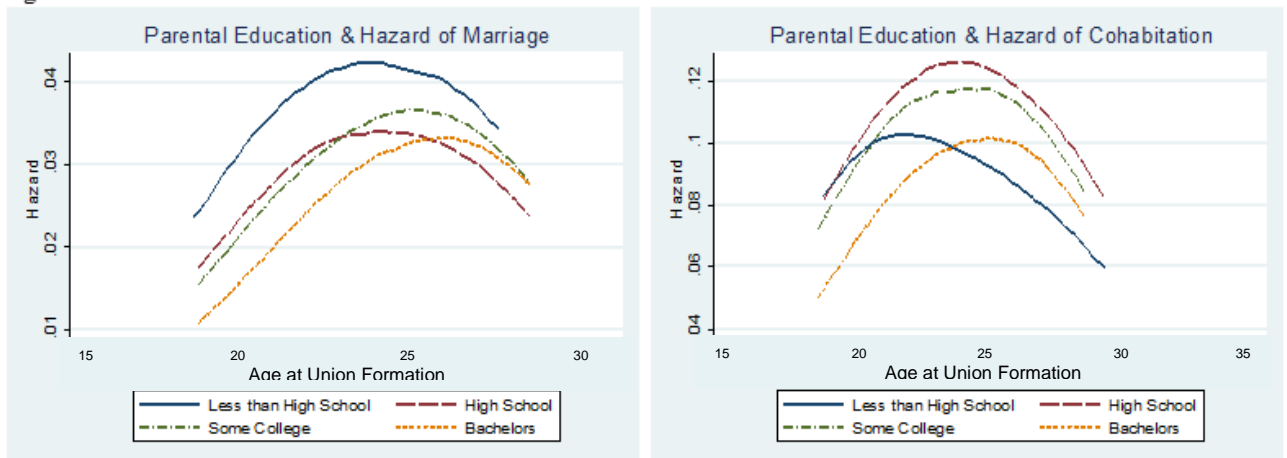
Union formation behavior also varies considerably by educational attainment (see Figure 9). Importantly, in these graphs educational attainment is measured as educational attainment at the time of union formation (or Wave IV among those who are still single), which captures the educational experiences of individuals when they were at risk of entering a union, when they were single. These graphs indicate that the timing of union formation is strongly shaped by educational attainment. These timing differences are reflected in different “peaks” of age-specific hazards. For example, individuals with no degree have the highest hazard of entering into a cohabitation during the early ages (peaking at around age 20) but then this hazard begins to decline. For individuals with a high school degree their hazard of entering into a cohabitation or marriage peaks at a slightly later age (roughly 23) and then declines. Individuals with a Bachelor’s degree have a lower hazard of entering a cohabitation which peaks in the late twenties, and a high hazard of direct marriage which also peaks at a later age (roughly 27). Overall these figures indicate that at earlier ages individuals with less educational attainment are more likely to enter into coresidential unions (especially cohabitations), and as people get older individuals who have higher educational attainment begin to have higher hazards of entering into unions.

**Figure 9: Educational Attainment Differences in the Hazard of Union Formation**



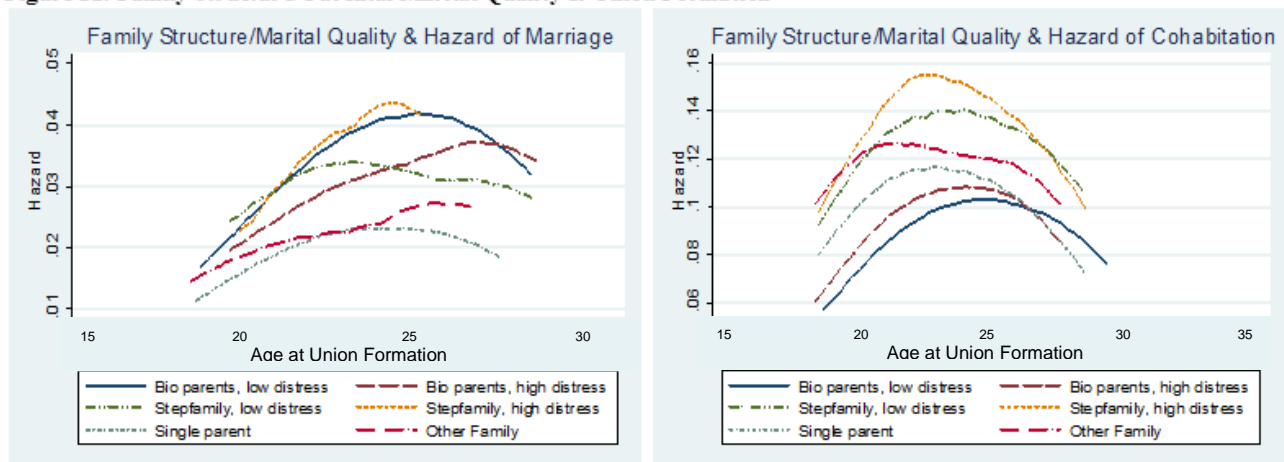
Patterns of union formation also vary by parental education level (see Figure 10). Individuals whose parent did not have a high school degree have the highest hazard of entering into a marriage directly compared to other parental education groups, although this difference appears to get smaller as respondents age (see left panel, Figure 10). Respondents whose parent had a high school degree have the highest hazard of cohabiting, followed by those whose parent had some college education. Finally, it appears that the “peak” hazard of entering into a marriage or a cohabitation is slightly older among individuals whose parent had at least a Bachelor’s degree.

**Figure 10: Parental Education Differences in the Hazard of Union Formation**

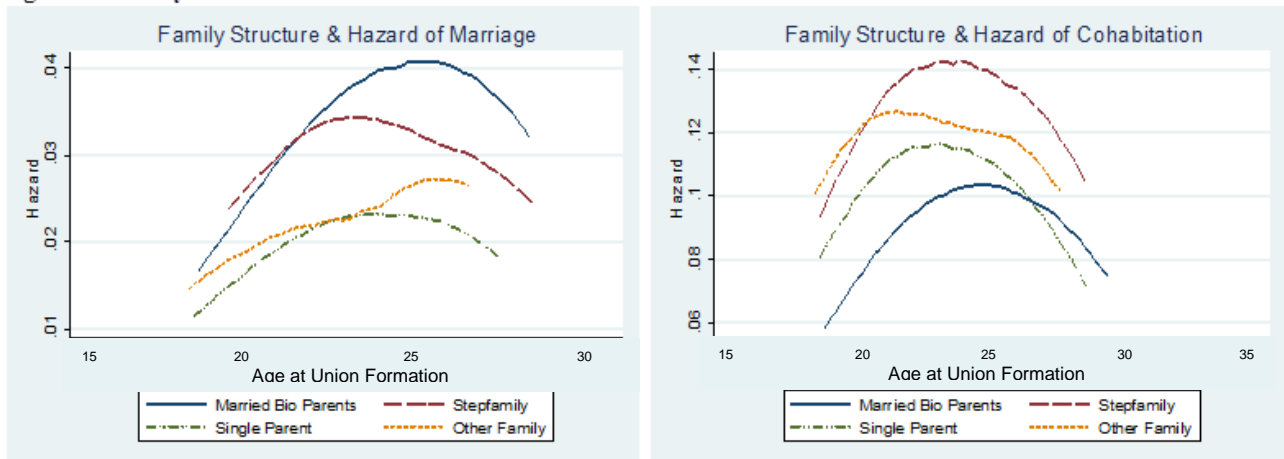


Figures 11 and 12 illustrate how family structure and parental marital quality experiences are associated with union formation behavior. Taking into account differences in parental marital quality within family structure groups, we see that individuals who come from high-distress stepfamilies during adolescence have a higher hazard of union formation compared to other groups. This difference is most pronounced when looking at the hazard of cohabiting. Youth from low-distress stepfamilies also have a higher hazard of cohabiting compared to other groups, followed by youth from other family forms. Individuals who were in a low-distress two-biological-married-parent family appear to have a higher hazard of marrying directly, but a lower hazard of cohabiting. Youth from high-distress two-biological-married-parent families appear to have similar (perhaps slightly elevated) hazards of cohabiting relative to their low-distress counterparts, but seem to have a much lower hazard of marrying directly. Individuals who grew up in a single parent family have a relatively low hazard of marrying directly, but have a higher hazard of cohabiting compared to youth from intact (two-biological parent) families. Figure 12 echoes the patterns that emerge in Figure 11, but a comparison across these graphs suggests that taking into account parental marital distress (as in Figure 11) provides a more nuanced story.

**Figure 11: Family Structure/ Parental Marital Quality & Union Formation**

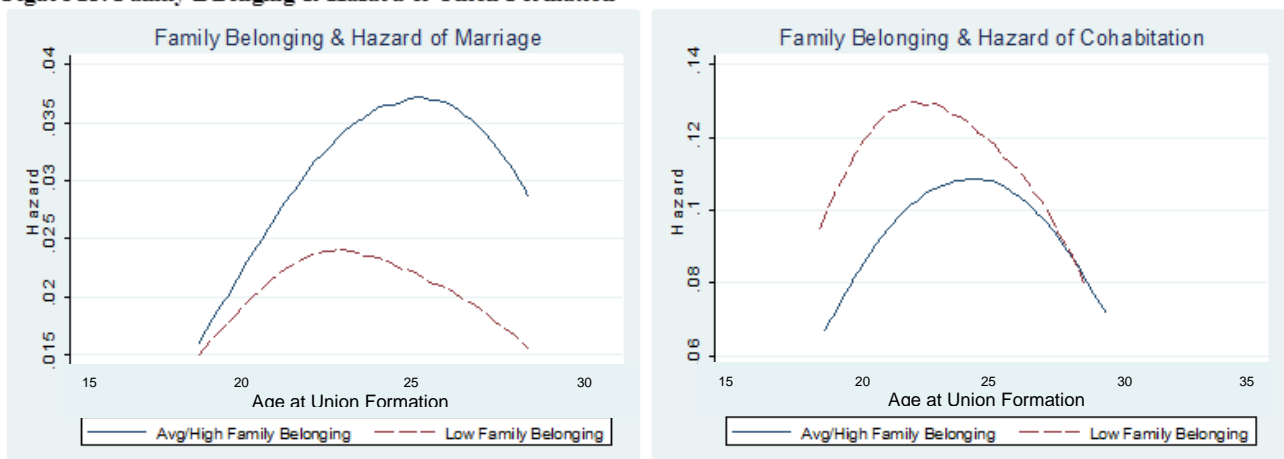


**Figure 12: Family Structure Differences in the Hazard of Union Formation**



The degree of belonging that youth feel they have to their family during adolescence is also associated with union formation behavior (see Figure 13). Looking at the left panel of Figure 13 we see that individuals who experienced average to high levels of family belonging during adolescence have a significantly higher hazard of marrying directly compared to youth who had low levels of family belonging. Alternatively, youth with low levels of belonging have an elevated risk of entering into a cohabitation compared to youth with average to high family belonging; this difference appears to get smaller over time.

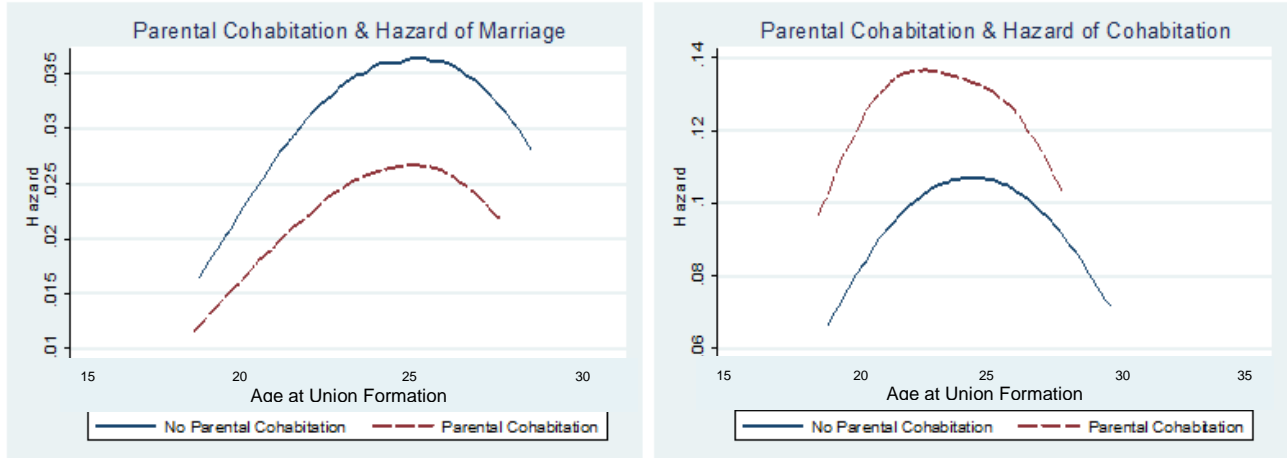
**Figure 13: Family Belonging & Hazard of Union Formation**



Respondents whose parents lived in a cohabitation at some point during the 18 years prior to Wave I (a proxy for exposure to parental cohabitation) have a higher hazard of cohabiting themselves

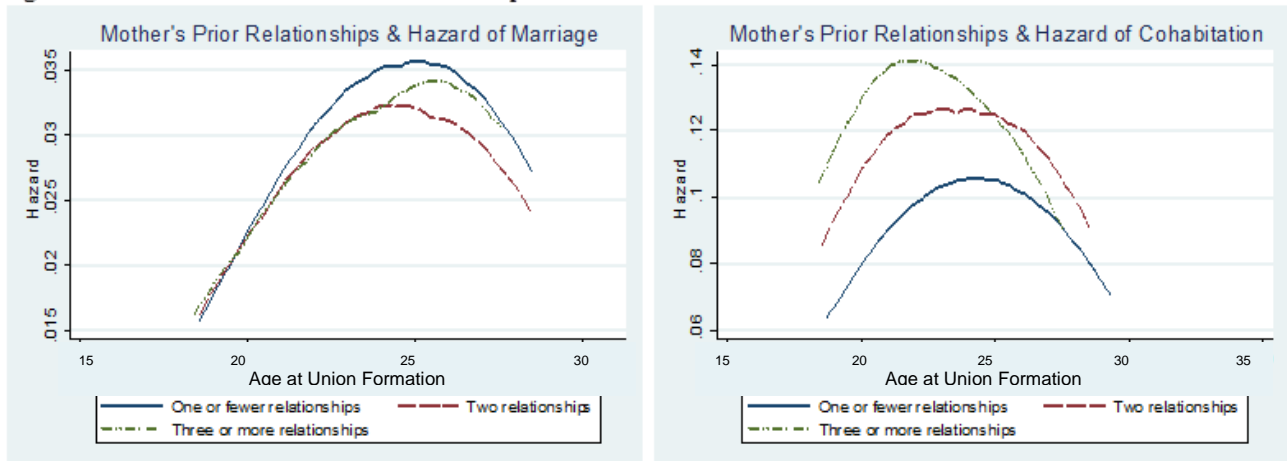
(right panel, Figure 14), but a lower hazard of marrying directly compared to youth whose parents have not cohabited (left panel, Figure 14).

**Figure 14: Parental Cohabitation & Hazard of Union Formation**



The number of relationships that a respondent's mother had in the past 18 years prior to Wave I (a proxy for exposure to family instability) also seems to be associated with the union formation behavior of respondents (see Figure 15). Individuals whose mother had three or more relationships have the highest hazard of cohabiting and do so at earlier ages, with a peak hazard of cohabiting around age 21 (right panel, Figure 15). The hazard of cohabiting is lowest among individuals whose mothers have had one or fewer relationships. On the other hand, these individuals whose mothers have had one or fewer relationships appear to have the highest hazard of marriage, with this difference emerging in the mid-twenties. Overall these two figures suggest that the prior relationship experiences of parents shape the approaches youth take towards their own union behavior, with individuals exposed to parental cohabitation or multiple transitions (maternal relationships) more likely to cohabit and cohabit early.

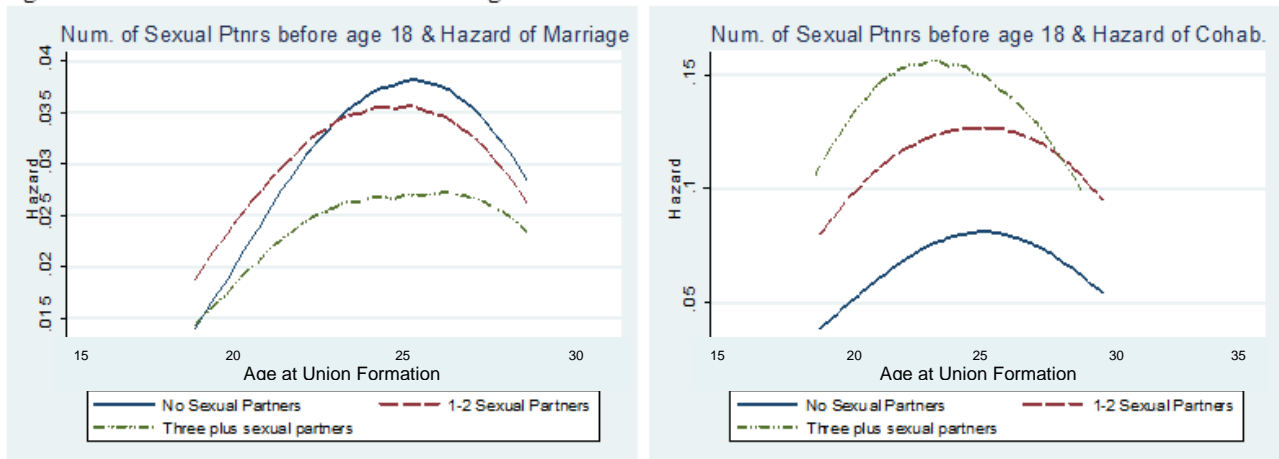
**Figure 15: Number of Mother's Prior Relationships & Hazard of Union Formation**



The sexual behavior of respondents during adolescence is also associated with their approaches to union formation (see Figure 16). Individuals who had three or more sexual partners before age 18 have a higher hazard of cohabiting compared to people who had one or two partners or no partners (right panel, Figure 16). Additionally, the age of peak hazard of cohabiting appears to be younger among individuals who had three or more sexual partners prior to age 18. The sexual behavior of respondents during their adolescence appears to impact the hazard of direct marriage differently. Youth who have one or two sexual partners prior to age 18 have an elevated hazard of direct marriage in late adolescence, but by roughly age 23 youth who had no sexual partners begin to have a higher hazard of entering into marriage. Respondents who had three or more sexual partners prior to age 18 have a much lower hazard of marrying directly.

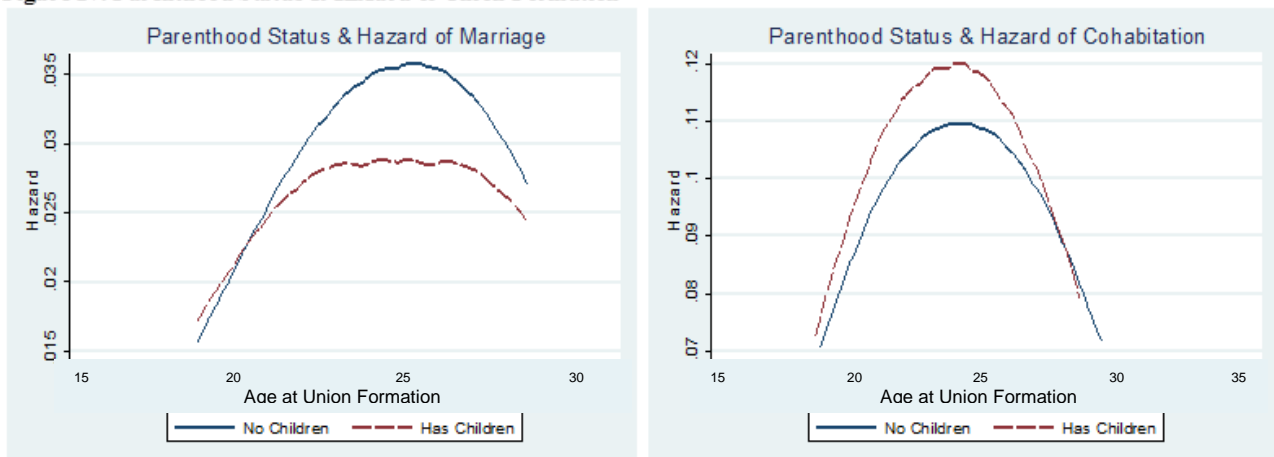


**Figure 16: Number of Sexual Partners before Age 18 & Hazard of Union Formation**



The childbearing behavior of respondents is also linked with their risk of entering into a marriage or cohabitation.<sup>1</sup> The left graph in Figure 17 indicates that individuals who do not have a child outside of a residential union have a higher hazard of marrying directly. However, a close examination of the graph suggests that for a brief period during late adolescence, individuals with a child have a higher hazard of marrying. Individuals who were parents have a higher likelihood of cohabiting compared to those without children, although this difference appears to shrink at older ages.

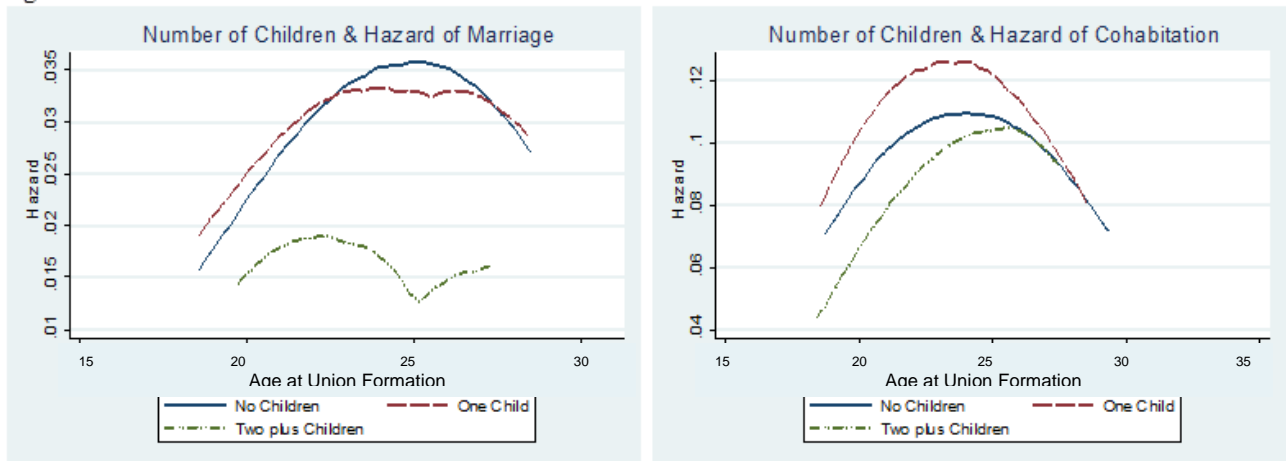
**Figure 17: Parenthood Status & Hazard of Union Formation**



<sup>1</sup> Note: for these graphs pregnancy and childbearing is measured as pregnancy or childbearing in the period immediately preceding union formation, when individuals were single, given the difficulty in graphing a time-varying predictor in a wide-format dataset.

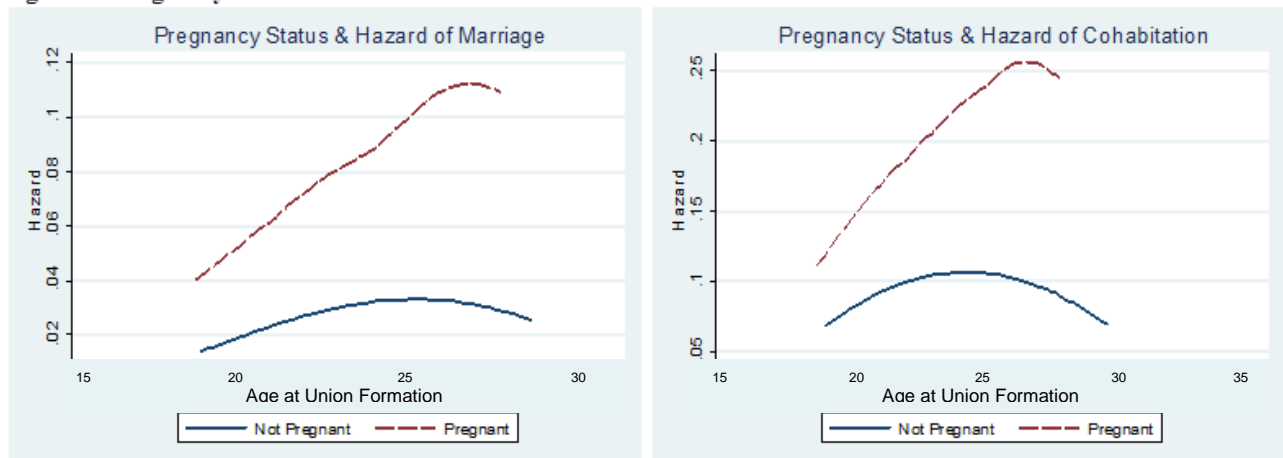
The number of children that individuals have also seems to impact their union formation behavior (see Figure 18). These graphs suggest that individuals who only have one child have a higher risk of cohabitation and marriage compared to those who have two or more children, and a higher hazard of cohabiting compared to those individuals without children. In late adolescence and the early twenties individuals with one child have a higher hazard of marrying directly, compared to those who have no children, but by roughly age 23 this changes and individuals without children have a higher hazard of marrying directly while the hazard among those with one child flattens out (left panel, Figure 18).

**Figure 18: Number of Children & Hazard of Union Formation**



Finally, Figure 19 illustrates the high likelihood of union formation among individuals who are pregnant (or whose partner is pregnant). The hazard of entering a union among pregnant individuals also increases dramatically as they age. That is, as people get older they are more likely to enter a cohabitation or marriage if they become pregnant outside of a coresidential union.

**Figure 19: Pregnancy Status & Hazard of Union Formation**



These figures and tables highlight that the process of entering into a union varies across the life course when individuals are in adolescence and young adulthood. Furthermore, union formation behavior and the risk of entering into a first cohabitation or a first marriage directly vary across different sociodemographic groups, by different family experiences, and by sexual and childbearing behavior. The next chapter turns to the multinomial logistic regression models and examines how various family experiences and sociodemographic characteristics and behaviors are associated with first union formation.

## *Chapter 5*

### **Results – First Union Formation**

The likelihood of entering into a coresidential, romantic union changes as people age. Family experiences and sociodemographic behavior, such as educational attainment and childbearing, also have an impact on the risk of union formation, and the type of romantic union that people enter into first, a cohabitation or a marriage. The role that these factors play for union formation behavior may vary at different ages, or they may have a consistent association across time. The following chapter presents results from discrete-time, competing-risk event history models, which take the form of multinomial logistic regression models. First, bivariate results are introduced for all predictors with “simple models” that only include a single predictor and the baseline age hazard. Tests of the proportionality assumption are discussed and simple models with time interactions are shown. Next, results from models which explore gender and race differences are presented. Finally, multivariate models are examined and the results of mediation analyses are discussed.

#### **Simple Model Results**

Simple models are presented in Table 4. Each model is a separate regression model which includes a single predictor of first union type as well as a control for the baseline age hazard (not shown). The metric used is log-odds. Results are weighted with adjustments made to account for sample clustering. The baseline hazard of entering a union by age is presented in Model 1. As people aged their log-odds of entering a marriage relative to staying single increased, but then it decreased again after the age of 29. At age 19-23 individuals had 1.716 higher log-odds of marrying rather than staying single compared to individuals at age 15-18, at age 24-28 this increased to a 2.047 higher log-odds of marrying, by age 29 to 33 people had 1.585 higher log-odds of marrying relative to staying single. The risk of entering a cohabiting union followed a similar pattern. At age 19-23 individuals had 1.188 higher log-odds of cohabiting relative to staying single compared to those who are 15-18. By the mid-twenties, age

24-28, individuals had slightly higher log-odds (1.288) of entering a cohabitation compared to adolescents (age 15-18). By age 29 and older the log-odds of entering a cohabitation was 0.675 higher compared to adolescents. These two models highlight the curvilinear nature of union formation, where the hazard of entering a union increases as people age but begins to decline in the late twenties and early thirties. The third column of Table 4 shows how the competing risk of entering into a cohabitation first relative to marriage directly unfolds over time. These coefficients suggest that at older ages people are less likely to enter into cohabitation first and more likely to marry directly, if they have not yet entered into a union. At age 19-23 people had a 0.528 lower log-odds of cohabiting first compared to marrying first relative to youth ages 15-18. In the mid-twenties, at age 24-28, individuals had 0.76 lower log-odds of entering a cohabitation first relative to marrying directly relative to adolescents ages 15-18. At age 29 and older, individuals had 0.91 lower log-odds of cohabiting first and were more likely to marry directly compared to people at age 15-18. Additional models were run using different age reference groups. These models confirmed the general shape of the baseline hazard with significant differences between most age groups across all comparisons (see Appendix Table 1).

**Table 4. Simple Models of Union Formation**

		Marriage (Single is reference)		Cohabitation		Cohabitation (Marriage is reference)	
		b	se	b	se	b	se
<i>Model 1.</i>	<b>Categorical Time</b> (age 15-18 ref)						
	Age 19-23	1.716 ***	0.09	1.188 ***	0.05	-0.528 ***	0.10
	Age 24-28	2.047 ***	0.11	1.288 ***	0.07	-0.760 ***	0.12
	Age 29 plus	1.585 ***	0.24	0.675 ***	0.15	-0.910 ***	0.27
<i>Model 2.</i>	<b>Gender</b> (male ref)	-0.494 ***	0.08	-0.256 ***	0.04	0.238 **	0.07
<i>Model 3.</i>	<b>Race</b> (Black ref)						
	White	0.910 ***	0.11	0.165 *	0.07	-0.745 ***	0.13
	Hispanic	1.059 ***	0.17	-0.070	0.09	-1.129 ***	0.19
	Other Race	0.851 ***	0.20	-0.347 *	0.15	-1.198 ***	0.28
<i>Model 4.</i>	<b>Parental Education</b> (less than high school ref)						
	High School	-0.352 **	0.12	-0.086	0.07	0.265 *	0.12
	Some College	-0.304 *	0.13	-0.179 *	0.07	0.126	0.14
	Bachelor's	-0.541 ***	0.12	-0.435 ***	0.07	0.106	0.14
<i>Model 5.</i>	<b>Family Structure</b> (Bio parents, low-distress ref)						
	Bio Parents, high distress	-0.142	0.14	0.044	0.08	0.186	0.14
	Step parents, low distress	0.069	0.09	0.418 ***	0.06	0.349 ***	0.10
	Step parents, high distress	0.051	0.22	0.455 ***	0.09	0.405 ^	0.24
	Single Parent	-0.346 ***	0.09	0.313 ***	0.04	0.660 ***	0.11
	Other Family Form	-0.272 ^	0.16	0.519 ***	0.08	0.792 ***	0.17
<i>Model 6.</i>	<b>Low Family Belonging</b>	-0.162	0.11	0.363 ***	0.05	0.525 ***	0.11
<i>Model 7.</i>	<b>Parental Cohabitation</b>	-0.413 ***	0.12	0.382 ***	0.06	0.795 ***	0.12
<i>Model 8.</i>	<b>Number of Mother's Prior Relationships</b> (one or fewer is ref)						
	Two relationships	-0.008	0.10	0.306 ***	0.06	0.314 **	0.10
	Three or more relationships	-0.144	0.17	0.451 ***	0.07	0.595 ***	0.17
<i>Model 9.</i>	<b>Number of Sexual Partners before age 18</b> (three plus ref)						
	None	-0.055	0.10	0.306 ***	0.06	-0.968 ***	0.11
	One or two	0.197 *	0.08	0.451 ***	0.07	-0.540 ***	0.08
<i>Model 10.</i>	<b>Educational Attainment</b> (less than high school ref)						
	High School	0.484 ***	0.14	0.014	0.07	-0.470 ***	0.13
	Associates/Vocational Degree	0.545 ***	0.09	0.039	0.06	-0.507 ***	0.09
	Bachelor's Degree	0.429 ***	0.09	-0.127 ^	0.07	-0.555 ***	0.09
<i>Model 11.</i>	<b>Had a child</b>	0.481 ***	0.12	0.721 ***	0.06	0.241 *	0.11
<i>Model 12.</i>	<b>Number of children</b> (none ref)						
	One child	0.587 ***	0.12	0.785 ***	0.06	0.198	0.12
	Two or more children	0.048	0.27	0.471 ***	0.13	0.423	0.26
<i>Model 13.</i>	<b>Pregnant</b>	1.783 ***	0.11	1.355 ***	0.08	-0.428 ***	0.09

Note: all models also control for the baseline age hazard; coefficients are log-odds; results are weighted, adjust for sample clustering, & are based on multiply imputed data; ^ p < 0.10 \* p < 0.05 \*\* p < 0.01 \*\*\* p < 0.001

The results presented in Table 4 indicate that there are a number of factors which help to shape union formation behavior. However, these factors may not exert the same influence at all ages. That is, the results may not be proportional across time. To test for this proportionality assumption a series of tests were administered; first log-likelihood tests with non-missing data were performed and then F-tests with multiply imputed data.<sup>2</sup> These tests assess the improvement of model fit when including interaction terms between predictors and age dummy variables to account for age variation in effects. Post-estimation Wald tests were also performed to test for the significance of the predictor at specific age groups (i.e. testing the significance of the sum of coefficients, the main effect and interaction term). A comparison between simple models and models which account for non-proportionality across age highlight the importance of accounting for this variation. Again, results are weighted with adjustments made for sample clustering.

Several sociodemographic factors were significantly associated with union formation behavior in simple models. Significant gender differences existed in union formation behavior (see Table 4, Model 2). However, the hazard of union formation changes over time for men and women (Table 5). The difference in union formation behavior by gender is not proportional across age, and the fit of models are significantly improved with the inclusion of interactions with time,  $F(6,123) = 15.2$ ,  $p < 0.001$ . During adolescence, between the ages of 15 and 18, men have significantly lower log-odds of marrying versus remaining single compared to women (-1.378). By the early twenties this difference is significantly reduced ( $-1.378 + 0.853 = -0.525$ ). These gender differences continue to converge over time, and by the mid-twenties (ages 24-28) and late-twenties/early-thirties (ages 29-32) there is no longer a statistically significant difference in the log-odds of marrying versus remaining single by gender. A similar pattern emerges when looking at how gender differences in the risk of entering into a cohabiting union vary at different ages. During adolescence men have significantly lower log-odds of entering into cohabiting

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<sup>2</sup> Note: Log-likelihood estimates are not available using multiply imputed data, so they could not be performed. Instead F-tests were used to identify whether the inclusion of additional interaction terms significantly improved the fit of the model. All interactions were tested using F-tests on imputed data.

unions compared to women (-0.619), but this difference is reduced during the early adult years ( $-0.619 + 0.378 = -0.241$ ). This difference continues to converge over time, and by the mid-twenties, there is no longer a significant gender difference in the log-odds of cohabiting or remaining single. These gender interactions with age reflect gender differences in the timing of first union formation in which women enter into unions at earlier ages and men enter into them later.

Finally, the gender difference in the log-odds of entering into a cohabitation first or a marriage directly also varies by age. While men are significantly more likely than women to enter into a cohabitation first rather than a marriage directly during adolescence (0.759), in the early adult years men's higher log-odds of cohabiting is reduced ( $0.759 + -0.475 = 0.284$ ). At older ages, however, Wald tests indicate that there is no longer a significant gender difference in the hazard of entering a cohabitation first or a marriage directly. These results reflect gender differences in the timing of union formation, with women entering into unions at earlier ages than men.



**Table 5. Gender Differences in Union Formation - Variation Across Age**

	<b>Marriage</b>				<b>Cohabitation</b>				<b>Cohabitation</b>			
	(Model 1)		(Model 2)		(Model 1)		(Model 2)		(Model 1)		(Model 2)	
	b	se	b	se	b	se	b	se	b	se	b	se
<b>Categorical Time</b>												
(age 15-18 ref)												
Age 19-23	1.743 ***	0.09	1.493 ***	0.10	1.203 ***	0.05	1.046 ***	0.05	-0.541 ***	0.10	-0.447 ***	0.11
Age 24-28	2.090 ***	0.11	1.648 ***	0.13	1.310 ***	0.08	0.982 ***	0.09	-0.780 ***	0.11	-0.667 ***	0.13
Age 29 plus	1.629 ***	0.24	0.845 *	0.33	0.698 ***	0.16	0.443 *	0.21	-0.931 ***	0.27	-0.402	0.33
<b>Gender (male ref)</b>	-0.494 ***	0.08	-1.378 ***	0.19	-0.256 ***	0.04	-0.619 ***	0.07	0.238 **	0.07	0.759 ***	0.21
Male X Age 19-23			0.853 ***	0.19			0.378 ***	0.07			-0.475 *	0.20
Male X Age 24-28			1.225 ***	0.22			0.679 ***	0.09			-0.547 *	0.24
Male X Age 29 plus			1.779 ***	0.42			0.552 ^	0.29			-1.227 *	0.49
Constant	-4.996 ***	0.12	-4.733 ***	0.11	-3.155 ***	0.07	-3.006 ***	0.06	1.841 ***	0.12	1.726 ***	0.11

Note: coefficients are log-odds; results are weighted & based on multiply imputed data; ^ p < 0.10 \* p < 0.05 \*\* p < 0.01 \*\*\* p < 0.001

Racial differences in union formation also emerged in simple models (Table 4, Model 3). Whites had significantly higher log-odds (0.910) of entering into a marriage directly rather than remain single compared to Blacks, as did Hispanics (1.059) and individuals from other racial groups (0.851). Compared to Blacks, Whites had significantly higher log-odds of cohabiting (0.165) while individuals from other racial groups had significantly lower log-odds (-0.347). Finally, compared to Blacks, all other racial groups had significantly lower log-odds of entering into a cohabiting union first rather than marrying directly (Whites -0.745, Hispanics -1.129, other race -1.198). Other racial differences became apparent when rotating the reference group in these models (see Appendix Table 1, Model 2). There were no significant differences between Whites, Hispanics, and individuals from other racial groups with regard to the log-odds of marriage versus remaining single. Whites were significantly more likely to cohabit versus remain single compared to Blacks, Hispanics, or individuals from other racial groups. Blacks had significantly higher log-odds of cohabiting versus remaining single compared to individuals from other racial groups. Finally, Hispanics had significantly lower log-odds of cohabiting first versus marrying directly compared to Whites. These results suggest that Whites were more likely to cohabit compared to individuals from other racial groups and more likely to marry compared to Blacks. On the other hand, Blacks had a fairly low likelihood of entering into any union and if they did it was much more likely to be a cohabitation.

The union formation behavior of respondents was also significantly associated with the educational attainment of their parent, measured by their mother's education when applicable (Table 4, Model 4). Tests of the proportionality assumption, however, indicate that the educational attainment of respondents' parents was associated with their union formation behavior in a manner that varied by the age of the respondents (Table 6). The association between parental education and offspring union formation is not proportional across offspring age, and the fit of the model improves significantly with the inclusion of interaction terms,  $F(12,117) = 5.58$ ,  $p < 0.001$ . During adolescence and early adulthood youth whose parents had a college education had significantly lower log-odds of marrying versus staying

single compared to those whose parent had less than a high school education (-1.281). However, by their mid-twenties and early thirties these differences converge, and respondents whose parent had a Bachelor's degree appear to have higher log-odds of marrying compared to those whose parent had less than a high school education.

**Table 6. Parental Education and Union Formation - Variation across Age**

	<b>Marriage</b>				<b>Cohabitation</b>				<b>Cohabitation</b>			
	<b>(Model 1)</b>		<b>(Model 2)</b>		<b>(Model 1)</b>		<b>(Model 2)</b>		<b>(Model 1)</b>		<b>(Model 2)</b>	
	b	se	b	se	b	se	b	se	b	se	b	se
<b>Categorical Time</b>												
(age 15-18 ref)												
Age 19-23	1.736 ***	0.09	1.749 ***	0.20	1.206 ***	0.05	0.829 ***	0.09	-0.529 ***	0.10	-0.919 ***	0.22
Age 24-28	2.069 ***	0.11	1.628 ***	0.20	1.310 ***	0.08	0.463 ***	0.13	-0.759 ***	0.11	-1.164 ***	0.25
Age 29 plus	1.586 ***	0.24	1.154 *	0.50	0.684 ***	0.15	-0.144	0.31	-0.902 ***	0.27	-1.298 *	0.55
<b>Parental Education</b>												
(less than high school ref)												
High School	-0.352 **	0.12	-0.240	0.21	-0.086	0.07	-0.436 ***	0.09	0.265 *	0.12	-0.195	0.22
Some College	-0.304 *	0.13	-0.448 ^	0.24	-0.179 *	0.07	-0.557 ***	0.10	0.126	0.14	-0.109	0.26
Bachelor's	-0.541 ***	0.12	-1.281 ***	0.32	-0.435 ***	0.07	-1.232 ***	0.13	0.106	0.14	0.049	0.34
High School X Age 19-23			-0.200	0.25			0.372 ***	0.11			0.572 *	0.27
High School X Age 24-28			0.066	0.27			0.842 ***	0.16			0.775 *	0.30
High School X Age 29 plus			-0.018	0.59			0.756 ^	0.41			0.774	0.67
Some College X Age 19-23			-0.047	0.28			0.400 ***	0.11			0.447	0.29
Some College X Age 24-28			0.604 *	0.29			0.864 ***	0.16			0.259	0.35
Some College X Age 29 plus			0.664	0.71			1.221 **	0.43			0.557	0.78
Bachelor's X Age 19-23			0.555	0.35			0.835 ***	0.15			0.210	0.35
Bachelor's X Age 24-28			1.327 ***	0.36			1.515 ***	0.16			0.189	0.39
Bachelor's X Age 29 plus			1.401 *	0.64			1.334 ***	0.37			-0.066	0.70
Constant	-4.896 ***	0.13	-4.793 ***	0.17	-3.106 ***	0.08	-2.752 ***	0.08	1.791 ***	0.15	2.041 ***	0.19

Note: coefficients are log-odds; results are weighted & based on multiply imputed data; ^ p < 0.10 \* p < 0.05 \*\* p < 0.01 \*\*\* p < 0.001

The role of parental education appears to be even more age-sensitive when looking at the risk of entering into cohabiting unions (Table 6). During adolescence youth whose parent had a high school degree had significantly lower log-odds of cohabiting compared to those whose parent did not have a high school education (-0.436), by early adulthood this difference is reduced ( $-0.436 + 0.372 = -0.064$ ). By their mid-twenties and early thirties these differences are further reduced, and there is no longer any statistically significant differences in the hazard of marrying between individuals whose parent had a high school education and those whose parent had less than a high school education. A similar pattern emerges when looking at youth whose parent had some college education, where, compared to individuals whose parent had no high school education, they have a lower log-odds of cohabiting during adolescence (-0.557) and early adulthood ( $-0.557 + .400 = -0.157$ ). Likewise, youth whose parent had a Bachelor's degree had a lower log-odds of cohabiting versus remaining single in adolescence (-1.232) and early adulthood ( $-1.232 + 0.835 = -0.397$ ) compared to youth whose parents had no high school education. By their mid-twenties and early thirties these differences are reduced and no longer statistically significant. Finally, Table 6 suggests that there are very few parental education differences in the hazard of cohabiting first versus marrying directly. These differences are limited to individuals whose parent had a high school degree, who have a higher log-odds of cohabiting first at ages 19-23 ( $-0.195 + 0.572 = 0.377$ ) and ages 24-28 ( $-0.195 + 0.775 = 0.580$ ) compared to individuals whose parents did not have a high school degree.

Family structure and parental marital quality was significantly associated with the nature of offspring union formation (Table 4, Model 5). Individuals who grew up in single parent homes had significantly lower log-odds of marrying directly versus remaining single compared to individuals who grew up in low-distress biological-married-parent families (hereafter, low-distress intact families). Youth from single parent families were also less likely to marry versus remain single compared to individuals from low-distress stepfamilies (see Appendix Table 1, Model 4). Compared to individuals who were in a low-distress intact family during adolescence, individuals who came from a low-distress stepfamily

(0.418), a high-distress step-family (0.455), a single parent family (0.313), or other family forms (0.519) all had higher log-odds of entering into a cohabiting union relative to remaining single (Table 4, Model 5). Individuals from high-distress intact families also had lower log-odds of cohabiting versus staying single compared to individuals from low- and high-distress stepfamilies, single parent, and other family forms (see Appendix Table 1, Model 4). Youth from single parent families also had lower log-odds of cohabiting compared to youth from other family forms. Finally, individuals who came from an intact family with low parental marital distress had significantly lower log-odds of cohabiting first versus entering into a marriage directly compared to youth from low-distress stepfamilies (0.349), single parent families (0.660), and other family forms (0.792); they were marginally less likely to cohabit first compared to high-distress stepfamilies (0.405). Individuals in high-distress intact families as well as individuals from low-distress stepfamilies had significantly lower log-odds of cohabiting first compared to youth who grew up in single parent families and other family forms (see Appendix Table 1, Model 4). Together these results suggest that individuals from intact families are more likely to marry directly and less likely to cohabit compared to individuals who grew up in a non-intact family form. Differences by parental marital distress are substantively marginal, and largely non-significant. Individuals who grew up in single parent homes appear to be at greatest risk of cohabiting.

Several other dimensions of the family environment experienced during adolescence were related to the union formation behavior of offspring, including the degree of belonging respondents felt they had to their family while in adolescence. Tests of the proportionality assumption revealed that the impact of feeling a low-degree of family belonging during adolescence on union formation behavior varied across age with a significant improvement in model fit with the inclusion of age interactions,  $F(6,123) = 3.93$ ,  $p < 0.001$  (Table 7). During adolescence there was no association between level of family belonging and the hazard of entering into marriage. By ages 24-28 however, individuals who reported low levels of family belonging during adolescence had significantly lower log-odds of compared to individuals who reported average-to-high family belonging ( $0.304 + -0.906 = -0.602$ ).

**Table 7. Low Family Belonging and Union Formation - Variation Across Age**

	Marriage				Cohabitation				Cohabitation			
	(Model 1)		(Model 2)		(Model 1)		(Model 2)		(Model 1)		(Model 2)	
	b	se	b	se	b	se	b	se	b	se	b	se
<b>Categorical Time</b> (age 15-18 ref)												
Age 19-23	1.712 ***	0.09	1.793 ***	0.11	1.198 ***	0.05	1.239 ***	0.05	-0.514 ***	0.10	-0.554 ***	0.11
Age 24-28	2.042 ***	0.11	2.160 ***	0.12	1.304 ***	0.07	1.378 ***	0.08	-0.737 ***	0.11	-0.782 ***	0.12
Age 29 plus	1.581 ***	0.24	1.549 ***	0.25	0.685 ***	0.15	0.832 ***	0.16	-0.896 ***	0.27	-0.717 **	0.28
<b>Low Family Belonging</b>	-0.162	0.11	0.304	0.19	0.363 ***	0.05	0.548 ***	0.06	0.525 ***	0.11	0.244	0.20
Low Belonging, Age 19-23			-0.488 ^	0.25			-0.183 *	0.08			0.305	0.25
Low Belonging, Age 24-28			-0.906 **	0.29			-0.404 ***	0.12			0.502 ^	0.30
Low Belonging, Age 29 plus			0.220	0.58			-0.955 **	0.35			-1.174 ^	0.67
Constant	-5.194 ***	0.10	-5.273 ***	0.11	-3.345 ***	0.06	-3.386 ***	0.06	1.849 ***	0.11	1.886	0.12

Note: coefficients are log-odds; results are weighted & based on multiply imputed data; ^ p < 0.10 \* p < 0.05 \*\* p < 0.01 \*\*\* p < 0.001

One's sense of belonging within the family was also associated with their risk of entering into a cohabitating union at different ages. In adolescence, youth who reported low levels of family belonging were significantly more likely to enter into a cohabiting union compared to those who had higher rates of belonging (0.548). This association between family belonging and risk of cohabitation was significantly reduced as people aged. Finally, when including interactions with age the association between level of family belonging and the risk of entering into a cohabitation or marriage first is quite weak. Results suggest that individuals who had low levels of family belonging in adolescence were marginally more likely to cohabit first in their mid-twenties but had marginally lower log-odds of cohabiting first versus marrying directly in their late-twenties/early-thirties, compared to individuals who reported average-to-high levels of family belonging. These results indicate that feeling a low degree of belonging to one's family elevates the likelihood of cohabiting at earlier ages, in adolescence and young adulthood. But feeling a low degree of family belonging during adolescence does have an impact on the likelihood of marrying directly during the mid-twenties, a time when many marriages are being formed.

Exposure to parental cohabitation was also significantly associated with union formation behavior (Table 4, Model 7). Initial tests of the proportionality assumption indicated that the inclusion of interaction terms with age significantly improved model fit. These results suggested that parental cohabitation was most influential on the cohabiting behavior of individuals during adolescence and early adulthood, with differences converging over time. However, these interactions were no longer significant in the multivariate models, so they are not presented here. Overall, results from Table 4, Model 7 indicate that individuals who had a parent who experienced a cohabiting relationship during their youth were significantly less likely to marry directly than remain single (-0.413), significantly more likely to cohabit than remain single (0.382), and significantly more likely to cohabit first rather than marry directly (0.795) compared to individuals whose parent did not cohabit while they were growing up. These results highlight that exposure to parental cohabitation may encourage future cohabiting behavior and a preference to enter a cohabitation first rather than marry directly.



Exposure to family instability, in the form of the number of maternal coresidential romantic relationships, was also related to the approaches offspring took towards union formation (Table 4, Model 8). When examining the proportionality of this association, significant age differences emerged in the effect of the number of mother's prior coresidential romantic relationships on offspring union formation behavior (Table 8). Specifically, the impact of having been exposed to three or more maternal relationships growing up on union formation behavior varied across age, with a significant improvement in model fit with the inclusion of time interactions,  $F(6,123) = 2.99, p < 0.01$ . During adolescence youth whose mother had three or more relationships had significantly higher log-odds of cohabiting versus staying single (0.740) compared to youth whose mother had one or fewer. However, at older ages this difference was reduced, suggesting that exposure to multiple maternal romantic partnerships is influential on the likelihood of offspring entering cohabiting unions only during adolescence, but not associated with later union formation behavior.

**Table 8. Mother's Relationship History and Union Formation - Variation across Age**

	Marriage				Cohabitation				Cohabitation			
	(Model 1)		(Model 2)		(Model 1)		(Model 2)		(Model 1)		(Model 2)	
	b	se	b	se	b	se	b	se	b	se	b	se
<b>Categorical Time</b> (age 15-18 ref)												
Age 19-23	1.713 ***	0.09	1.732 ***	0.10	1.204 ***	0.05	1.244 ***	0.05	-0.509 ***	0.10	-0.488 ***	0.11
Age 24-28	2.044 ***	0.11	2.075 ***	0.11	1.310 ***	0.08	1.383 ***	0.08	-0.734 ***	0.12	-0.692 ***	0.12
Age 29 plus	1.584 ***	0.24	1.650 ***	0.25	0.693 ***	0.15	0.785 ***	0.16	-0.890 ***	0.27	-0.865 **	0.28
<b>Number of Mother's Prior Relationships</b>												
(one or fewer ref)												
Two relationships	-0.008	0.10	-0.006	0.10	0.306 ***	0.06	0.308 ***	0.06	0.314 **	0.10	0.315 **	0.10
Three plus relationships	-0.144	0.17	0.086	0.28	0.451 ***	0.07	0.740 ***	0.10	0.595 ***	0.17	0.655 *	0.31
Three plus, age 19-23			-0.216	0.38			-0.293 *	0.13			-0.077	0.42
Three plus, age 24-28			-0.405	0.39			-0.702 ***	0.18			-0.296	0.43
Three plus, age 29 plus			-1.956	1.95			-0.924	0.56			1.032	2.07
Constant	-5.205 ***	0.11	-5.225 ***	0.11	-3.388 ***	0.06	-3.428 ***	0.06	1.817 ***	0.11	1.797 ***	0.11

Note: coefficients are log-odds; results are weighted & based on multiply imputed data; ^ p < 0.10 \* p < 0.05 \*\* p < 0.01 \*\*\* p < 0.001

The sexual behavior of respondents during their adolescent years was also significantly associated with their union formation behavior in simple models (Table 4, Model 9). Alternative models which rotated the reference group also indicated that significant differences existed between each of these groups in terms of their union formation behavior (see Appendix Table 1, Model 6). Tests reveal that the impact of number of sexual partners during adolescence is not proportional across time, with significant improvement in model fit with the inclusion of interaction terms,  $F(12,117) = 9.63, p < 0.001$  (Table 9). During adolescence youth who did not have any sexual partners had significantly lower log-odds of entering a marriage compared to youth who had three or more sexual partners before age 18 (-1.310). This difference is reduced as people age, so that in the early adult years individuals with no sexual partners in adolescence continue to have lower log-odds of marrying, but by their mid-twenties and late twenties/early thirties they have a higher log-odds of marrying compared to those who had three or more sexual partners during adolescence. Individuals who had only one or two sexual partners before age 18 have significantly higher log-odds of marrying versus staying single (0.360) compared to individuals who had three or more partners, and this difference is consistent across all ages.

During adolescence individuals who had no sexual partners had significantly lower log-odds of entering into a cohabitation compared to youth who had three or more sexual partners before age 18 (-1.730); this difference converges as people age. Additionally, individuals who had one or two sexual partners before age 18 have lower log-odds of entering into their first cohabiting union during adolescence and early adulthood (-0.445) compared to individuals who had three or more sexual partners. This difference is significantly reduced in the mid-twenties ( $-0.445 + 0.256 = -0.189$ ), and by the late-twenties and early thirties there is no longer a statistically significant difference in the log-odds of cohabiting by number of adolescent sexual partners. Finally, there are no real age differences in the effect of adolescent sexual behavior for the risk of entering into a cohabitation first or a marriage directly. Individuals who had one or two sexual partners during adolescence have significantly lower log-odds of entering into a cohabitation first compared to people who had three or more partners (-0.805). These

results may reflect an increased risk of entering a union among sexually active adolescences across the transition to adulthood, with individuals who were less sexually active delaying their union entrance but “catching up” over time.

**Table 9. Adolescent Sexual Behavior and Union Formation - Variation Across Age**

	Marriage				Cohabitation				Cohabitation			
	(Model 1)		(Model 2)		(Model 1)		(Model 2)		(Model 1)		(Model 2)	
	b	se	b	se	b	se	b	se	b	se	b	se
<b>Categorical Time</b> (age 15-18 ref)												
Age 19-23	1.725 ***	0.09	1.592 ***	0.17	1.265 ***	0.05	1.112 ***	0.05	-0.460 ***	0.10	-0.480 **	0.18
Age 24-28	2.607 ***	0.11	1.680 ***	0.21	1.445 ***	0.07	1.124 ***	0.09	-0.622 ***	0.11	-0.556 *	0.22
Age 29 plus	1.620 ***	0.24	0.754	0.57	0.895 ***	0.15	0.063	0.31	-0.726 **	0.27	-0.691	0.58
<b>Number of Sex partners before age 18</b> (3 or more ref)												
No sex partners	-0.055	0.10	-1.310 ***	0.26	0.306 ***	0.06	-1.730 ***	0.11	-0.968 ***	0.11	-0.420	0.28
One or two sex partners	0.197 *	0.08	0.360 *	0.18	0.451 ***	0.07	-0.445 ***	0.07	-0.540 ***	0.08	-0.805 ***	0.19
No Sex Partners X Age 19-23			1.265 ***	0.27			0.760 ***	0.11			-0.505 ^	0.30
No Sex Partners X Age 24-28			1.585 ***	0.31			1.042 ***	0.15			-0.543	0.34
No Sex Partners X Age 29 plus			2.202 **	0.69			1.397 ***	0.36			-0.805	0.69
1-2 Sex Partners X Age 19-23			-0.262	0.22			0.095	0.07			0.357	0.23
1-2 Sex Partners X Age 24-28			0.008	0.26			0.256 *	0.11			0.248	0.26
1-2 Sex Partners X Age 29 plus			0.255	0.57			1.187 ***	0.31			0.932	0.59
Constant	-5.275 ***	0.12	-5.109 ***	0.16	-3.388 ***	0.06	-2.748 ***	0.06	2.384 ***	0.12	2.361 ***	0.17

Note: coefficients are log-odds; results are weighted & based on multiply imputed data; ^ p < 0.10 \* p < 0.05 \*\* p < 0.01 \*\*\* p < 0.001

The educational attainment of respondents was also associated with the nature of their union formation behavior (Table 4, Model 10). Educational attainment was positively associated with the likelihood of marrying versus remaining single. Compared to individuals with less than a high school education, individuals who had a high school degree (0.484), an Associate's degree (0.545), or a Bachelor's degree (0.429) all had a higher log-odds of marrying versus remaining single. Respondents with a high school degree had significantly lower log-odds of marrying compared to individuals with an Associate's or Bachelor's degree, and people with a Bachelor's degree were more likely to marry than those with an Associate's degree (Appendix Table 1, Model 7). Individuals who had less than a high school degree were also more likely to enter into a cohabiting union first rather than marry directly, with individuals with a high school degree (-0.470), an Associate's (-0.507), or a Bachelor's degree (-0.555) all having lower log-odds of cohabiting first. When rotating the reference group we see that educational attainment is negatively associated with cohabiting first relative to entering into a marriage directly; people with less education are more likely to cohabit first and less likely to marry directly (see Appendix Table 1, Model 7). These results highlight the educational gradient in union formation behavior, with higher rates of cohabitation and lower rates of marriage among individuals with less education.

Finally, results indicate that individuals' childbearing behavior was significantly associated with their union formation behavior (Table 4, Model 11 & 12). Tests of the proportionality assumption revealed that the influence of childbearing behavior on union formation behavior varied by the respondent's age. Tests indicated that the association between being a parent, having a child outside of a coresidential union, and union formation was not proportional across age, and the inclusion of interaction terms significantly improved the fit of the model,  $F(6,123) = 21.65$ ,  $p < 0.001$ . Individuals who were parents during adolescence, who had any children born outside of a coresidential union, had significantly higher log-odds of entering into a marriage versus remaining single (2.002) compared to their childless counterparts (Table 10). Being a parent, having a child born outside of a coresidential union, in the early adult years was also associated with higher log-odds of marrying versus remaining single compared to

non-parents ( $2.002 + -1.555 = 0.447$ ). However, by their mid-twenties and late-twenties/early-thirties individuals who were parents but had not yet entered into their first union had no significant difference in their likelihood of marrying rather than remaining single compared to their childless counterparts. Individuals who were parents during adolescence had a significantly higher likelihood of entering into a cohabiting union versus remaining single (1.488). This difference was significantly reduced in the early adult years ( $1.488 + -1.286 = 0.202$ ). By their mid-twenties and late-twenties/early-thirties there was no longer a statistically significant difference in the likelihood of entering a cohabiting union by parental status. These results highlight the “push” factor that childbearing can have during adolescence and early adulthood, when parenthood is less common. However, by the mid-twenties, regardless of parenthood status, individuals are more likely to enter unions and having a child doesn’t “push” individuals into coresidential unions to the same extent.

Finally, the likelihood of entering into a cohabitation or a marriage as a first union was significantly associated with parental status, in a manner that shifted by age. During adolescence, individuals with children had significantly lower log-odds of cohabiting first versus entering into a marriage directly ( $-0.515$ ) compared to their childless peers. In early adulthood this association flips, and parents were now more likely to cohabit first compared to individuals who had no children ( $-0.515 + 0.836 = 0.321$ ). By the mid-twenties and late-twenties/early-thirties, there is no longer a statistically significant difference in the likelihood of cohabiting or marrying first by parental status.

**Table 10. Parenthood Status and Union Formation - Variation Across Age**

	Marriage				Cohabitation				Cohabitation			
	(Model 1)		(Model 2)		(Model 1)		(Model 2)		(Model 1)		(Model 2)	
	b	se	b	se	b	se	b	se	b	se	b	se
<b>Categorical Time</b> (age 15-18 ref)												
Age 19-23	1.695 ***	0.09	1.807 ***	0.10	1.154 ***	0.05	1.193 ***	0.05	-0.541 ***	0.10	-0.614 ***	0.10
Age 24-28	2.018 ***	0.11	2.175 ***	0.11	1.239 ***	0.08	1.337 ***	0.08	-0.779 ***	0.12	-0.837 ***	0.12
Age 29 plus	1.545 ***	0.24	1.642 ***	0.26	0.608 ***	0.15	0.704 ***	0.16	-0.937 ***	0.27	-0.938 **	0.29
<b>Had a child</b>	0.481 ***	0.12	2.002 ***	0.21	0.721 ***	0.06	1.488 ***	0.10	0.241 *	0.11	-0.515 *	0.23
Had a child X Age 19-23			-1.555 ***	0.25			-0.719 ***	0.12			0.836 **	0.28
Had a child X Age 24-28			-2.076 ***	0.28			-1.286 ***	0.16			0.790 *	0.33
Had a child X Age 29 plus			-1.457 **	0.50			-1.137 ***	0.32			0.320	0.56
Constant	-5.231 ***	0.10	-5.340 ***	0.10	-3.300 ***	0.06	-3.344 ***	0.06	1.931 ***	0.10	1.995 ***	0.11

Note: coefficients are log-odds; results are weighted & based on multiply imputed data; ^ p < 0.10 \* p < 0.05 \*\* p < 0.01 \*\*\* p < 0.001



The number of children a person had outside of a coresidential union was also related to their union formation behavior (Table 4, Model 12). Tests reveal that this association is not proportional across age, with significant improvement to model fit with the inclusion of interaction terms,  $F(12,117) = 11.77$ ,  $p < 0.001$  (Table 11). During adolescence individuals who had one child (1.954) or two or more children (2.437) had significantly higher log-odds of entering into a marriage versus remaining single compared to their peers without children. However, at older ages this difference is reduced such that in early adulthood individuals with one child ( $1.954 + -1.493 = 0.461$ ) are more likely to marry compared to their childless peers, but with a smaller magnitude of difference. In early adulthood individuals with two or more children are not statistically different from individuals with no children, in terms of their likelihood of marriage. By the mid-twenties, there is no difference in the likelihood of marriage among people who have one child versus those who have none, but people who have two or more children have a lower log-odds of marrying versus staying single ( $2.437 + -3.738 = -1.301$ ). By the late-twenties/early-thirties, both individuals with one child and those with two or more children have a similar risk of marrying compared to their childless peers.

Individuals with children were also more likely to cohabit versus remain single compared to non-parents, with individuals with one child having higher log-odds of cohabiting versus remaining single in adolescence (1.488), early adulthood ( $1.488 + -0.695 = 0.793$ ). By the mid-twenties and later, again, there is no statistically significant difference in the likelihood of cohabiting compared to childless individuals. Likewise, individuals who had two or more children had higher log-odds of cohabiting versus remaining single in adolescence (1.486), but this difference converges over time. Finally, individuals who had one child were marginally less likely to cohabit first versus marry directly in adolescence ( $-0.466$ ), but significantly more likely to cohabit first versus marry directly in their early adult years ( $-0.466 + 0.798 = 0.332$ ) compared to their childless peers. Having two or more children was associated with higher log-odds of entering into a cohabiting union first rather than marry directly among individuals in their mid-twenties ( $-0.951 + 2.257 = 1.336$ ) compared to individuals without children. These results again highlight

that parenthood may be a bigger “push” factor into a coresidential union during adolescence and early adulthood, with having one child associated with movement into a union to a greater extent than having two or more children (see Appendix Table 1, Model 8).

**Table 11. Number of Children and Union Formation - Variation Across Age**

	Marriage				Cohabitation				Cohabitation				
	(Model 1)		(Model 2)		(Model 1)		(Model 2)		(Model 1)		(Model 2)		
	b	se	b	se	b	se	b	se	b	se	b	se	
<b>Categorical Time</b> (age 15-18 ref)													
Age 19-23	1.697 ***	0.09	1.807 ***	0.10	1.155 ***	0.05	1.193 ***	0.05	-0.541 ***	0.10	-0.614 ***	0.10	
Age 24-28	2.024 ***	0.11	2.175 ***	0.11	1.244 ***	0.08	1.337 ***	0.08	-0.781 ***	0.12	-0.837 ***	0.12	
Age 29 plus	1.553 ***	0.24	1.642 ***	0.26	0.614 ***	0.15	0.704 ***	0.16	-0.939 ***	0.27	-0.938 **	0.29	
<b>Number of Children</b> (none ref)													
One child	0.587 ***	0.12	1.954 ***	0.23	0.785 ***	0.06	1.488 ***	0.11	0.198	0.12	-0.466 ^	0.26	
Two or more children	0.048	0.27	2.437 ***	0.55	0.471 ***	0.13	1.486 ***	0.36	0.423	0.26	-0.951	0.62	
One child X Age 19-23			-1.493 ***	0.27			-0.695 ***	0.13			0.798 *	0.31	
One child X Age 24-28			-1.744 ***	0.29			-1.206 ***	0.17			0.538	0.34	
One child X Age 29 plus			-1.521 *	0.58			-1.142 **	0.34			0.379	0.65	
Two plus X Age 19-23			-2.047 ***	0.60			-0.822 ^	0.43			1.225 ^	0.70	
Two plus X Age 24-28			-3.738 ***	0.94			-1.481 ***	0.44			2.257 *	0.97	
Two plus X Age 29 plus			-1.682 ^	0.97			-1.125	0.68			0.558	1.11	
Constant	-5.234 ***	0.10	-5.340 ***	0.10	-3.302 ***	0.06	-3.344 ***	0.06	1.932 ***	0.10	1.995 ***	0.11	

Note: coefficients are log-odds; results are weighted & based on multiply imputed data; ^ p < 0.10 \* p < 0.05 \*\* p < 0.01 \*\*\* p < 0.001

Finally, the likelihood of entering into a union, and the type of union entered into, was significantly associated with whether respondents were pregnant (or had a pregnant partner; Table 4, Model 13). The role that pregnancy plays in risk of entering into a first union also significantly varies across age (Table 12). Tests suggest that the association with pregnancy is not proportional across time, and the inclusion of interaction terms significantly improves model fit,  $F(6,123) = 10.02$ ,  $p < 0.001$ .

Individuals who were pregnant during adolescence had significantly higher log-odds of entering into a marriage versus remaining single (2.864) compared to their non-pregnant counterparts. While pregnant individuals had a higher risk of marrying compared to individuals who weren't pregnant at all ages, this difference is reduced as people age; the log-odds of marrying is higher among pregnant persons in early adulthood ( $2.864 + -1.366 = 1.498$ ) and the mid-twenties ( $2.864 + -1.526 = 1.338$ ), and marginally reduced in the late-twenties/early-thirties ( $2.864 + -1.169 = 1.695$ ). Similarly, being pregnant or having a pregnant partner was associated with significantly higher log-odds of entering into a cohabitation versus remaining single during adolescence (1.786), early adulthood ( $1.786 + -0.661 = 1.125$ ), the mid-twenties ( $1.786 + -0.500 = 1.286$ ), and the late-twenties/early-thirties (1.786). Finally, pregnancy was associated with a higher likelihood of marrying directly versus entering into a cohabitation first at all ages, but this association was reduced as people aged. Pregnant individuals, or persons with a pregnant partner, had significantly lower log-odds of cohabiting first versus marrying directly in adolescence (-1.078), early adulthood ( $-1.078 + 0.705 = -0.373$ ), the mid-twenties ( $-1.078 + 1.025 = -0.053$ ), and in their late-twenties/early-thirties (-1.078) compared to individuals who were never pregnant during those periods. Again, these results suggest that pregnancy does more to push individuals into coresidential unions (particularly marriages) when they are younger and less so as they get older.

**Table 12. Pregnancy and Union Formation - Variation Across Age**

	<b>Marriage</b>				<b>Cohabitation</b>				<b>Cohabitation</b>			
	(Model 1)		(Model 2)		(Model 1)		(Model 2)		(Model 1)		(Model 2)	
	b	se	b	se	b	se	b	se	b	se	b	se
<b>Categorical Time</b> (age 15-18 ref)												
Age 19-23	1.700 ***	0.09	1.936 ***	0.10	1.179 ***	0.05	1.234 ***	0.05	-0.522 ***	0.10	-0.702 ***	0.10
Age 24-28	2.093 ***	0.11	2.326 ***	0.12	1.315 ***	0.08	1.355 ***	0.08	-0.778 ***	0.12	-0.971 ***	0.13
Age 29 plus	1.646 ***	0.24	1.856 ***	0.26	0.712 ***	0.15	0.754 ***	0.15	-0.934 ***	0.27	-1.102 ***	0.29
<b>Pregnant</b>	1.783 ***	0.11	2.864 ***	0.18	1.355 ***	0.08	1.786 ***	0.11	-0.428 ***	0.09	-1.078 ***	0.19
Pregnant X Age 19-23			-1.366 ***	0.21			-0.661 ***	0.14			0.705 **	0.23
Pregnant X Age 24-28			-1.526 ***	0.29			-0.500 *	0.20			1.025 **	0.30
Pregnant X Age 29 plus			-1.169 ^	0.71			-0.542	0.57			0.627	0.75
Constant	-5.335 ***	0.10	-5.541 ***	0.11	-3.347 ***	0.06	-3.386 ***	0.06	1.988 ***	0.10	2.155 ***	0.11

Note: coefficients are log-odds; results are weighted & based on multiply imputed data; ^ p < 0.10 \* p < 0.05 \*\* p < 0.01 \*\*\* p < 0.001

## Gender Differences in Union Formation Behavior

As earlier results indicated, the nature of union formation behavior varies across gender (see Tables 4 & 5). One goal of the current thesis is to examine whether the impact of various factors on union formation behavior is significantly different for men and women. To assess whether predictors are moderated by gender a series of interaction terms were tested. Interactions that significantly improved the fit of models and remained significant in multivariate models are discussed below. Wald tests of the sum of coefficients were also performed to assess the statistical significance of predictors. All results are weighted with adjustments made for sample clustering and stratification. Results suggest that many factors impact union formation behavior similarly for men and women. Educational attainment, family structure, childbearing, and adolescent sexual behavior were found to impact the union formation behavior of men and women in significantly different ways. To facilitate model interpretation hazards are graphed in Figures 20-25.

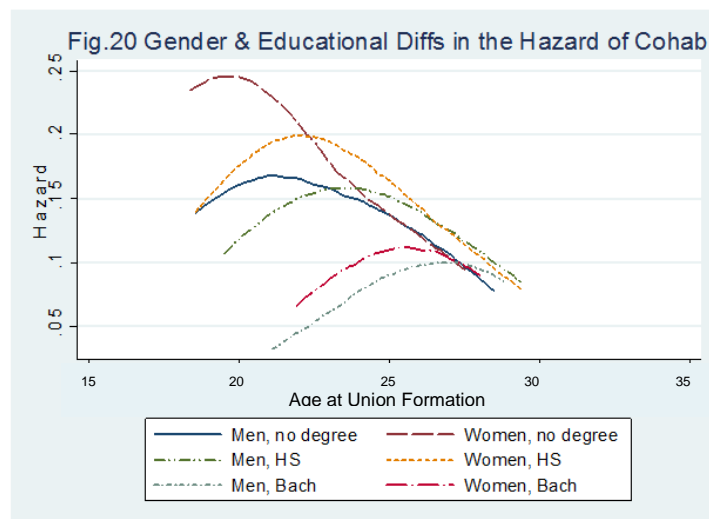
The association between educational attainment and the hazard of entering into a first cohabiting union is significantly different for men and women (Table 13, Figure 20). Tests indicate that the inclusion of interactions between having a high school degree or having a Bachelor's degree and gender significantly improves the fit of the model,  $F(4,125) = 5.8$ ,  $p < 0.001$ . Women who had a high school degree had significantly higher log-odds of entering into a cohabiting union versus staying single compared to women who did not have a degree (0.203). Wald tests indicate that there is no significant difference in the risk of cohabiting between men with and without a high school degree. Finally, only men with a Bachelor's degree were significantly less likely to enter into a cohabiting union compared to men without any degree (-0.227), whereas there was no statistical difference in the risk of entering a cohabitation between women with a Bachelor's degree and women without a high school education. These results suggest that different levels of education may be "protective" against cohabitation for men and women. Figure 20 suggests that women with less than a high school education have a particularly

high risk of cohabiting at early ages, but by their early twenties (around age 22), women with a high school degree begin to have a higher risk of cohabiting compared to their less educated peers.

**Table 13. Gender Differences in Educational Attainment and Union Formation Behavior**

	Marriage (Single is reference)		Cohabitation		Cohabitation (Marriage is reference)	
	b	se	b	se	b	se
<b>Categorical Time</b> (age 15-18 ref)						
Age 19-23	0.980 ***	0.15	0.913 ***	0.09	-0.067	0.15
Age 24-28	0.919 ***	0.21	0.854 ***	0.14	-0.064	0.18
Age 29 plus	0.101	0.36	0.314	0.25	0.213	0.35
<b>Gender</b> (male ref)	-1.254 ***	0.20	-0.529 ***	0.07	0.726 ***	0.21
Male, Age 19-23	1.122 ***	0.26	0.653 ***	0.10	-0.469 ^	0.27
Male, Age 24-28	1.562 ***	0.31	1.013 ***	0.13	-0.550 ^	0.32
Male, Age 29 plus	2.126 ***	0.42	0.885 **	0.29	-1.241 **	0.47
<b>Educational Attainment</b> (less than high school ref)						
High School	0.607 ***	0.17	0.203 *	0.10	-0.403 *	0.17
Associate's/Vocational Degree	0.540 ***	0.09	0.038	0.06	-0.502 ***	0.09
Bachelor's	0.458 ***	0.12	-0.027	0.09	-0.485 ***	0.13
Male X High School	-0.355	0.24	-0.394 ***	0.09	-0.039	0.24
Male X Bachelor's	-0.122	0.20	-0.227 *	0.10	-0.105	0.21
Constant	-4.918 ***	0.13	-3.059 ***	0.07	1.859 ***	0.13

Note: coefficients are log-odds; results are weighted & based on multiply imputed data; \* p < 0.05 \*\* p < 0.01 \*\*\* p < 0.001



The association between adolescent family structure and union formation behavior also varied across gender (Table 14 & Figure 21A & 21B). The inclusion of interaction terms between gender and

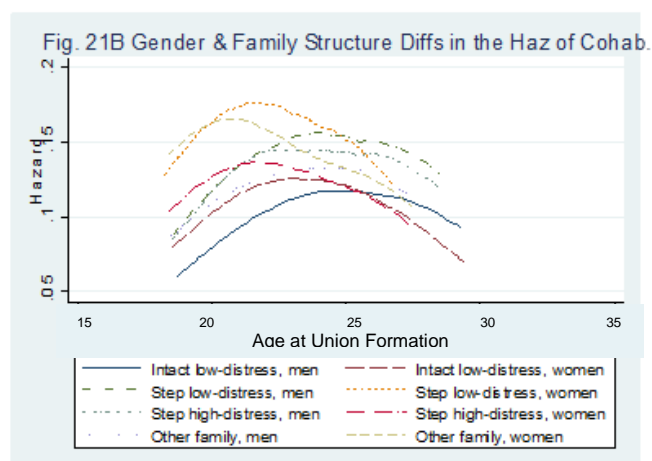
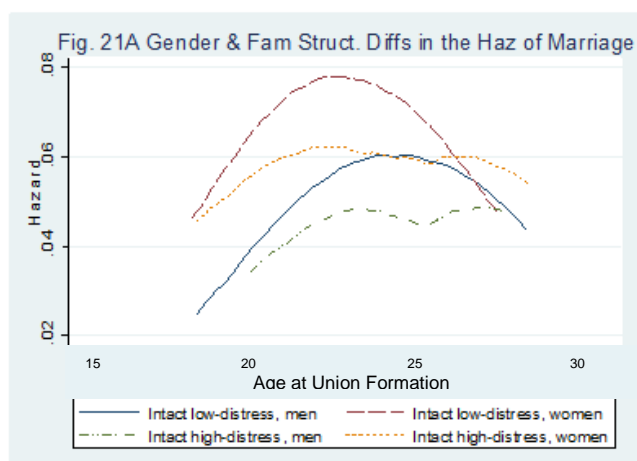
family structure dummy variables significantly improved the fit of the model,  $F(10,119) = 3.59$ ,  $p < 0.001$ . Men from high-distress intact families, but not women, had marginally lower log-odds of marrying compared to men from low-distress intact families (Figure 21A). Additionally, men from high-distress intact families, but not women, were marginally more likely to cohabit first rather than marry directly compared to men from low-distress intact families. Coming from a low-distress stepfamily was associated with a higher likelihood of entering a cohabiting union versus remaining single (0.524). However, this difference was only significant for women, with Wald tests indicating that there was no statistically significant difference in the log-odds of cohabiting between men from low-distress stepfamilies and men from low-distress intact families. Similarly, individuals from high-distress stepfamilies had significantly higher log-odds of entering a cohabiting union compared to individuals from low-distress intact families (0.662); Wald tests indicated that this difference was only significant for women, with no significant difference among men. Finally, individuals from other family forms had significantly higher log-odds of entering cohabiting unions versus remaining single compared to individuals from low-distress intact families (0.774). A significant interaction with gender suggests that this difference is smaller for men ( $0.774 + -0.463 = 0.311$ ), with Wald tests suggesting that men from other family forms still had a marginally higher likelihood of cohabiting compared to men from low-distress intact families. Overall these results suggest that for men only, exposure to a high-distress intact family environment is associated with lower likelihood of marrying. Among women, growing up in a stepfamily or an “other” family form is associated with a higher risk of cohabiting. It is worth noting that while gender differences emerged in the association between most family forms and union formation behavior, there was no significant gender difference in the effect of coming from a single parent family. That is, coming from a single parent family in adolescence had a similar impact on offspring’s union formation behavior for both men and women.



**Table 14. Gender Differences in Family Structure and Union Formation Behavior**

	Marriage (Single is reference)		Cohabitation		Cohabitation (Marriage is reference)	
	b	se	b	se	b	se
<b>Categorical Time</b> (age 15-18 ref)						
Age 19-23	1.492 ***	0.10	1.093 ***	0.05	-0.398 ***	0.11
Age 24-28	1.652 ***	0.13	1.041 ***	0.09	-0.611 ***	0.13
Age 29 plus	0.858 **	0.33	0.473 *	0.21	-0.386	0.33
<b>Gender</b> (male ref)						
Male, Age 19-23	0.845 ***	0.19	0.341 ***	0.07	-0.504 *	0.20
Male, Age 24-28	1.215 ***	0.22	0.633 ***	0.09	-0.583 *	0.24
Male, Age 29 plus	1.788 ***	0.42	0.521 ^	0.29	-1.266 *	0.49
<b>Family Structure</b> (Bio parents, low-distress ref)						
Bio Parents, high distress	0.016	0.16	0.020	0.10	0.004	0.15
Step parents, low distress	0.233 ^	0.12	0.524 ***	0.07	0.291 *	0.12
Step parents, high distress	0.217	0.31	0.662 ***	0.15	0.445	0.34
Single Parent	-0.307 *	0.12	0.360 ***	0.05	0.668 ***	0.13
Other Family Form	-0.180	0.25	0.774 ***	0.09	0.954 ***	0.24
Male X Bio Parents, high distress	-0.454 ^	0.25	0.037	0.12	0.491 ^	0.27
Male X Step parents, low distress	-0.346 ^	0.19	-0.205 *	0.09	0.141	0.20
Male X Step parents, high distress	-0.234	0.41	-0.334 ^	0.19	-0.100	0.43
Male X Single Parent	-0.095	0.16	-0.099	0.08	-0.003	0.19
Male X Other Family Form	-0.125	0.29	-0.463 ***	0.13	-0.339	0.28
Constant	-4.695 ***	0.12	-3.252 ***	0.06	1.443 ***	0.12

Note: coeffs are log-odds; results are weighted & use multiply imputed data; ^ p < 0.10 \* p < 0.05 \*\* p < 0.01 \*\*\* p < 0.001

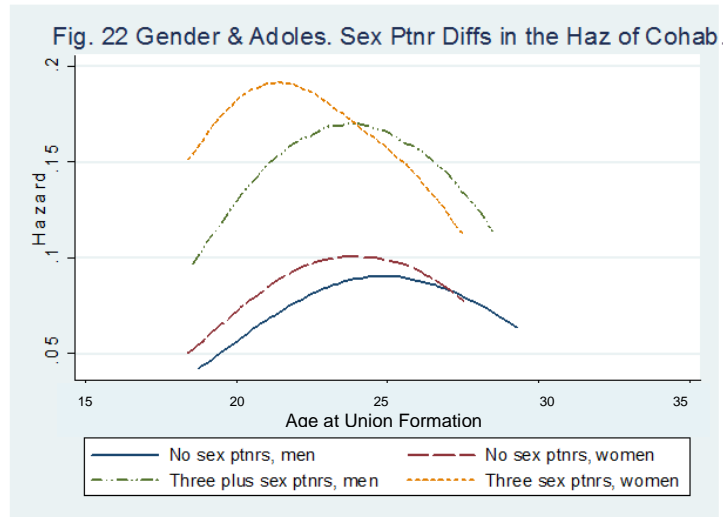


Significant gender differences also emerged in the association between respondents' sexual behavior during adolescence and their risk of entering a cohabiting union (Table 15, Figure 22). Tests indicate that the inclusion of an interaction term between gender and having no sexual partners during adolescence significantly improved the fit of the model,  $F(2,127) = 8.8, p < 0.001$ . Individuals who had no sexual partners during adolescence had significantly lower log-odds of entering a cohabiting union versus remaining single compared to individuals who had three or more partners during adolescence. This difference is significantly smaller among men ( $-1.866 + 0.251 = -1.615$ ) than among women ( $-1.866$ ), suggesting that the absence of sexual partners during adolescence is more “protective” against the risk of cohabitation for women than for men.

**Table 15. Gender Differences in Adolescent Sexual Partners and Union Formation Behavior**

	Marriage (Single is reference)		Cohabitation		Cohabitation (Marriage is reference)	
	b	se	b	se	b	se
<b>Categorical Time</b> (age 15-18 ref)						
Age 19-23	1.357 ***	0.19	1.019 ***	0.06	-0.338 ^	0.20
Age 24-28	1.208 ***	0.24	0.851 ***	0.10	-0.357	0.26
Age 29 plus	-0.143 **	0.72	-0.123	0.32	0.020	0.70
<b>Gender</b> (male ref)	-1.361 ***	0.20	-0.701 ***	0.07	0.660 **	0.21
Male, Age 19-23	0.838 ***	0.21	0.306 ***	0.07	-0.532 *	0.22
Male, Age 24-28	1.239 ***	0.23	0.603 ***	0.09	-0.637 *	0.25
Male, Age 29 plus	1.834 ***	0.45	0.463 ^	0.27	-1.371 *	0.52
<b>Number of Sex partners before age 18</b> (3 or more ref)						
No sex partners	-1.383 ***	0.26	-1.866 ***	0.11	-0.482 ^	0.28
One or two sex partners	0.232	0.18	-0.517 ***	0.07	-0.749 ***	0.20
No Sex Partners X Age 19-23	1.270 ***	0.28	0.722 ***	0.12	-0.548 ^	0.31
No Sex Partners X Age 24-28	1.651 ***	0.33	1.025 ***	0.15	-0.626 ^	0.36
No Sex Partners X Age 29 plus	2.347 ***	0.71	1.372 ***	0.36	-0.975	0.71
1-2 Sex Partners X Age 19-23	-0.207	0.22	0.112	0.07	0.319	0.23
1-2 Sex Partners X Age 24-28	0.122	0.26	0.317 **	0.11	0.195	0.26
1-2 Sex Partners X Age 29 plus	0.403	0.58	1.248 ***	0.31	0.845	0.60
Male X No Sex Partners	-0.022	0.14	0.251 **	0.09	0.273 ^	0.15
Constant	-4.554 ***	0.18	-2.408 ***	0.06	2.147 ***	0.19

Note: coeffs are log-odds; results are weighted & use multiply imputed data; ^  $p < 0.10$  \*  $p < 0.05$  \*\*  $p < 0.01$  \*\*\*  $p < 0.001$

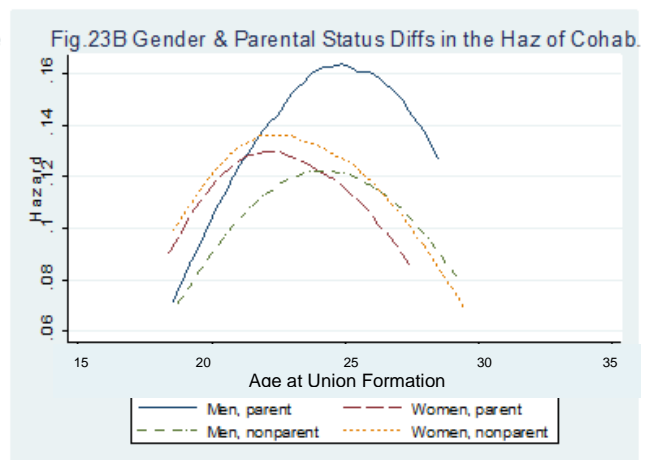
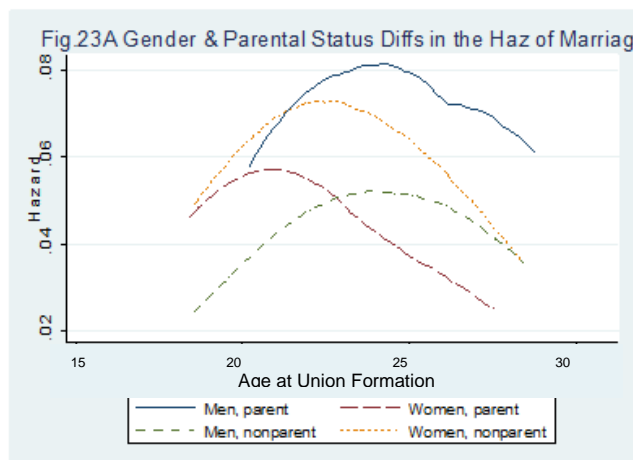


The impact of being a parent on one’s risk of entering into a marriage or cohabitation relative to remaining single is significantly different for men and women (Table 16, Figures 23A & 23B). The inclusion of an interaction term between parental status and gender significantly improves the fit of the model,  $F(2,127) = 11.93$ ,  $p < 0.001$ . While having a child was associated with increased log-odds of entering into a marriage relative to staying single for both men and women, this association was significantly larger for men (women baseline log-odds = 1.640; men baseline log-odds =  $1.640 + 0.753 = 2.393$ ). That is, there is a larger difference in the hazard of entering a marriage directly versus remaining single between male parents and non-parents than between female parents and non-parents. This gender difference in the “parenthood effect” was also present when looking at risk of entering into a cohabiting union. Men who were parents had significantly higher log-odds of entering into a cohabitation versus remaining single compared to men who didn’t have any children (1.70), and this difference was significantly larger than the effect of being a parent was for women (1.262). These results may indicate that men who have children outside of a union are more marketable and more likely to enter into a union than women who have children outside of union.

**Table 16. Gender Differences in Parental Status and Union Formation Behavior**

	Marriage (Single is reference)		Cohabitation		Cohabitation (Marriage is reference)	
	b	se	b	se	b	se
<b>Categorical Time</b> (age 15-18 ref)						
Age 19-23	1.606 ***	0.10	1.062 ***	0.05	-0.544 ***	0.11
Age 24-28	1.812 ***	0.14	1.051 ***	0.09	-0.762 ***	0.14
Age 29 plus	0.937 **	0.32	0.498 *	0.22	-0.440	0.33
<b>Gender</b> (male ref)	-1.354 ***	0.20	-0.589 ***	0.07	0.765 ***	0.21
Male, Age 19-23	0.790 ***	0.19	0.347 ***	0.07	-0.443 *	0.20
Male, Age 24-28	1.140 ***	0.22	0.628 ***	0.10	-0.512 *	0.24
Male, Age 29 plus	1.691 ***	0.42	0.495 ^	0.29	-1.196 *	0.49
<b>Had a child</b>	1.640 ***	0.21	1.262 ***	0.10	-0.378	0.23
Had a child X Age 19-23	-1.552 ***	0.25	-0.701 ***	0.13	0.851 **	0.29
Had a child X Age 24-28	-2.043 ***	0.29	-1.214 ***	0.17	0.829 *	0.35
Had a child X Age 29 plus	-1.449 **	0.51	-1.117 ***	0.33	0.333	0.58
Male X Had a child	0.753 ***	0.21	0.438 ***	0.13	-0.315	0.23
Constant	-4.853 ***	0.11	-3.082 ***	0.06	1.772 ***	0.12

Note: coeffs are log-odds; results are weighted & use multiply imputed data; ^ p < 0.10 \* p < 0.05 \*\* p < 0.01 \*\*\* p < 0.001



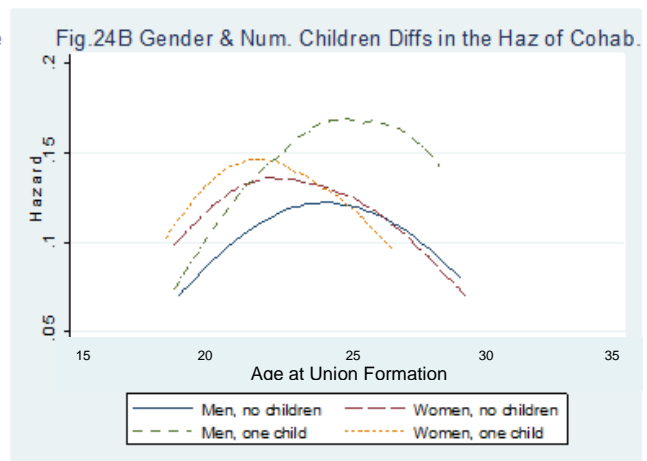
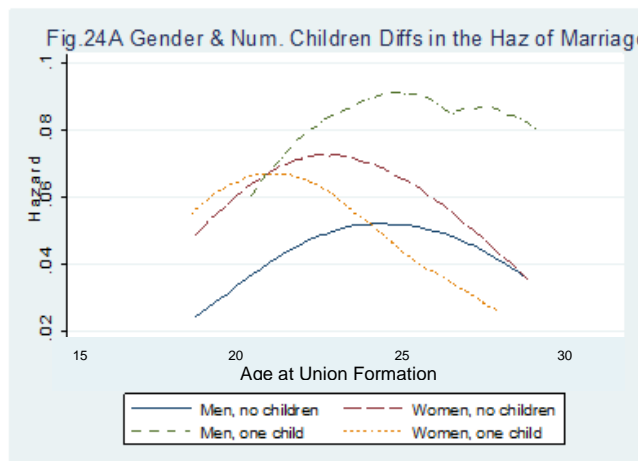
The impact of having one child for the risk of entering into a marriage or cohabitation versus remaining single was also significantly different for men and women (Table 17, Figures 24A & 24B). Tests reveal that the inclusion of an interaction between having one child and gender (but not two plus children and gender) significantly improves the fit of the model,  $F(2,127) = 11.28, p < 0.001$ . While having one child compared to not having any children was associated with significantly higher rates of

entering into a marriage or cohabitation relative to staying single, the association between having one child was significantly stronger for men. That is, while women who had one child were more likely to enter into a marriage (1.557) or a cohabitation (1.257) more quickly relative to remaining single compared to women who didn't have any children, men who had one child had significantly higher log-odds of entering into a marriage ( $1.557 + 0.930 = 2.487$ ) or a cohabitation ( $1.257 + 0.455 = 1.712$ ) rather than remain single. The difference in the hazard of first union formation between men with one child and men without any children is statistically significantly stronger than the difference in the hazard of first union formation between women with one child and women without any children. Finally, men who had one child had marginally lower rates of entering a cohabitation first rather than marry directly compared to men without any children; there is no difference between women without children and women with one child in their overall hazard of cohabiting first.

**Table 17. Gender Differences in Number of Children and Union Formation Behavior**

	Marriage (Single is reference)		Cohabitation		Cohabitation (Marriage is reference)	
	b	se	b	se	b	se
<b>Categorical Time</b> (age 15-18 ref)						
Age 19-23	1.605 ***	0.10	1.059 ***	0.05	-0.545 ***	0.11
Age 24-28	1.817 ***	0.14	1.047 ***	0.09	-0.770 ***	0.14
Age 29 plus	0.909 **	0.31	0.489 *	0.22	-0.420	0.33
<b>Gender</b> (male ref)						
Male, Age 19-23	0.799 ***	0.19	0.353 ***	0.07	-0.446 *	0.20
Male, Age 24-28	1.137 ***	0.22	0.633 ***	0.10	-0.504 *	0.24
Male, Age 29 plus	1.739 ***	0.42	0.508 ^	0.29	-1.230 *	0.49
<b>Number of Children</b> (none ref)						
One child	1.557 ***	0.23	1.257 ***	0.11	-0.300	0.26
Two or more children	2.271 ***	0.54	1.403 ***	0.34	-0.868	0.63
One child X Age 19-23	-1.529 ***	0.28	-0.677 ***	0.13	0.852 **	0.32
One child X Age 24-28	-1.798 ***	0.32	-1.149 ***	0.18	0.630 ^	0.37
One child X Age 29 plus	-1.636 **	0.62	-1.134 **	0.36	0.502	0.68
Two plus X Age 19-23	-1.974 ***	0.59	-0.779 ^	0.41	1.195 ^	0.70
Two plus X Age 24-28	-3.647 ***	0.94	-1.384 ***	0.42	2.264 *	0.98
Two plus X Age 29 plus	-1.427	0.98	-1.064	0.68	0.353	1.12
Male X One child	0.930 ***	0.24	0.455 ***	0.13	-0.475 ^	0.25
Constant	-4.851 ***	0.11	-3.082 ***	0.06	1.769 ***	0.12

Note: coeffs are log-odds; results are weighted & use multiply imputed data; ^ p < 0.10 \* p < 0.05 \*\* p < 0.01 \*\*\* p < 0.001



Finally, the influence of being pregnant, or having a pregnant partner, on the risk of entering a cohabiting union or marriage was significantly different for men and women (Table 18, Figures 25A &

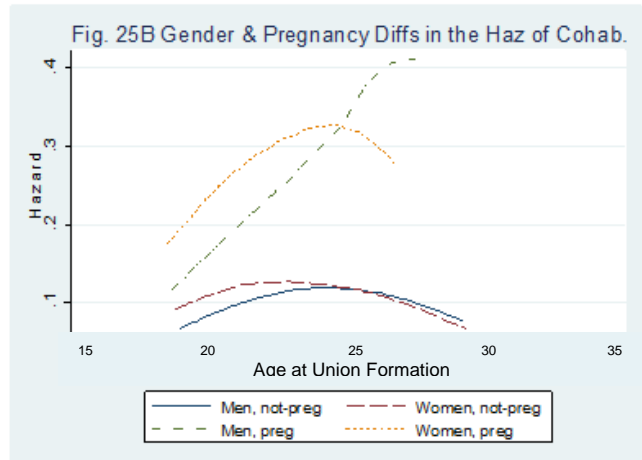
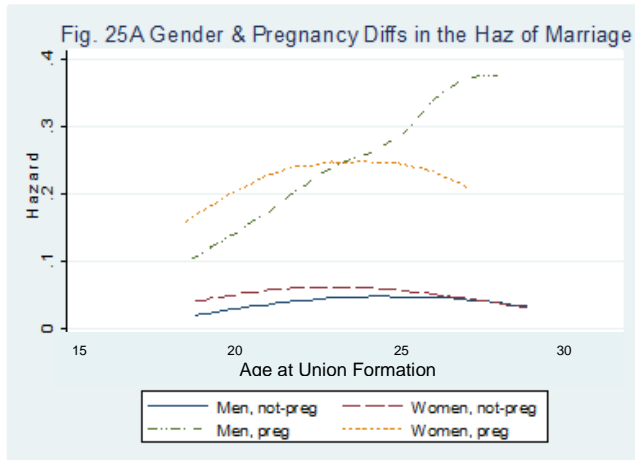
25B). Goodness-of-fit tests suggested that the inclusion of an interaction term between gender and pregnancy significantly improved model fit,  $F(2,127) = 4.26$ ,  $p < 0.05$ . While being pregnant, compared to not being pregnant, was associated with an increased likelihood of entering into either a marriage or a cohabiting union for both men and women, the effect of pregnancy (e.g. having a pregnant partner) on the risk of union formation was significantly larger for men. That is, women who are pregnant are more likely to enter into a union compared to women who are not pregnant, but men who have a pregnant partner are even more likely to enter into a union compared to men who do not have a pregnant partner.<sup>3</sup>

**Table 18. Gender Differences in Pregnancy and Union Formation Behavior**

	Marriage (Single is reference)		Cohabitation		Cohabitation (Marriage is reference)	
	b	se	b	se	b	se
<b>Categorical Time</b> (age 15-18 ref)						
Age 19-23	1.727 ***	0.10	1.102 ***	0.06	-0.625 ***	0.11
Age 24-28	1.936 ***	0.14	1.057 ***	0.09	-0.879 ***	0.14
Age 29 plus	1.129 **	0.33	0.533 *	0.21	-0.596 ^	0.33
<b>Gender</b> (male ref)						
Male, Age 19-23	-1.353 ***	0.20	-0.596 ***	0.07	0.757 ***	0.21
Male, Age 24-28	0.804 ***	0.20	0.350 ***	0.07	-0.454 *	0.21
Male, Age 29 plus	1.185 ***	0.23	0.651 ***	0.09	-0.534 *	0.24
Male, Age 29 plus	1.734 ***	0.41	0.521 ^	0.29	-1.213 *	0.49
<b>Pregnant</b>						
Pregnant X Age 19-23	2.557 ***	0.18	1.566 ***	0.11	-0.992 ***	0.19
Pregnant X Age 24-28	1.380 ***	0.22	-0.665 ***	0.14	0.715 **	0.23
Pregnant X Age 29 plus	-1.563 ***	0.30	-0.509 *	0.20	1.054 ***	0.31
Pregnant X Age 29 plus	1.256 ^	0.71	-0.567	0.57	0.689	0.76
Male X Pregnant	0.653 ***	0.17	0.453 ***	0.11	-0.201	0.19
Constant	-5.056 ***	0.12	-3.121 ***	0.06	1.935 ***	0.12

Note: coeffs are log-odds; results are weighted & use multiply imputed data; ^  $p < 0.10$  \*  $p < 0.05$  \*\*  $p < 0.01$  \*\*\*  $p < 0.001$

<sup>3</sup> It is important to note here that this effect may, in part, reflect gender differences in the reporting of pregnancies and births, with men who under-report pregnancies perhaps also less likely to enter into unions with the women whom they impregnate. I return to this point in the limitations section.



### Race Differences in Union Formation Behavior

Results confirm prior research which points to the substantial racial and ethnic variation in union formation behavior (see Table 4). The current thesis also examined whether there was racial variation in the association between family and sociodemographic factors and union formation behavior. Tests for moderation by race/ethnicity were conducted using a series of interaction terms, with those that significantly improved the fit of the model discussed below. Wald tests for the sum of coefficients were also performed to assess the impact of predictors by racial group. Results indicate that there was significant racial variation in the impact of childbearing behavior on union formation behavior. Hazards are graphed in Figures 26-28 to facilitate model interpretation.

Results suggest that the childbearing experiences of Whites were uniquely associated with their risk of union formation and the type of union they were at risk of entering into first (Table 19 & Figures 26A & 26B). The inclusion of an interaction term between being White and parental status significantly improves the fit of the model,  $F(2,127) = 9.74, p < 0.001$ , but including any other race by parental status interactions does not significantly improve model fit. Individuals who were parents, who had a child, had significantly higher log-odds of entering into marriage rather than remain single, compared to non-parents, and this difference was larger among whites (baseline, age 15-18,  $1.713 + 0.824 = 2.537$ ; Table 19). Additionally, Wald tests of the sum of coefficients indicate that whites with children continued to be

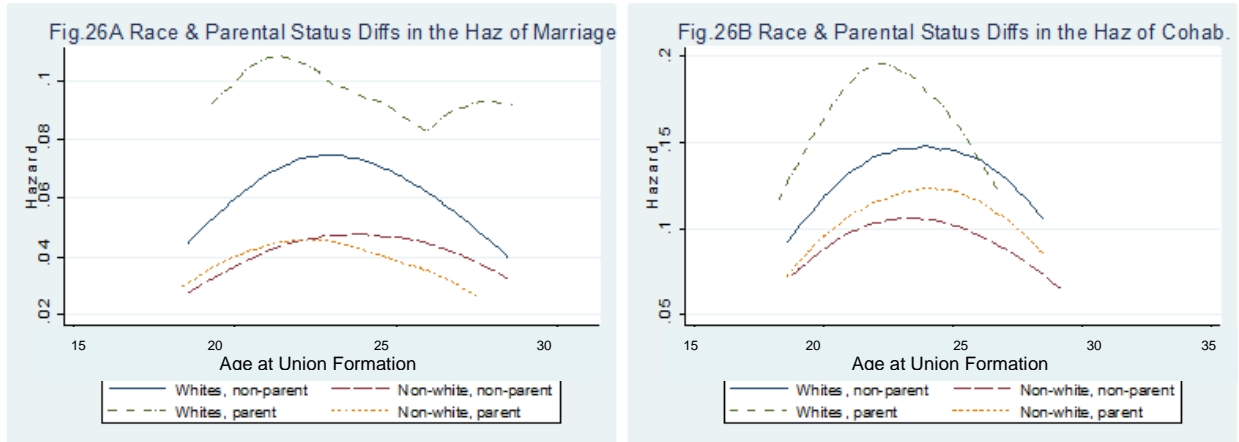


more likely to marry at all ages compared to Whites without children, while the positive association between having a child and entering a marriage converges as people age among non-Whites. This model suggests that while whites are more likely to marry compared to blacks (but not compared to Hispanics or other racial groups) and individuals who have a child are more likely to marry compared to individuals without children, Whites with a child are even more likely to marry than whites without children. These results highlight that non-coresidential childbearing is much more likely to lead to union formation among Whites than non-Whites.

**Table 19. Race Differences in Parental Status and Union Formation Behavior**

	Marriage (Single is reference)		Cohabitation (Single is reference)		Cohabitation (Marriage is reference)	
	b	se	b	se	b	se
<b>Categorical Time</b> (age 15-18 ref)						
Age 19-23	1.805 ***	0.10	1.196 ***	0.05	-0.610 ***	0.10
Age 24-28	2.177 ***	0.11	1.353 ***	0.07	-0.824 ***	0.12
Age 29 plus	1.678 ***	0.25	0.747 ***	0.16	-0.931 **	0.30
<b>Race</b> (black ref)						
White	0.912 ***	0.11	0.283 ***	0.07	-0.629 ***	0.13
Hispanic	1.087 ***	0.16	0.010	0.09	-1.078 ***	0.18
Other Race	0.898 ***	0.20	-0.215	0.15	-1.113 ***	0.28
<b>Had a child</b>	1.713 ***	0.24	1.500 ***	0.11	-0.213	0.27
Had a child X Age 19-23	-1.463 ***	0.25	-0.699 ***	0.12	0.763 **	0.28
Had a child X Age 24-28	-1.786 ***	0.27	-1.234 ***	0.17	0.552 ^	0.33
Had a child X Age 29 plus	-0.941 ^	0.50	-1.066 **	0.32	-0.125	0.57
White X Had a child	0.824 ***	0.19	0.161	0.11	-0.663 **	0.21
Constant	-6.179 ***	0.12	-3.541 ***	0.09	2.639 ***	0.15

Note: coeffs are log-odds; results are weighted & use multiply imputed data; ^ p < 0.10 \* p < 0.05 \*\* p < 0.01 \*\*\* p < 0.001



Furthermore, Table 19 also indicates that having a child is associated with the likelihood of cohabiting first or marrying directly for Whites at all ages, with Whites with children less likely to cohabit first compared to Whites without children at all ages, including adolescence ( $-0.213 + -0.663 = -0.876$ ), the early adult years ( $-0.213 + 0.763 + -0.663 = -0.113$ ), the mid-twenties ( $-0.213 + 0.552 + -0.663 = -0.324$ ), and the late-twenties/early thirties ( $-0.213 + -0.125 + -0.663 = -1.001$ ). Wald tests of the sum of coefficients indicated that there was no association, however, between having a child and type of first union among non-Whites at all ages. In general this model suggests that Whites were less likely to cohabit first if they had a child than Whites who do not have a child; whereas there was no association between parental status and cohabiting first or marrying directly among non-Whites.

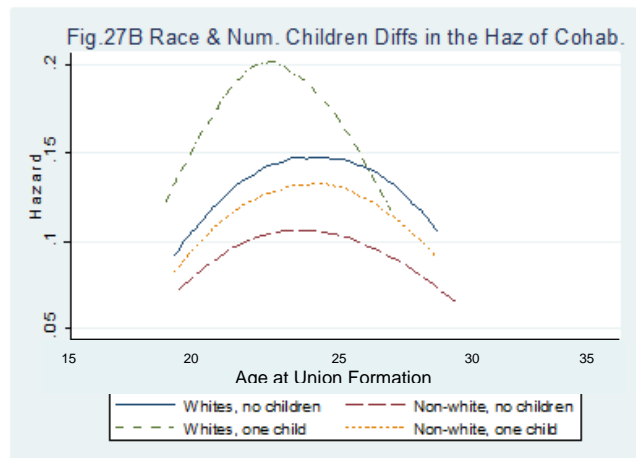
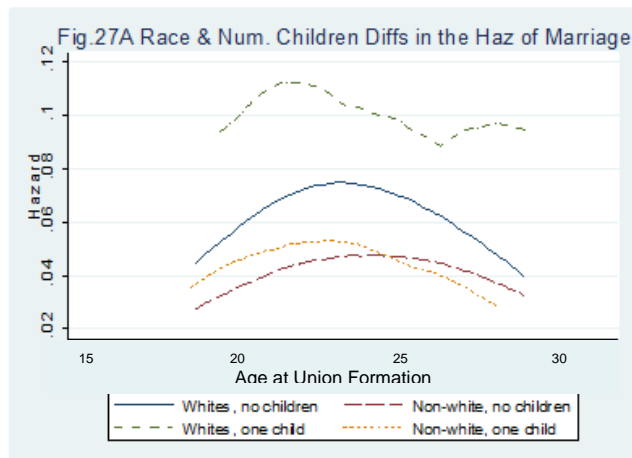
Results presented in Table 20 and Figures 27A & 27B indicate that the influence of having one child versus having no child on union formation behavior is significantly different for Whites than for non-Whites. Tests suggested that the inclusion of the interaction term for being White and having one child significantly improved model fit,  $F(2,127) = 9.55, p < 0.001$ , but that interactions between other racial groups and having one child or interactions between any racial group and having two or more children did not improve model fit. These results follow a similar pattern to those presented in Table 19, and highlight that there is an increased risk among Whites with one child of entering into marriage versus remaining single and entering into marriage directly versus cohabiting first compared to Whites who don't have any children. The higher log-odds of entering marriage associated with having one child

versus no children was greater among Whites than it was among non-Whites, but the pattern of union formation risk associated with having two or more children was similar across races.

**Table 20. Race Differences in Number of Children and Union Formation Behavior**

	Marriage (Single is reference)		Cohabitation		Cohabitation (Marriage is reference)	
	b	se	b	se	b	se
<b>Categorical Time</b> (age 15-18 ref)						
Age 19-23	1.805 ***	0.10	1.196 ***	0.05	-0.610 ***	0.10
Age 24-28	2.177 ***	0.11	1.353 ***	0.07	-0.824 ***	0.12
Age 29 plus	1.679 ***	0.25	0.748 ***	0.16	-0.931 **	0.30
<b>Race</b> (black ref)						
White	0.922 ***	0.11	0.291 ***	0.07	-0.631 ***	0.13
Hispanic	1.093 ***	0.16	0.012	0.09	-1.081 ***	0.18
Other Race	0.905 ***	0.20	-0.210	0.15	-1.115 ***	0.28
<b>Number of Children</b> (none ref)						
One Child	1.571 ***	0.26	1.522 ***	0.11	-0.049	0.29
Two or more children	2.751 ***	0.59	1.629 ***	0.36	-1.121 ^	0.65
One child X Age 19-23	-1.440 ***	0.28	-0.687 ***	0.13	0.753 *	0.32
One child X Age 24-28	-1.529 ***	0.29	-1.175 ***	0.17	0.354	0.34
One child X Age 29 plus	-1.059 ^	0.59	-1.090 **	0.34	-0.031	0.65
Two plus X Age 19-23	-1.959 **	0.62	-0.821 ^	0.43	1.138	0.71
Two plus X Age 24-28	-3.496 ***	0.97	-1.479 ***	0.43	2.017 *	0.99
Two plus X Age 29 plus	-1.337	0.96	-1.136 ^	0.67	0.201	1.12
White X One Child	0.922 ***	0.21	0.104	0.10	-0.819 ***	0.23
Constant	-6.187 ***	0.12	-3.547 ***	0.09	2.640 ***	0.15

Note: coeffs are log-odds; results are weighted & use multiply imputed data; ^ p < 0.10 \* p < 0.05 \*\* p < 0.01 \*\*\* p < 0.001

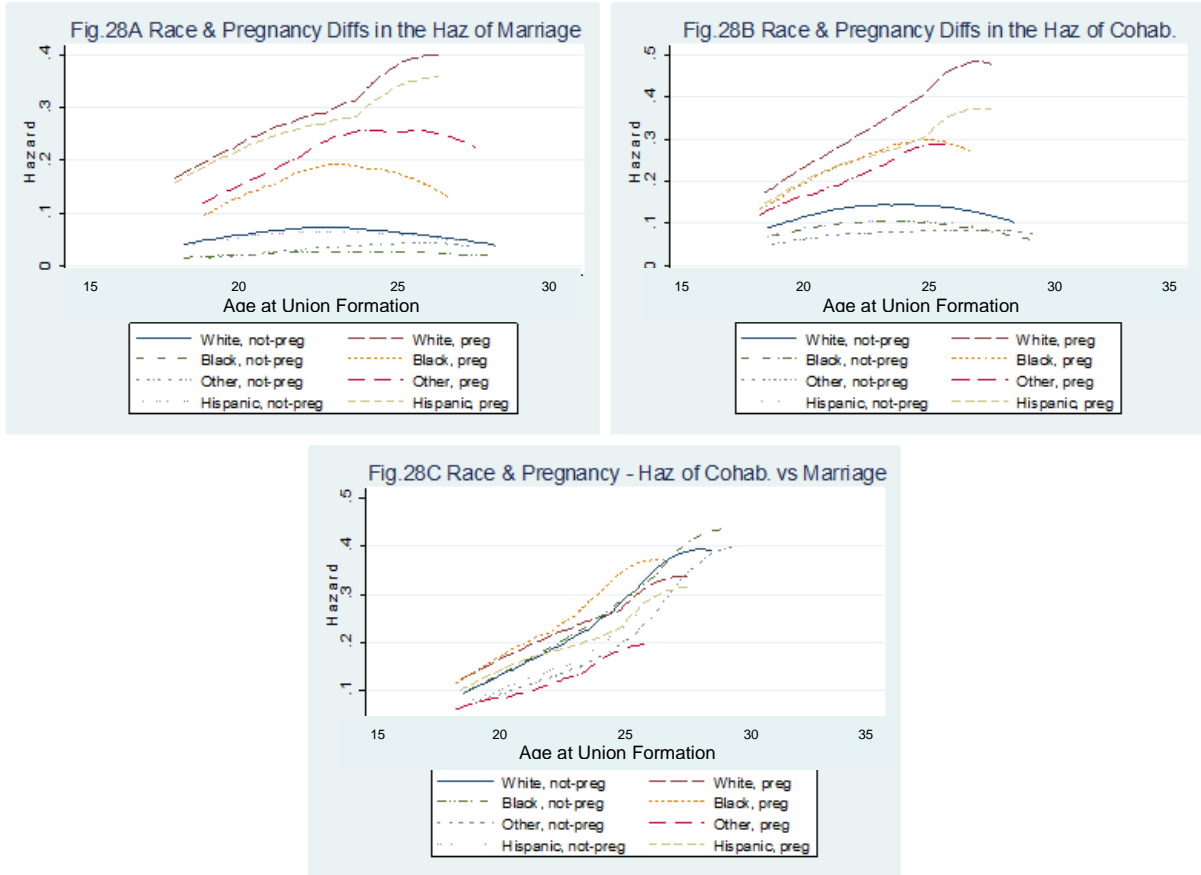


Finally, the results presented in Table 21 indicate that pregnancy is associated with union formation behavior in significantly different ways by race and ethnicity (see also, Figures 28A-28C). Tests suggest that the inclusion of interaction terms between each race group and pregnancy significantly improves the fit of the model,  $F(6,123) = 14.28$ ,  $p < 0.001$ . In general results from Table 21 indicate that each racial group, Whites, Hispanics, and others, were more likely to enter into a union, a marriage or cohabitation, when they were pregnant compared to Blacks. While individuals of all races had higher log-odds of entering into a marriage or a cohabitation rather than remain single when they or their partner was pregnant, the association between pregnancy and risk of union formation was significantly stronger for Whites, Hispanics, and individuals from other racial groups. For example, Blacks who are pregnant during adolescence had significantly higher log-odds of marrying (1.589) or cohabiting (1.143) rather than remain single compared to Blacks who were not pregnant. Among the other racial groups this effect was significantly larger, with pregnant whites more likely to marry ( $1.589 + 1.642 = 3.231$ ) or cohabit ( $1.143 + 0.931 = 2.074$ ) compared to non-pregnant whites, pregnant Hispanics more likely to marry ( $1.589 + 1.370 = 2.959$ ) or cohabit ( $1.143 + 0.987 = 2.130$ ) compared to non-pregnant Hispanics, and pregnant individuals of other racial groups more likely to marry ( $1.859 + 2.588 = 4.177$ ) or cohabit ( $1.143 + 1.188 = 2.331$ ) compared to their non-pregnant counterparts. Additionally, while interactions with time suggest that the association between pregnancy and the hazard of entering into a first union was reduced as people aged, Wald tests of the sum of coefficients indicated that Whites, Hispanics and individuals from other racial groups continued to have significantly higher hazards of union formation when they were pregnant compared to Blacks.

**Table 21. Race Differences in Pregnancy and Union Formation Behavior**

	Marriage (Single is reference)		Cohabitation		Cohabitation (Marriage is reference)	
	b	se	b	se	b	se
<b>Categorical Time</b> (age 15-18 ref)						
Age 19-23	1.942 ***	0.10	1.239 ***	0.05	-0.703 ***	0.10
Age 24-28	2.351 ***	0.12	1.375 ***	0.07	-0.976 ***	0.13
Age 29 plus	1.931 ***	0.25	0.797 ***	0.15	-1.134 ***	0.29
<b>Race</b> (black ref)						
White	0.862 ***	0.11	0.184 **	0.07	-0.677 ***	0.14
Hispanic	0.959 ***	0.18	-0.118	0.10	-1.077 ***	0.21
Other Race	0.685 **	0.22	-0.335 *	0.15	-1.021 ***	0.30
<b>Pregnant</b>	1.589 ***	0.28	1.143 ***	0.14	-0.446	0.28
Pregnant, Age 19-23	-1.219 ***	0.21	-0.569 ***	0.14	0.651 **	0.23
Pregnant, Age 24-28	-1.204 ***	0.29	-0.302	0.19	0.902 **	0.31
Pregnant, Age 29 plus	-0.705	0.69	-0.239	0.55	0.466	0.76
White X Pregnant	1.642 ***	0.26	0.931 ***	0.12	-0.711 **	0.26
Hispanic X Pregnant	1.370 ***	0.30	0.987 ***	0.21	-0.383	0.30
Other Race X Pregnant	2.588 ***	0.44	1.188 ***	0.28	-1.400 ***	0.43
Constant	-6.315 ***	0.13	-3.493 ***	0.90	2.822 ***	0.16

Note: coeffs are log-odds; results are weighted & use multiply imputed data; ^ p < 0.10 \* p < 0.05 \*\* p < 0.01 \*\*\* p < 0.001



The final column of Table 21 also suggests the role pregnancy plays in the likelihood of entering into a cohabiting union first or a marriage directly varies by race (see Figure 28C). Both Whites ( $-0.446 + -0.711 = -1.157$ ) and individuals from other racial groups ( $-0.446 + -1.400 = -1.846$ ) have significantly lower log-odds of cohabiting first versus marrying directly when they are pregnant in adolescence compared to their non-pregnant peers; there is no significant effect of pregnancy during adolescence on the type of first union for Blacks or Hispanics. This gap in the risk of first union type by pregnancy status was reduced at older ages with Whites ( $-0.446 + 0.651 + -0.711 = -0.506$ ) and individuals of other races ( $-0.446 + 0.651 + -1.400 = -1.195$ ) less likely to cohabit first if they were pregnant in early adulthood than if they were not pregnant. Blacks and Hispanics, however, were more likely to cohabit first than marry directly if they were pregnant in their early adult years ( $-0.446 + 0.651 = 0.205$ ). By the mid-twenties the “pregnancy effect” is reduced, with Whites ( $-0.446 + 0.902 + -0.711 = -0.255$ ) and individuals in the other racial group ( $-0.446 + 0.902 + -1.400 = -0.944$ ) less likely to cohabit first if they were pregnant. On

the other hand, Blacks ( $-0.446 + 0.902 = 0.456$ ) and Hispanics ( $-0.446 + 0.902 = 0.456$ ) were still more likely to cohabit first if they were pregnant in their mid-twenties. In their late-twenties/early thirties Whites ( $-0.466 + -0.711 = -1.157$ ) and individuals of other races ( $-0.446 + -1.400 = -1.846$ ) continued to be less likely to cohabit first when pregnant, with no evidence of difference in cohabiting first or marrying directly by pregnancy status among Blacks or Hispanics. In general, this indicates that Whites and individuals from other racial groups were more likely to marry directly when they were pregnant, while Hispanics and Blacks were more likely to cohabit first when they were pregnant.

### **Multivariate Models of Union Formation Behavior**

Multivariate analyses help shed light on how family experiences and sociodemographic factors are related to whether, when, and what type of first union individuals enter into between adolescence and young adulthood. The final multivariate models are presented in Table 22. This table shows multinomial logistic regression models predicting union formation among singles. These models show the log-odds coefficients and odds ratios for all variables on the competing risks of forming a marriage versus remaining single (column 1), forming a cohabitation versus remaining single (column 2), and forming a cohabitation first versus marrying directly (column 3). Given the high correlation between parental status and number of children, which precludes the inclusion of both constructs in the same model, and the similar pattern of findings, only the model looking at number of children is presented and discussed.

**Table 22. Multivariate Model of Union Formation Behavior**

	<b>Marriage</b> (Remaining Single is reference)		<b>Cohabitation</b>		<b>Cohabitation</b> (Marriage is reference)	
	b	OR	b	OR	b	OR
<b>Categorical Time</b> (age 15-18 ref)						
Age 19-23	1.282 ***	3.60	0.587 ***	1.80	-0.696 *	0.50
Age 24-28	0.767 ^	2.15	0.087	1.09	-0.680	0.51
Age 29 plus	-0.971	0.38	-0.831 ^	0.44	0.140	1.15
<b>Gender</b> (male=1)						
Male, Age 19-23	1.023 ***	2.78	0.504 ***	1.66	-0.519 ^	0.60
Male, Age 24-28	1.487 ***	4.42	0.841 ***	2.32	-0.646 *	0.52
Male, Age 29 plus	1.995 ***	7.35	0.681 *	1.98	-1.313 *	0.27
<b>Race</b> (black ref)						
White	0.758 ***	2.13	0.441 ***	1.55	-0.317 *	0.73
Hispanic	0.818 ***	2.27	0.062	1.06	-0.755 ***	0.47
Other Race	0.588 **	1.80	0.071	1.07	-0.517 ^	0.60
<b>Parental Education</b> (less than HS ref)						
High School	-0.179	0.84	-0.431 ***	0.65	-0.252 *	0.78
Some College	-0.377	0.69	-0.548 ***	0.58	-0.171 **	0.84
Bachelor's	-1.071 ***	0.34	-1.060 ***	0.35	0.011	1.01
High School, Age 19-23	-0.304	0.74	0.311 **	1.36	0.614 ^	1.85
High School, Age 24-28	-0.138	0.87	0.757 ***	2.13	0.896	2.45
High School, Age 29 plus	0.046	1.05	0.675	1.96	0.629	1.88
Some College, Age 19-23	-0.192	0.83	0.343 **	1.41	0.535	1.71
Some College, Age 24-28	0.326	1.38	0.783 ***	2.19	0.457	1.58
Some College, Age 29 plus	0.457	1.58	1.094 *	2.99	0.637	1.89
Bachelor's, Age 19-23	0.235	1.27	0.690 ***	1.99	0.455	1.58
Bachelor's, Age 24-28	0.831 *	2.30	1.321 ***	3.75	0.490	1.63
Bachelor's, Age 29 plus	0.924	2.52	1.128 **	3.09	0.204	1.23
<b>Family Structure</b>						
(Bio parents, low-distress ref)						
Bio Parents, high distress	0.041	1.04	0.014	1.01	-0.028	0.97
Step parents, low distress	0.257 ^	1.29	0.318 ***	1.37	0.062	1.06
Step parents, high distress	0.208	1.23	0.378 *	1.46	0.171	1.19
Single Parent	-0.039	0.96	0.265 ***	1.30	0.303 *	1.35
Other Family Form	0.093	1.10	0.522 ***	1.69	0.429	1.54
Male X Bio Parents, high distress	-0.471 ^	0.62	-0.043	0.96	0.428	1.53
Male X Step parents, low distress	-0.323 ^	0.72	-0.169 ^	0.84	0.154	1.17
Male X Step parents, high distress	-0.075	0.93	-0.215	0.81	-0.140	0.87
Male X Single Parent	-0.078	0.92	-0.109	0.90	-0.030	0.97
Male X Other Family Form	-0.032	0.97	-0.477 ***	0.62	-0.445	0.64
<b>Low Family Belonging</b>						
Low Belonging, Age 19-23	0.076	1.08	0.272 ***	1.31	0.196	1.22
Low Belonging, Age 24-28	-0.300	0.74	-0.073	0.93	0.227	1.26
Low Belonging, Age 29 plus	-0.662 *	0.52	-0.199	0.82	0.463	1.59
Low Belonging, Age 29 plus	0.567	1.76	-0.738 *	0.48	-1.305 ^	0.27
<b>Parental Cohabitation</b>						
	-0.361 *	0.70	0.123 ^	1.13	0.484 ***	1.62



<b>Number of Mother's Prior Relationships</b>						
(one or fewer is ref)						
Two relationships	0.036	1.04	0.049	1.05	0.013	1.01
Three or more relationships	0.054	1.06	0.281 *	1.32	0.227	1.26
Three or more, Age 19-23	0.061	1.06	-0.109	0.90	-0.170	0.84
Three or more, Age 24-28	0.024	1.02	-0.427 *	0.65	-0.451	0.64
Three or more, Age 29 plus	-1.570	0.21	-0.439	0.64	1.131	3.10
<b>Number of Sexual Partners before age 18 (three plus ref)</b>						
None	-1.038 ***	0.35	-1.581 ***	0.21	-0.544 ^	0.58
One or two	0.347 ^	1.42	-0.402 ***	0.67	-0.749 ***	0.47
No Sex Partners, Age 19-23	0.901 **	2.46	0.599 ***	1.82	-0.302	0.74
No Sex Partners, Age 24-28	1.168 ***	3.22	0.821 ***	2.27	-0.347	0.71
No Sex Partners, Age 29 plus	2.102 **	8.18	1.230 ***	3.42	-0.871	0.42
1-2 Sex Partners, Age 19-23	-0.312	0.73	0.079	1.08	0.391	1.48
1-2 Sex Partners, Age 24-28	-0.094	0.91	0.225 *	1.25	0.320	1.38
1-2 Sex Partners, Age 29 plus	0.488	1.63	1.266 ***	3.55	0.778	2.18
Male X No sex partners	0.035	1.04	0.213 *	1.24	0.178	1.19
<b>Educational Attainment</b>						
(less than high school ref)						
High School	0.793 ***	2.21	0.440 ***	1.55	-0.353 *	0.70
Associates/Vocational Degree	0.536 ***	1.71	0.015	1.02	-0.520 ***	0.59
Bachelor's Degree	0.517 ***	1.68	0.088	1.09	-0.429 ***	0.65
Male X High School	-0.453 ^	0.64	-0.437 ***	0.65	0.017	1.02
Male X Bachelor's	-0.150	0.86	-0.231 *	0.79	-0.082	0.92
<b>Pregnant</b>	1.101 ***	3.01	0.477 **	1.61	-0.624 *	0.54
Pregnant, Age 19-23	-0.865 ***	0.42	-0.328 *	0.72	0.537 *	1.71
Pregnant, Age 24-28	-0.762 *	0.47	0.061	1.06	0.822 *	2.28
Pregnant, Age 29 plus	-0.252	0.78	0.259	1.30	0.510	1.67
Male X Pregnant	0.259	1.30	0.312 *	1.37	0.053	1.05
White X Pregnant	1.517 ***	4.56	0.911 ***	2.49	-0.606 *	0.55
Hispanic X Pregnant	1.390 ***	4.01	0.920 ***	2.51	-0.469	0.63
Other Race X Pregnant	2.781 ***	16.14	1.029 ***	2.80	-1.752 ***	0.17
<b>Number of children (none ref)</b>						
One child	-0.452 *	0.64	0.271 ***	1.31	0.724 **	2.06
Two or more children	0.189	1.21	0.084	1.09	-0.105	0.90
Male X One Child	0.728 **	2.07	0.288 ^	1.33	-0.440	0.64
White X One Child	0.590 *	1.80	-0.217 *	0.80	-0.807 **	0.45
Constant	-5.564 ***	0.00	-2.867	0.06	2.697 ***	14.84

Note: results are weighted, adjust for clustering, & based on multiply imputed data;

^ p < 0.10 \* p < 0.05 \*\* p < 0.01 \*\*\* p < 0.001

Several demographic factors were related to first union formation, following the findings from simple models. Men were less likely to marry than women during adolescence, but in early adulthood and the mid-twenties this difference declines, with similar likelihood of marriage among men and women.

By the late-twenties/early-thirties men had significantly higher odds of entering a marriage versus remaining single compared to women. During adolescence men were less likely to cohabit rather than remain single compared to women. This difference converges as people age, and by the late-twenties/early-thirties men had significantly higher odds of cohabiting compared to women. Finally, men were less likely to cohabit first rather than marry directly compared to women during adolescence. By early adulthood and the mid-twenties this difference converged, with similar likelihoods of entering either union first among men and women. By the late-twenties and early-thirties the initial trend is reversed, with men were more likely to cohabit first rather than marry directly compared to women. Compared to Blacks, Whites had 113% higher odds of marrying versus remaining single, Hispanics had 127% higher odds, and individuals from other racial groups had 80% higher odds of marrying versus remaining single. Whites had 55% higher odds of entering a cohabiting union rather than remaining single compared to Blacks. Finally, of all the other racial groups Blacks were the most likely to cohabit first rather than marry directly; whites had 27% lower odds of cohabiting first and Hispanics had 53% lower odds of cohabiting first rather than marrying directly compared to Blacks.

Level of parental education was also associated with the first union formation of offspring. The inclusion of interactions with time indicated that parental education plays a different role for the risk of offspring entering a union at different ages of the offspring. Individuals whose parent had a Bachelor's degree or more education had a lower likelihood of marrying directly versus remaining single compared to individuals whose parent had less than a high school education, with 66% lower odds of marrying. This association was reduced by the mid-twenties, however, with no significant difference in the odds of entering a marriage versus remaining single among individuals whose parent had less than a high school education and those whose parent had a Bachelor's degree.

Youth whose parent had less than a high school education were significantly more likely to enter a cohabiting union during adolescence compared to individuals whose parent had more education. These differences are reduced in the early adult years; individuals whose parent had a high school education had

11% lower odds of entering a cohabiting union, individuals whose parent had some college education had 19% lower odds of cohabiting, and individuals whose parent had a Bachelor's degree had 30% lower odds of entering a cohabiting union versus remaining single compared to those individuals whose parents had less than a high school education. By the mid-twenties this trend converges, and individuals whose parent had more education were no different from those who had less than a high school education in terms of their likelihood of entering a cohabiting union. Finally, differences in the likelihood of entering a cohabitation first or a marriage directly by parental education appear to be quite stable across offspring age. Individuals whose parent had a high school degree or some college education had significantly lower odds of cohabiting first versus marrying directly compared to those individuals whose parent had less than a high school education. In general these results suggest that early cohabitation is more common among individuals from lower socioeconomic backgrounds, but at older ages more and more individuals enter into cohabiting unions, regardless of their background.

Multivariate models indicate that family structure and parental marital quality were associated with the approaches offspring take to entering their first coresidential union. Mediation analyses (not shown) also shed light on the ways in which family structure influences offspring union formation behavior. In the simple model (Table 4), individuals who came from a single parent family had significantly lower log-odds of marrying versus staying single compared to individuals who were in a low-distress intact family during adolescence. However, when controlling for parental cohabitation and educational attainment this coefficient was significantly reduced, by more than 20%. That is, individuals from single parent families were less likely to marry compared to their peers from low-distress intact families in part because they were more likely to have been exposed to parental cohabitation and more likely to have had low educational attainment. In multivariate models this difference was no longer significant.

The family structure and parental marital quality experiences of offspring during adolescence were also associated with their risk of entering into a cohabiting union versus remaining single (Column

2, Table 22). Compared to youth who grew up in a low-distress, intact family form, individuals who came from a low-distress stepfamily had 37% higher odds of cohabiting, individuals from high-distress stepfamilies had 46% higher odds of cohabiting, individuals from single parent families had 30% higher odds of cohabiting, and individuals from other family forms had 69% higher odds of entering into a cohabiting union versus remaining single. Mediation analyses suggest that these family structure differences in cohabitation risk were partially attributable to exposure to family structure instability and sexual behavior in adolescence; family structure differences are significantly reduced (by 20% or more) when controlling for the respondents' mother's number of romantic partners as well as the number of respondents' sexual partners before age 18. That is, a large part of the reason why individuals from stepfamilies, single parent families, and other family forms had a higher risk of entering a cohabiting union was because they were all more likely to have been exposed to multiple maternal romantic partners and more likely to have had several sexual partners in adolescence rather than no sexual partners.

Finally, the third column of Table 22 indicates that family structure is significantly associated with the likelihood that offspring enter into a cohabiting union first or a marriage directly. When comparing this model to the simple model in Table 4 we see that several observed family structure differences are no longer significant in multivariate models. Mediation analyses reveal that other family factors help to account for these initial family structure differences, namely exposure to multiple maternal romantic relationships and exposure to parental cohabitation. All family structure differences were significantly reduced when controlling for parental cohabitation; a large reason why individuals from stepfamilies, single parent families, and other family forms were more likely to cohabit first was because they were more likely to have been exposed to a parent cohabiting themselves. The higher likelihood that individuals from low-distress and high-distress stepfamilies had of cohabiting first rather than marrying directly was significantly mediated by the number of mother's prior relationships. That is, part of the reason why individuals who were in a stepfamily in adolescence were more likely to cohabit first was because they were more likely to have been exposed to multiple maternal romantic relationships. In the

final multivariate model (Table 22) most of these family structure differences are no longer statistically significant. The one exception, individuals who were in a single parent family in adolescence had 35% higher odds of cohabiting first rather than marrying directly compared to individuals who were in a low-distress intact family in adolescence.

In this multivariate model there are few gender differences in the association between family structure and union formation behavior. Men from high-distress intact families, but not women, have marginally lower odds of marrying versus remaining single compared to men from low-distress intact families. Women who grew up in other family forms also had significantly higher odds of entering a cohabiting union compared to women from low-distress intact families, while this difference was significantly smaller among men.

Multivariate results indicate that a number of other dimensions of the adolescent family environment are significantly associated with later union formation behavior. Individuals who reported low levels of family belonging in adolescence had 44% lower odds of marrying in their mid-twenties versus remaining single compared to individuals who had average-to-high levels of family belonging. Results also suggest that individuals who reported a low level family belonging in adolescence had significantly higher odds of cohabiting in adolescence, early adulthood, and their mid-twenties rather than remaining single. This difference converges over time, and by the late-twenties and early thirties there was no significant difference in the odds of cohabiting by level of adolescent family belonging. Individuals who had a parent cohabit had significantly lower odds of marrying directly versus remaining single (30% lower odds) compared to individuals who were not exposed to a parental cohabitation; they were also marginally more likely to cohabit versus remain single. Respondents who had a parent who cohabited at some point while they were growing up had 62% higher odds of cohabiting first rather than marrying directly compared to individuals who did not have a parent cohabit themselves. Finally, exposure to family instability, in the form of the number of mother's romantic relationships individuals were exposed to, was significantly associated with cohabitation behavior. Individuals whose mother had

three or more romantic relationships had 32% higher odds of entering a cohabiting union in adolescence and early adulthood versus staying single compared to individuals whose mother only had one relationship. Over time this trend converged, and by the mid-twenties there was no longer a significant difference in the odds of cohabiting by maternal relationship history.

Sexual behavior in adolescence was also associated with union formation experiences. Individuals who had no sexual partners in adolescence had 65% lower odds of marrying versus remaining single in adolescence and 79% lower odds of cohabiting versus remaining single compared to individuals who had three or more sexual partners during that time. Individuals who had one or two sexual partners in adolescence had 33% lower odds of cohabiting versus remaining single during adolescence compared to individuals who had three or more sexual partners in adolescence, but were marginally more likely to marry during adolescence. Over time these differences are reduced and begin to converge. In early adulthood, compared to individuals who had three or more sexual partners, individuals who had no sexual partners during adolescence were less likely to marry and less likely to cohabit. But by their mid-twenties and late-twenties/early-thirties individuals who had no sexual partners while in adolescence were more likely to marry versus remain single compared to those individuals who had three or more partners. During these time-periods individuals with no adolescent sexual partners were still less likely to cohabit versus remain single compared to individuals who had three or more sexual partners, but this difference is significantly reduced. Individuals who had one or two sexual partners during adolescence were less likely to cohabit in early adulthood compared to individuals who had three or more partners, but at older ages this difference converged so that there were no differences in the likelihood of cohabiting. Finally, respondents who had one or two sexual partners during adolescence had significantly lower odds of entering a cohabiting union first rather than marry directly compared to individuals who had three or more sexual partners during adolescence.

The association between adolescent sexual behavior and risk of entering into a cohabiting union also varied significantly by gender (Table 22, Column 2). Specifically, while individuals who had no

sexual partners during adolescence had significantly lower odds of cohabiting compared to those who had three or more sexual partners, this difference is significantly smaller among men (OR in adolescence = 0.25) than among women (OR in adolescence = 0.21). This finding suggests that the sexual behavior of women during their formative years may be more strongly tied to their risk of entering into cohabiting unions, particularly at younger ages.

An individual's educational attainment is also an important predictor of their first union formation behavior. But the influence of educational attainment on cohabitation behavior varied across gender. Individuals who never completed high school had significantly lower odds of entering into a marriage directly rather than remaining single compared to people who had more education; individuals with a high school degree had 121% higher odds of marrying, individuals with an Associates or vocational degree had 71% higher odds of marrying, and individuals with a Bachelor's degree had 68% higher odds of marrying versus remaining single. Individuals who had a high school degree also had significantly higher odds of cohabiting compared to those who did not finish high school. This difference, however, was only significant among women, where having a high school degree was associated with 52% higher odds of cohabiting; the difference between men was much smaller (3%) and only marginally significant ( $p < 0.10$ ). Men with a Bachelor's degree were also significantly less likely to cohabit versus remain single compared to men without a high school degree (13% lower odds), while no similar difference was evident among women. Individuals who never completed high school had a significantly higher likelihood of cohabiting first rather than marrying directly compared to individuals with more education; individuals with a high school degree had 30% lower odds of cohabiting first, individuals with an Associate's degree or vocational degree had 41% lower odds of cohabiting first, and individuals with a Bachelor's degree or more had 35% lower odds of cohabiting first versus marrying directly compared to individuals with no high school degree.

The union formation behavior of individuals was also significantly associated with whether or not they or their partner was pregnant (Table 22). Significant interaction terms also highlight that pregnancy

affects the union formation behavior of individuals in different ways by race and ethnicity, and by gender. Additionally, pregnancy influenced the risk of entering a marriage versus remaining single, or entering a cohabitation first or a marriage directly, in different ways depending on the individual's age. Pregnancy was associated with a higher risk of entering into marriage in adolescence, but this effect was reduced at older ages. Race interactions indicate that, while for all races being pregnant was associated with elevated odds of entering into a marriage or a cohabitation rather than remaining single, being pregnant among non-Blacks was associated with a significantly higher likelihood of union formation compared to Blacks. For example, Blacks who were pregnant in adolescence had 201% higher odds of marrying and 61% higher odds of cohabiting versus remaining single compared to same-aged Blacks who were not pregnant. Among other racial groups during adolescence this difference was much larger. Pregnant Whites had 1271% higher odds of entering into a marriage and 301% higher odds of entering a cohabitation compared to non-pregnant whites. Pregnant Hispanics had 1207% higher odds of entering into a marriage and 404% higher odds of entering a cohabitation compared to non-pregnant Hispanics. Pregnant individuals from other racial groups had 4852% higher odds of entering into marriage and 451% higher odds of entering into a cohabiting union compared to individuals from other racial groups who were not pregnant. While the association between pregnancy status and union formation declined as people aged, Wald tests of the sum of coefficients indicated that these racial differences in the pregnancy effect persisted over time. Finally, pregnant individuals were significantly less likely to enter into a cohabiting union first rather than marry directly compared to non-pregnant individuals during adolescence, early adulthood, and their late-twenties/early thirties. During the mid-twenties however, being pregnant was associated with a higher odds of entering into a cohabitation first rather than marrying directly compared to non-pregnant individuals of the same age. In terms of racial differences, Whites and individuals from other racial groups were significantly less likely to cohabit first when pregnant versus not-pregnant compared to Blacks. Men who had a pregnant partner were significantly more likely to enter a cohabiting union than women who were pregnant.



Finally, multivariate results highlight that the number of children an individual had outside of a union was associated with their risk of entering into their first coresidential union and the form that union took. While interactions with age were significant in simple models (see Table 11) they were no longer significant in multivariate models and were therefore excluded. Interactions between gender and race also highlight that children matter differently for men and women and for Whites and non-Whites. Results of Wald tests of the sum of coefficients help to illuminate how these two interactions work in conjunction with one another. There was no statistically significant difference in the odds of entering a cohabitation or a marriage if non-White men had one child or no children. Additionally, white women with one child were no different from White women with no children in terms of their odds of forming a union. White men, however, had 138% higher odds of marrying and 41% higher odds of cohabiting versus staying single when they had one child versus no children. Non-white women had 36% lower odds of entering a marriage and 31% higher odds of cohabiting rather than remaining single when they had one child versus no children. Results from Table 23 also highlight that having one child, but not two or more children, was associated with the risk of union formation among respondents. Finally, non-White individuals who had one child were significantly more likely to cohabit first rather than marry directly compared to non-White individuals with no children; among Whites there was no statistically significant difference in whether one entered a cohabitation first or marriage directly by number of children.

## **Summary**

The results from this chapter highlight the role that adolescent family experiences and the sociodemographic behavior of individuals play for union formation across the transition to adulthood and into the early thirties. Several different factors emerge as important predictors of union formation, whether and when people enter into a cohabitation or a marriage directly. The influence of these predictors on union formation was not proportional across age, exerting a different influence on risk of union entrance at different ages. Additionally, a number of gender and race differences emerged, particularly relating to childbearing behavior and pregnancy.

Results suggest that individuals take their family experiences in adolescence with them when they make decisions about entering into their first coresidential union. In general, interactions with age suggest that the influence of many family factors are largely concentrated on the union formation behavior of offspring during adolescence and the early adult years, with differences converging over time (e.g. parental education, family belonging, number of mothers' prior relationships). This suggests that stresses in the family environment during adolescence, such as coming from a low socioeconomic background, feeling a low degree of family belonging, and being exposed to family instability with multiple maternal romantic relationships, may influence the union formation behavior of offspring in the short-term by increasing their risk of entering into coresidential unions (particularly cohabitations). But, as offspring age these family factors do not have the same impact on union formation behavior. This may reflect the selection of those who were the "highest risk" into unions already, or the waning influence of family history on later behavior. There are some notable exceptions, such as the lower risk of marrying in their mid-twenties among individuals who had low family belonging in adolescence. Additionally, results suggest that exposure to parental cohabitation and multiple maternal romantic relationships help to largely explain most family structure differences in union formation behavior, which highlights the role that parental modeling plays for offspring approaches to romantic unions.

Results also indicate that the sexual experiences of individuals during adolescence are associated with their risk of union formation both in adolescence and extending into early adulthood. Individuals who have fewer sexual partners delay union formation, with a low risk of entering unions early on that increases as they age. On the other hand, individuals who had a number of sexual partners before turning 18 were at elevated risk of entering into a coresidential union during adolescence and young adulthood relative to their less sexually experienced peers, but this difference converged over time as the initial delay in union formation among less experienced individuals begins to "catch up". The greater sexual activity of individuals from non-intact family structures during adolescence also helps to account for their higher likelihood of cohabiting.

Education strongly shapes the risk of union formation among individuals, particularly the risk of entering into a marriage. Individuals who have more education are more likely to marry. The few educational attainment differences in cohabitation risk varied across gender, with women with a high school degree more likely to cohabit than women without a high school degree and men with a Bachelor's degree less likely to cohabit compared to men without a high school degree. It is important to note that these educational attainment differences were controlling for the effect of parental socioeconomic status, which exerted its own effect on union formation risk. While having a more highly educated parent was associated with lower risk of cohabiting, and particularly cohabiting at early ages, having more education oneself was not as strongly associated with one's risk of entering into a cohabitation. This suggests that above and beyond family socioeconomic background, having higher levels of educational attainment is not associated with lower rates of cohabitation (at least among women).

The childbearing and pregnancy experiences of individuals emerged as an important component of union formation. There were notable racial and gender differences in the influence of childbearing and pregnancy on the risk of entering a marriage or a cohabiting union. Being pregnant, or having a pregnant partner, was associated with a higher likelihood of entering into a coresidential union, particularly a marriage. This "pregnancy effect" was strongest during adolescence and declined as people aged. When men had a pregnant partner they were especially likely to enter into a cohabitation. Additionally, the risk of entering into a marriage or a cohabiting union was stronger among non-Blacks. Importantly, these pregnancy results were controlling for having children, thereby isolating the impact of being pregnant above and beyond the effect that having children may play on union formation behavior. The association between childbearing and union formation, in fact, is quite different from pregnancy. Again, both gender and race moderate these associations. Having one child was not associated with the risk of entering into a cohabitation or a marriage for White women or non-White men. Having one child rather than no children, however, was associated with an increased likelihood of marrying or cohabiting among White-men, and a decreased likelihood of marriage and increased likelihood of cohabitation among non-White

women. These race and gender interactions highlight that having a non-coresidential birth may be either a barrier to or an incentive for entering into a coresidential union depending on one's race and gender, or it may not exert an influence. Analyses in Chapter 7 explore this further by looking at how the biological relatedness of children to one's cohabiting partner may influence the stability of that relationship. In general, results from this set of analyses suggest that childbearing shapes the union formation prospects of individuals differently by gender and race.

In the next two chapters we turn to an examination of first-time cohabiters. These analyses explore how adolescent family factors may shape the stability and trajectory of first cohabitations, illuminating how earlier family experiences may shape the approaches individuals take in these unions. Additionally, analyses examine how childbearing prior to union formation and within these cohabiting unions impacts whether and when individuals transition to marriage or break-up. Gender and racial differences are also considered, as well as how the timing of union formation may moderate the influence of family and sociodemographic factors.

## *Chapter 6*

### **Sample Characteristics for Cohabitation Transition Analyses**

This chapter presents descriptive information about the sample of first time cohabiters for the second set of analyses. Information is presented about who makes the transition to marriage, who breaks-up and who remains cohabiting until Wave IV. Statistics are weighted with adjustments made for survey design using the `svy` command in Stata. Two-sample t-tests were performed to test for significant variation in means across the three groups of cohabiters: those who remained together, those who married, and those who broke-up (see Table 23). The timing of cohabitation transition is also examined with information presented on the duration of cohabiting unions when such events (marriages or break-ups) occur. Additional information on the relationship experiences of the sample is also given. Finally, descriptive results of event-history analyses are presented, including a life table of survival and hazard rates and graphical depictions of how the risk of marriage and break-up unfolds within cohabiting unions.

The current analysis focuses on how risk of marriage and break-up unfolds over the first seven years of cohabiting unions. Given that the process of making the transition into legal marriage or dissolving a union may be quite different in long-term cohabitations, these transitions are not considered in the current analysis. Therefore, the period of risk examined is from the month when the respondent started cohabiting up until they make a transition to marriage or break-up, are interviewed at Wave IV while still cohabiting, or until the first month of year seven (month 84). Of the 8,822 individuals in the analytic sample, 406 are still observed as together in their first cohabiting union after year seven. About half of these individuals are still cohabiting at their Wave IV interview ( $n = 206$ ), while about a quarter have married ( $n = 94$ ) and the remaining quarter have stopped cohabiting ( $n = 106$ ). These 406 respondents remain in the sample, but are considered “still together” over the entire period of risk, from month 1 of their cohabitation to month 84.

## Characteristics of the Sample by Cohabitation Outcome

Table 23 compares the characteristics of respondents by their cohabitation outcome; means with different superscripts indicate statistically significant group differences. The sample of 8,822 men and women in their first cohabiting union were, on average, 21 years old when they started cohabiting (see Table 23). Individuals who ended their cohabitations were, on average, the youngest when they started cohabiting, followed by those who married their first cohabiting partner, and those who were still cohabiting with their partner at the Wave IV interview. About 50% of first time cohabiters broke-up with their partner. A sizeable minority (35%) married their partner, and the remaining 15% were still cohabiting with their first cohabiting partner at the Wave IV interview. Individuals who remained cohabiting up until their Wave IV interview were living together for, on average, 54 months (4.5 years).<sup>4</sup> First time cohabiters who married their partner lived together, on average, for 23 months or just shy of two years before tying the knot. Respondents who dissolved their cohabiting unions did so after a significantly shorter period of time, living with their partner for 20 months before separating. Among cohabiters who married their partner, 20% did so within the first 6 months of living together. By the end of the first year 38% of this group had married their partner. Among cohabiters who married their partner, about 80% had married their partner within the first 3 years of living together. Among first time cohabiters who broke up with their partner, about 28% dissolved the union within the first six months. Within the first year, about 49% of people who broke-up with their partner had done so. Within the first three years of living together, 83% of first time cohabiters who break up had dissolved their union. Finally, among cohabiters who were still living with their partner at Wave IV about 20% had been living together for one year or less, about 44% had been living together for three years or less, and 59% had been living together for five years or less. About 31% of individuals who reported being still together with their partner had been living with their partner for more than seven years (recall the transitions of this group are not examined).

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<sup>4</sup> Note: this duration statistic includes the full length of all cohabiting unions if people were still together, including those who were observed after year 7.

**Table 23. Characteristics of the Cohabitation Transition Groups**

Variable	Still Cohabiting (n = 1301)			Married (n = 3080)			Broken-up (n = 4441)			Full Sample (n = 8,822)		
	Mean/%	Std. Error	Range	Mean/%	Std. Error	Range	Mean/%	Std. Error	Range	Mean/%	Std. Error	Range
<b>Cohabitation Outcome</b>	<b>15%</b>	<b>0.01</b>		<b>35%</b>	<b>0.01</b>		<b>50%</b>	<b>0.01</b>				
Gender (1 = male)	49% <sup>a</sup>	0.02	0-1	46% <sup>a</sup>	0.01	0-1	53% <sup>b</sup>	0.01	0-1			
Race												
White	63% <sup>a</sup>	0.04	0-1	77% <sup>b</sup>	0.03	0-1	67% <sup>a</sup>	0.03	0-1			
Black	20% <sup>a</sup>	0.03	0-1	10% <sup>b</sup>	0.02	0-1	19% <sup>a</sup>	0.03	0-1			
Hispanic	13%	0.02	0-1	10%	0.02	0-1	10%	0.01	0-1			
Other Race	4%	0.01	0-1	3%	0.01	0-1	3%	0.01	0-1			
Parental Education												
Less than High School	17%	0.02	0-1	15%	0.01	0-1	16%	0.01	0-1			
High School	40%	0.03	0-1	39%	0.02	0-1	40%	0.01	0-1			
Some College	20%	0.02	0-1	22%	0.01	0-1	20%	0.01	0-1			
Bachelor's or more	23%	0.02	0-1	24%	0.02	0-1	24%	0.02	0-1			
Family Structure/Parental Marital Quality												
Two Biological Parents	54% <sup>a</sup>	0.02	0-1	59% <sup>a</sup>	0.02	0-1	47% <sup>b</sup>	0.02	0-1			
low-distress	47% <sup>a</sup>	0.02	0-1	51% <sup>a</sup>	0.02	0-1	40% <sup>b</sup>	0.01	0-1			
high-distress	70%	0.01	0-1	8%	0.01	0-1	7%	0.01	0-1			
Stepfamily	13% <sup>a</sup>	0.01	0-1	13% <sup>ab</sup>	0.01	0-1	16% <sup>b</sup>	0.01	0-1			
low-distress	10% <sup>a</sup>	0.01	0-1	11% <sup>a</sup>	0.01	0-1	14% <sup>b</sup>	0.01	0-1			
high-distress	2%	0.01	0-1	2%	0.00	0-1	2%	0.00	0-1			
Single parent	26% <sup>a</sup>	0.02	0-1	19% <sup>b</sup>	0.01	0-1	27% <sup>a</sup>	0.01	0-1			
Other Family/Cohabiting Stepfamily	7%	0.01	0-1	8%	0.01	0-1	10%	0.01	0-1			
Low Family Belonging	17% <sup>a</sup>	0.01	0-1	15% <sup>a</sup>	0.01	0-1	21% <sup>b</sup>	0.01	0-1			
Parental Cohabitation	20% <sup>a</sup>	0.02	0-1	15% <sup>b</sup>	0.01	0-1	22% <sup>a</sup>	0.03	0-1			
Number of Mother's Prior Relationships	1.33 <sup>a</sup>	0.04	0-8	1.32 <sup>a</sup>	0.03	0-8	1.44 <sup>b</sup>	0.03	0-8			
Cat. # of Mother's Prior Relationships												
One or fewer	71% <sup>a</sup>	0.02	0-1	73% <sup>a</sup>	0.01	0-1	65% <sup>b</sup>	0.01	0-1			
Two	21% <sup>ab</sup>	0.01	0-1	19% <sup>a</sup>	0.01	0-1	22% <sup>b</sup>	0.01	0-1			
Three or more	8% <sup>a</sup>	0.01	0-1	8% <sup>a</sup>	0.01	0-1	13% <sup>b</sup>	0.01	0-1			
Number of Sexual Partners before age 18	2.97 <sup>a</sup>	0.18	0-30	2.65 <sup>a</sup>	0.10	0-30	3.86 <sup>b</sup>	0.15	0-30			
Cat. # of Sexual Partners before age 18												
None	28% <sup>a</sup>	0.02	0-1	30% <sup>a</sup>	0.01	0-1	22% <sup>b</sup>	0.01	0-1			
One or two	37% <sup>ab</sup>	0.01	0-1	40% <sup>a</sup>	0.01	0-1	34% <sup>b</sup>	0.01	0-1			
Three or more	35% <sup>a</sup>	0.01	0-1	31% <sup>b</sup>	0.01	0-1	44% <sup>c</sup>	0.01	0-1			

<b>Characteristics at Union Entrance</b>												
Age at Union Entrance	23.15 <sup>a</sup>	0.18	16-32	21.37 <sup>b</sup>	0.12	16-31	20.77 <sup>c</sup>	0.10	16-32	21.33	0.10	16-32
<b>Educational Attainment</b>												
Less than High School	22% <sup>a</sup>	0.02	0-1	20% <sup>a</sup>	0.01	0-1	29% <sup>b</sup>	0.02	0-1	25%	0.01	0-1
High School	47% <sup>a</sup>	0.02	0-1	55% <sup>b</sup>	0.01	0-1	56% <sup>b</sup>	0.01	0-1	54%	0.01	0-1
Associates/Vocational Degree	9% <sup>a</sup>	0.01	0-1	8% <sup>a</sup>	0.01	0-1	5% <sup>b</sup>	0.00	0-1	7%	0.00	0-1
Bachelor's or more	22% <sup>a</sup>	0.02	0-1	17% <sup>a</sup>	0.01	0-1	10% <sup>b</sup>	0.01	0-1	14%	0.01	0-1
<b>Parenthood</b>												
No children	89% <sup>ab</sup>	0.01	0-1	91% <sup>a</sup>	0.01	0-1	89% <sup>b</sup>	0.01	0-1	90%	0.01	0.01
Had children with cohabiting partner only	6%	0.01	0-1	5%	0.01	0-1	5%	0.01	0-1	5%	0.00	0.01
Had children with different partner	5% <sup>ab</sup>	0.01	0-1	4% <sup>a</sup>	0.01	0-1	6% <sup>b</sup>	0.01	0-1	5%	0.00	0.01
Pregnant at Union Entrance	10% <sup>a</sup>	0.01	0-1	10% <sup>a</sup>	0.01	0-1	8% <sup>b</sup>	0.01	0-1	9%	0.01	0.01
<b>Characteristics at Cohabitation Transition*</b>												
Duration of Cohabitation (in months) ^	53.93 <sup>a</sup>	2.05	1-177	22.60 <sup>b</sup>	0.59	1-84	19.93 <sup>c</sup>	0.44	1-84	25.88	0.55	1-177
<b>Educational Attainment</b>												
Less than High School	17% <sup>a</sup>	0.02	0-1	13% <sup>a</sup>	0.01	0-1	24% <sup>b</sup>	0.01	0-1	19%	0.01	0-1
High School	41% <sup>a</sup>	0.02	0-1	50% <sup>b</sup>	0.02	0-1	55% <sup>c</sup>	0.01	0-1	51%	0.01	0-1
Associates/Vocational Degree	14% <sup>a</sup>	0.02	0-1	12% <sup>a</sup>	0.01	0-1	8% <sup>b</sup>	0.01	0-1	11%	0.01	0-1
Bachelor's or more	27% <sup>a</sup>	0.03	0-1	24% <sup>a</sup>	0.01	0-1	12% <sup>b</sup>	0.01	0-1	19%	0.01	0-1
Parenthood - Had a child	36% <sup>a</sup>	0.01	0-1	19% <sup>b</sup>	0.01	0-1	14% <sup>c</sup>	0.01	0-1	19%	0.01	0-1
Pregnant at Cohabitation Transition	1% <sup>a</sup>	0.00	0-1	13% <sup>b</sup>	0.01	0-1	6% <sup>c</sup>	0.01	0-1	7%	0.00	0-1

Notes: Results are weighted, adjust for clustering, & based on multiply imputed data; Means with different superscripts are significantly different from one another at the  $p < 0.05$  level;

\* these measures are measured at the time of the cohabitation transition for respondents who have made a transition, for those who are still together in a cohabiting union at

Wave IV they are measured at that Wave; ^ given that only transitions that occurred in the first 7 years of cohabitation are examined, those who are "still together" have a longer span of exposure because it includes those who were still together past year 7 (84 months)



The sociodemographic characteristics of first time cohabiters varied across these three cohabitation outcomes. A significantly larger proportion of individuals who dissolved their unions were men (53%), compared to those who married their partners (46%) or were still cohabiting (49%). A significantly larger proportion of individuals who married their first cohabitation partner were White (77%) compared to those remained cohabiting (63%) or broke-up (67%). Additionally, a significantly smaller proportion of those who married their partner were Black (10%) compared to those who broke-up with their first cohabiting partner (19%) or remained together (20%).

There was significant variation in the adolescent family experiences of individuals by their cohabitation outcome. Individuals who broke-up with their first cohabiting partner were significantly less likely to have been in an intact, married biological parent family growing up, compared to those who married their partner or continued cohabiting. These individuals were also significantly more likely to have been in a stepfamily at Wave I compared to individuals who remained in their first cohabiting union. A significantly smaller proportion of individuals who married their first cohabiting partner were from single parent homes. A significantly larger percentage of first time cohabiters who ended their unions reported having a low level of family belonging in adolescence (21%) compared to individuals who married (15%) or remained together with their partner (17%).

Descriptive results also suggest that these groups varied in their experience of parental relationship history. Individuals who married their first cohabiting partner were less likely to have had a parent who experienced a cohabiting union themselves. First time cohabiters who ended their union were exposed to significantly more maternal romantic partners during their youth (1.44) compared to those who married their partner (1.32) or remained cohabiting (1.33). These individuals who ended their unions also had a significantly higher average number of sexual partners before age 18 (3.86) compared to those who married (2.65) or stayed cohabiting with their first coresidential partner (2.97).

At the time of union entrance the average educational and childbearing experiences of these three groups was significantly different. Individuals who broke up with their partner had significantly lower levels of education compared to their cohabiting peers, with a higher proportion having no high school degree when they started cohabiting (29%) and significantly fewer having an Associate's (5%) or Bachelor's degree (10%). Cohabitors who married their partner were significantly more likely to enter their union without any children (91%) compared to individuals who went on to dissolve their cohabitation (89%), and significantly less likely to have had a child with a different partner prior to entering the union (4%) compared to those who stopped cohabiting (6%). Finally, individuals who dissolved their first cohabiting union were significantly less likely to have been pregnant (or had a pregnant partner) at the time they started living with their partner (8%).

The educational attainment and childbearing experiences of respondents during the time they were cohabiting also varied by the outcome of their cohabitation. Just as they entered their unions with less educational attainment, respondents who dissolved their cohabitations had significantly lower levels of education at the end of their union than individuals who married their partner or were interviewed at Wave IV while still cohabiting. The childbearing experiences of respondents within their cohabiting unions varied across transition groups. A significantly larger percentage of individuals who were still living with their cohabiting partner had a child while cohabiting (36%), followed by those who married their partner (19%), and those who broke-up (14%). Finally, a significantly larger percentage of individuals who married their first cohabiting partner were pregnant when they did so (13%), followed by 6% of individuals who were pregnant when they broke-up with their partner. About one percent of individuals who were still in a cohabiting relationship with their partner at the Wave IV interview were pregnant at the time of the interview.

## Relationship Experiences of First Time Cohabitors

While the current analyses focus on the experiences of first time cohabiters within their cohabiting unions, additional descriptive information can be gleaned about the romantic relationship experiences of these individuals (see Appendix Table 2). While relationship history information was only asked of respondents about a single experience of cohabitation with each cohabiting partner, a question was posed to respondents asking them about the number of separate times they lived with each partner. Overall, individuals in their first cohabitation lived with their partner on average 1.22 times. Most (82%) only lived with their partner a single time, but some individuals lived with their partner on several separate occasions, up to twenty times! Respondents who were still together with their first cohabiting partner and those who had broken up with their partner, on average, lived with that partner significantly more times than individuals who married their partner. Among cohabiters who married their partner, about 20% of them were observed having gotten a divorce. Individuals who divorced their first cohabiting partner were married, on average for 44.58 months (3.7 years), significantly less time, on average, than respondents who were still married to their partner (57.86 months, 4.8 years).

The future cohabitation experiences of individuals were also related to the outcome of their first cohabiting union. A small minority of individuals who reported being “still together” with their first cohabitation partner at Wave IV also reported having had another different cohabiting partner (< 4%). This experience, while counter-intuitive, reflects the fact that only a single cohabitation period was reported on for each partner, and a small fraction of individuals who reported being still together with their partner were inconsistently together with them (9%). That is, some of these people who were still together with their partner may have broken up for a brief period of time and lived apart from that partner, even lived with a different partner, or reported several separate occasions of living with their first partner, but report being still in a relationship with that first partner at Wave IV. Among the group of first time cohabiters who married their partner, about 85% reported only ever cohabiting with that partner and no additional partners. Among the 15% of first time cohabiters who marry who reported cohabiting with

another partner, they lived on average with 2.5 partners (or 1.5 additional cohabitating partners). Finally, among first time cohabiters who broke-up with their partner, only about 32% reported only living with that partner. The remaining 68% of first time cohabiters who broke up and went on to have another partner had on average 2.55 cohabiting partners (or 1.55 additional partners). Comparing the average number of partners respondents lived with across these three groups it appears that individuals who broke-up with their first partner go on to have significantly more future cohabitations, followed by those who married their first partner, and finally those who are still together with their first cohabitating partner. Finally, about 31% of individuals who broke-up with their first cohabiting partner are observed marrying someone else (either directly or after living with them first).

### **Descriptive Event-History Results**

As with the first set of analyses, survival and hazard functions are used to describe how the risk of making a transition within a first cohabiting union varied over time. At each month of living in a cohabiting union, respondents have a probability of “surviving”, not transitioning out of the cohabitation, by that duration point in the union. At the start of the cohabiting union, month 0, everyone “survives” because everyone in our sample is still living with their first cohabiting partner, and the survival function is equal to one. Over time this survival rate declines monotonically as people experience a transition out of the cohabiting union; the survival function is cumulative. Alternatively, one can look at the cumulative hazard function, the complement to the survival function, to see how respondents’ risk of transitioning out of a cohabiting relationship increases over time. These functions, along with the duration-specific hazard of making a transition out of a cohabiting union, are presented as a life table in Table 24.

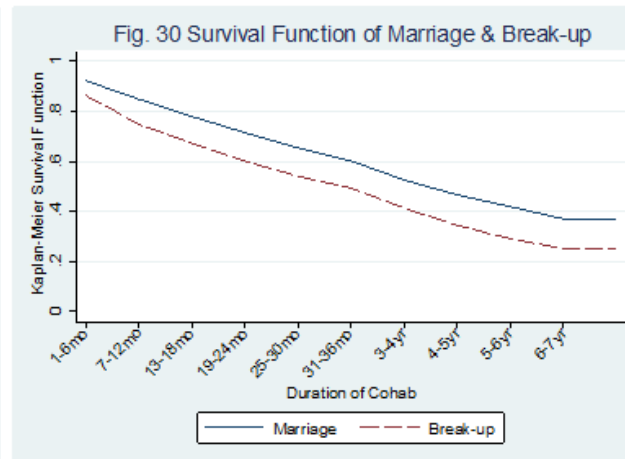
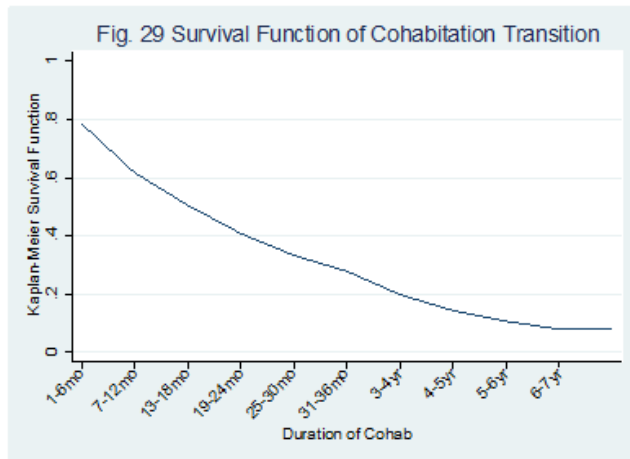
Using a measurement scale of duration time with months provides a fairly messy picture of how risk of cohabitation transition unfolds over time (see Appendix Figure 1). That is, this specification examines the risk of making a transition at each month, thereby making inferences about risk in very fine-grained intervals. To improve the fit, interpretability, and computational tractability of event-history

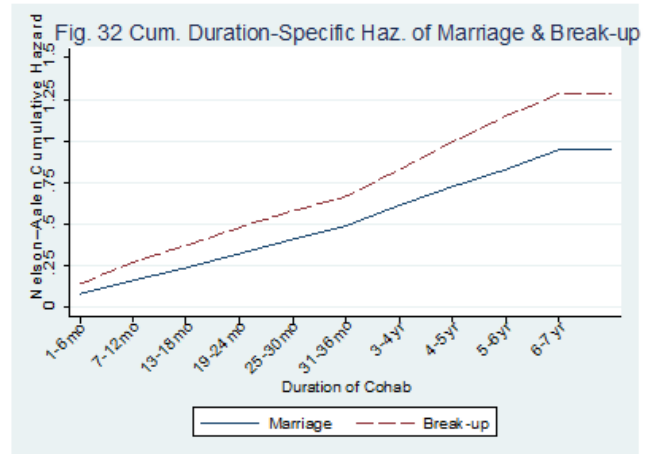
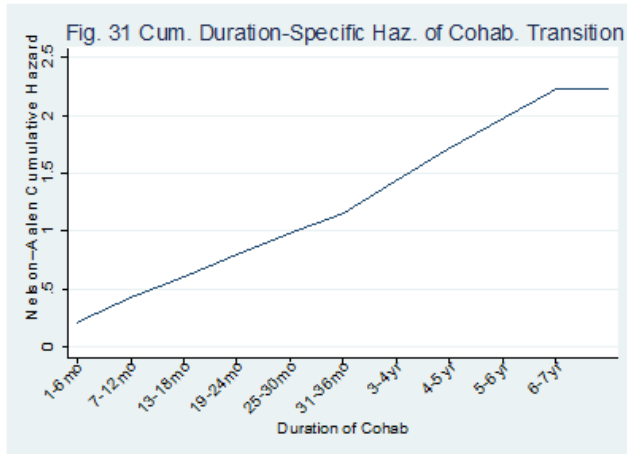
models a “chunkier” specification of duration time was utilized. Several specifications were tested with the most parsimonious and best-fitting specification retained. This schema measures duration in six-month increments for the first three years (e.g. months 1-6, months 7-12, months 13-18, months 19-24, months 25-30, months 31-36), and then in one year increments for the remaining duration years. This half-year/full-year specification enables the examination of risk in a more fine-grained metric early on when many transitions occur, and then in a larger metric at later time points when fewer transitions are occurring and there are less substantive differences in the meaning of making transitions by 6 month increments. That is, it is more substantively meaningful to compare the risk of marriage or break-up in the first 6 months of a relationship versus the next six months of a relationship (7-12 months), than it is to compare the first 6 months of year 4 in a cohabiting union to the next 6 months of year 4. Tests to determine the functional form of the baseline hazard of cohabitation transition support this specification to capture the changing hazard of union formation, with goodness of fit criterion (AIC, BIC) indicating that the half-year/full-year specification was the most easily interpretable, parsimonious, and best-fitting model. This specification of duration was used for all graphical depictions of the survival and cumulative hazard functions, as well as the duration-specification hazard. The overall survival function and cumulative hazard functions are displayed in Figures 29 and 31 respectively. These functions are also displayed with separate lines for the survival/cumulative hazard of marriage and break up in Figures 30 and 32. These graphs depict the higher survival rate, and therefore lower cumulative hazard, of marrying compared to breaking-up as the transition experienced by first-time cohabiters.

**Table 24. Life Table of Transitions within First Cohabitation**

Duration		Total N at	Union	Lost to	Survival	Standard	95% Confidence		Cum.	Standard	Duration-	Standard	95% Confidence	
Interval		Beginning of	Events	Censoring	Rate	Error	Interval		Hazard	Error	specific	Error	Interval	
		Interval									Hazard			
1mo	6mo	8822	1889	134	0.784	0.00	0.776	0.793	0.216	0.00	0.242	0.01	0.231	0.253
7mo	12mo	6799	1459	134	0.614	0.01	0.604	0.624	0.386	0.01	0.243	0.01	0.231	0.255
13mo	18mo	5206	941	97	0.502	0.01	0.492	0.513	0.498	0.01	0.201	0.01	0.188	0.214
19mo	24mo	4168	806	76	0.404	0.01	0.394	0.415	0.596	0.01	0.216	0.01	0.201	0.231
25mo	30mo	3286	600	68	0.330	0.01	0.320	0.340	0.670	0.01	0.203	0.01	0.187	0.219
31mo	36mo	2618	435	82	0.274	0.00	0.264	0.284	0.726	0.00	0.184	0.01	0.167	0.202
3rd yr	4th yr	2101	605	96	0.193	0.00	0.185	0.202	0.807	0.00	0.346	0.01	0.319	0.373
4th yr	5th yr	1400	389	77	0.138	0.00	0.130	0.146	0.862	0.00	0.333	0.02	0.301	0.366
5th yr	6th yr	934	240	74	0.101	0.00	0.094	0.108	0.899	0.00	0.309	0.02	0.270	0.348
6th yr	7th yr	620	157	57	0.074	0.00	0.068	0.081	0.926	0.00	0.306	0.02	0.259	0.353
7th yr	15th yr	406	0	406	0.074	0.00	0.068	0.081	0.926	0.00	0.000	-	-	-

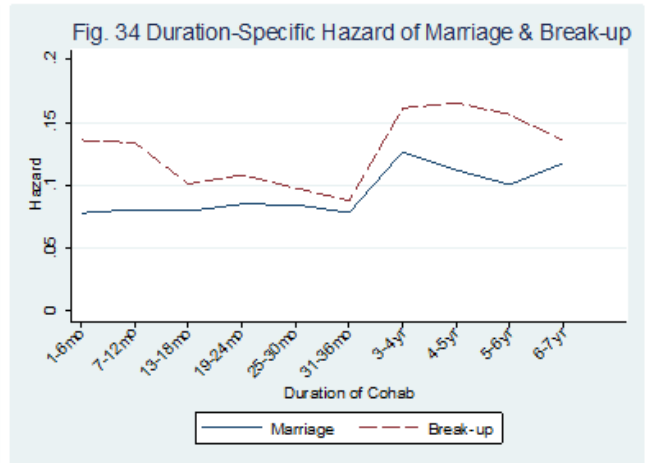
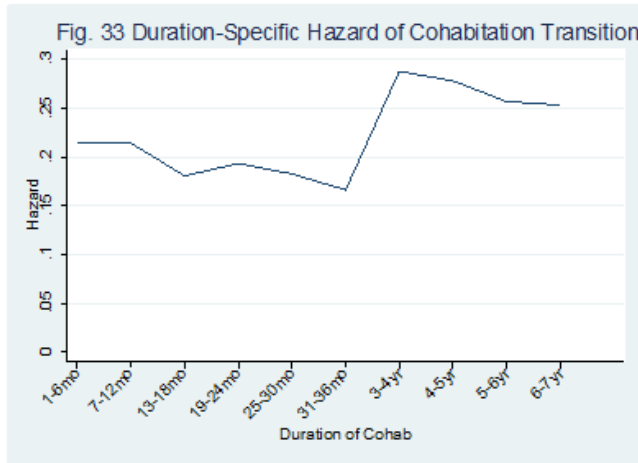
Note: the transition events that occurred after year 7 are not observed as the period of risk is defined, but some events did occur (94 marry & 106 breakup; 206 still together)





At each time-point of duration in the cohabiting union, the analytic sample faces a duration-specific hazard of making a transition out of that union. The duration-specific hazard captures the pattern of hazards of making a transition out of a cohabiting union across the duration of the cohabiting union, using the half-year/full-year specification of duration time. These duration-specific hazard rates of making a cohabitation transition (marrying or breaking-up) are depicted graphically in Figure 33. The separate hazard lines of exiting cohabitation through marriage or break-up are presented in Figure 34. Looking at the dashed line in Figure 34, we see that the hazard of break-up is high and slightly decreases from the first six months to the second six months, and then drops again in the second and third year. The hazard of marriage, on the other hand, is lower and fairly steady over these periods. The hazard of both break-up and marriage increases in the third year, but then drops slowly in the fourth through seventh years of cohabitation. It is notable that the hazard rates do not shift dramatically over these periods, and that the hazard of breaking-up remains higher than the hazard of marrying at all time-points, but especially in the first year and after year three. It is also important to note that this apparent increase in the hazard of making a transition over time may be somewhat artificial, as the sample at risk of making a transition dramatically drops over time (as the sample size declines). Therefore, when someone does make a transition at later periods it has a bigger impact on the hazard rate because there are fewer individuals at risk. The impact of a shrinking risk pool on the duration-specific hazard of making a

transition is also apparent when looking at Table 24. Event-history models using person-year data help to better adjust for this changing risk pool over time, which are discussed in Chapter 7.



### Group Differences in the Hazard of Union Formation

The risk of transitioning out of a cohabiting union, captured by the duration-specific hazard rates, varies across key sociodemographic and adolescent family factors. Figures 35 through 48 help to illustrate how the sub-hazards of exiting through marriage or union dissolution varies across groups. These hazards reflect how family factors and sociodemographic characteristics shape the risk of exiting one's first cohabiting union over the duration of cohabitation. Results closely mirror earlier descriptive statistics, but better illustrate risk over time. The risk of ending a cohabiting union, but not transitioning to marriage, appears to vary across gender, with men having a higher hazard of break-up across the duration of their cohabitation (Figure 35).



**Figure 35: Gender Differences in the Hazard of Cohabitation Transition**

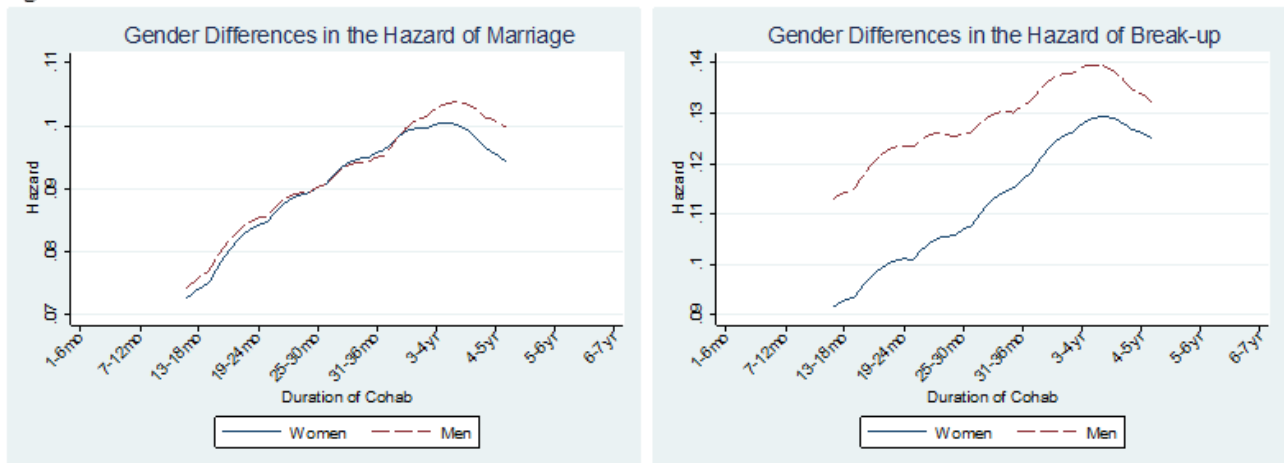
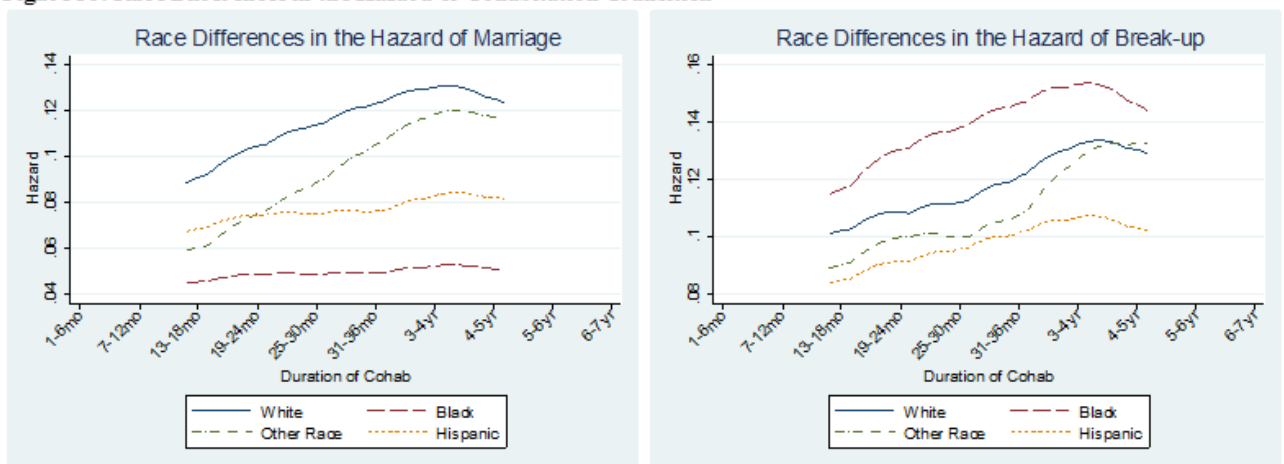


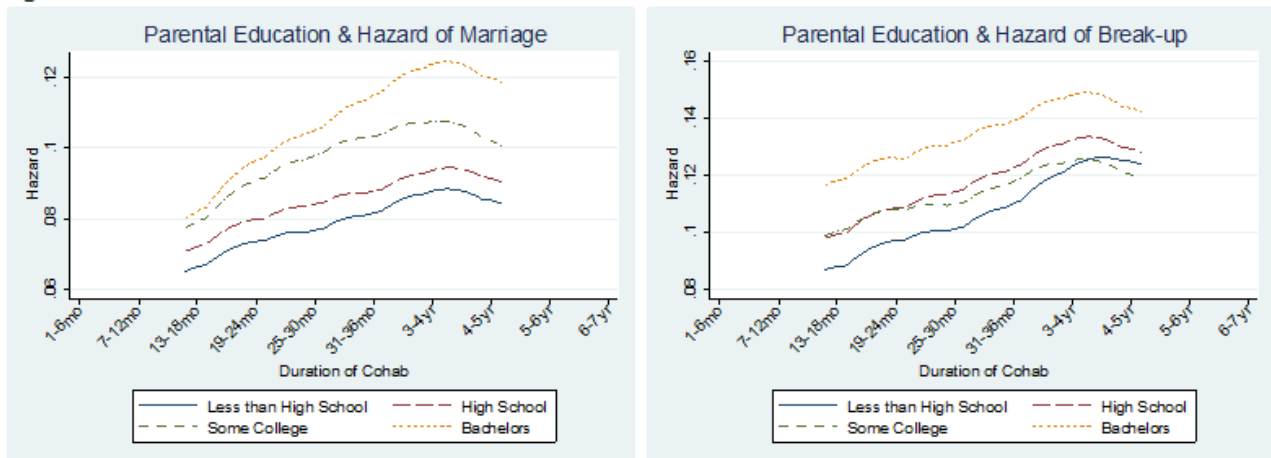
Figure 36 highlights the racial differences in the hazard of making a transition out of a cohabiting union. Whites appear to have the highest hazard of transitioning to marriage, with individuals in the other race group increasing their hazards over the duration of the cohabitation. The hazard of marriage is lowest, and steady among Blacks, with Hispanics having a higher hazard that also appears steady over the duration of the cohabitation. The hazard of dissolving a cohabiting union is highest among Blacks (right panel of Figure 36), followed by Whites and individuals from the other race group. Hispanics appear to have a fairly low hazard of breaking up that increases slightly over the duration of the cohabitation.

**Figure 36: Race Differences in the Hazard of Cohabitation Transition**



The risk of making a transition out of a first cohabiting union also varied across family background characteristics. Individuals whose parent had more education had a higher risk of transitioning to marriage compared to their counterparts whose parent had less education (Figure 37, left panel). Additionally, individuals whose parents had a Bachelor’s degree or more education appear to have a higher hazard of breaking-up with their cohabiting partner compared to individuals whose parents had less education.

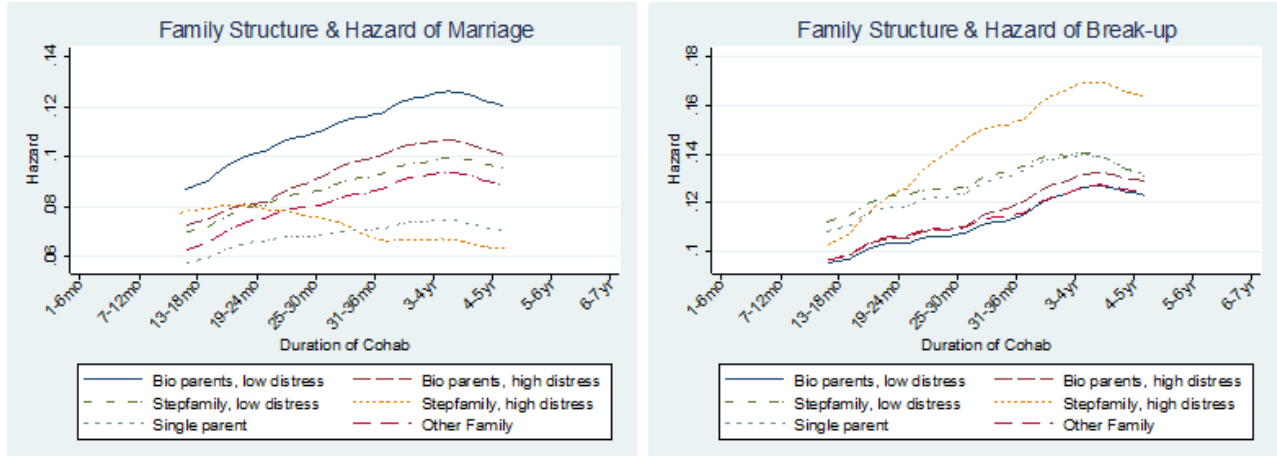
**Figure 37: Parental Education Differences in the Hazard of Cohabitation Transition**



Family structure and parental marital quality experiences during adolescence also seemed to be associated with individuals’ risk of transitioning out of a cohabiting union (Figure 38). Respondents who grew up in an intact family with low levels of parental marital distress had a high hazard of transitioning to marriage compared to other family structure groups. Individuals who grew up in a single family home appeared to have the lowest hazard of marriage, with individuals in stepfamilies and high-distress intact homes in the mid-range of the groups in terms of their hazard of marriage. The shape of the hazard rate of individuals from high-distress stepfamilies is of note, with higher risk of marriage in the early part of the cohabitation with a steady decrease over time. Individuals from these high-distress stepfamily environments appear to have a steadily increasing hazard of union dissolution over the duration of cohabitation. Individuals from low-distress stepfamilies and single parent families appear to have the

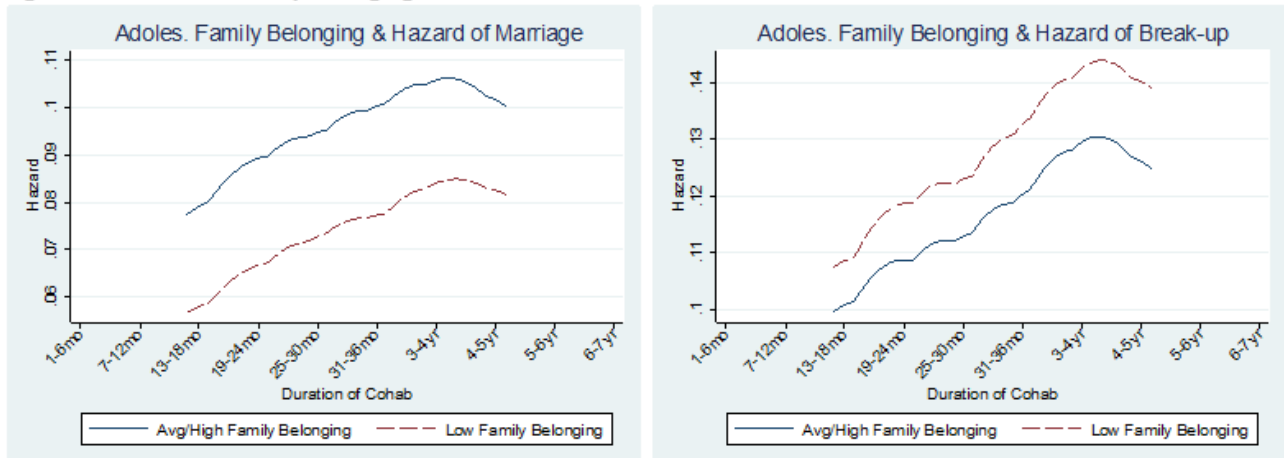
next highest risk of breaking-up with their first cohabiting partner, followed by individuals from intact families and those in other family forms who have low but increasing hazards of union dissolution.

**Figure 38: Family Structure Differences in the Hazard of Cohabitation Transition**



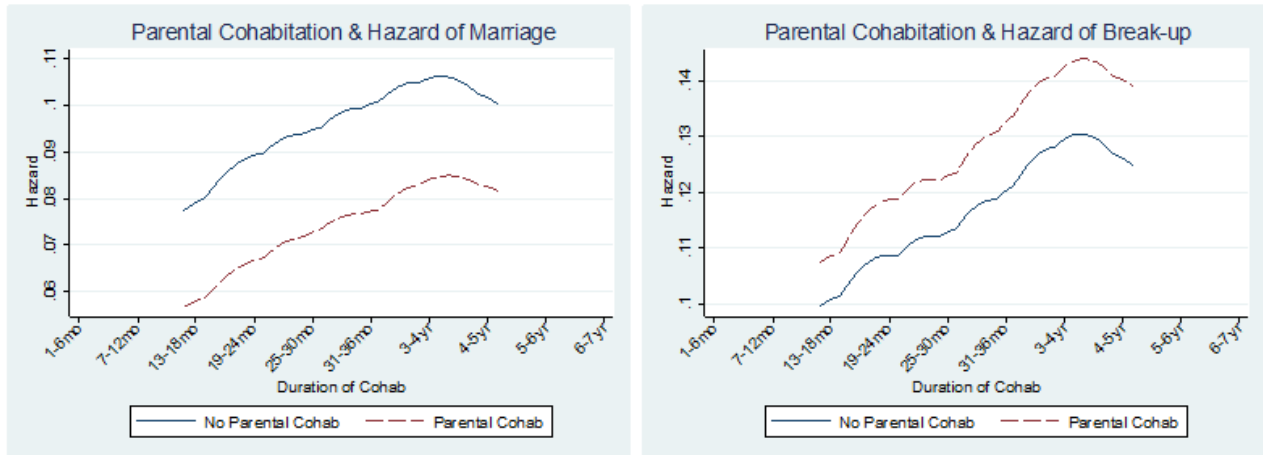
The stability of first cohabiting unions also varied across other dimensions of the adolescent family environment. Individuals who reported having low levels of family belonging during adolescence had a lower hazard of marriage and a higher hazard of breaking-up compared to their peers with average-to-high levels of adolescent family belonging (Figure 39).

**Figure 39: Adolescent Family Belonging & Hazard of Cohabitation Transition**



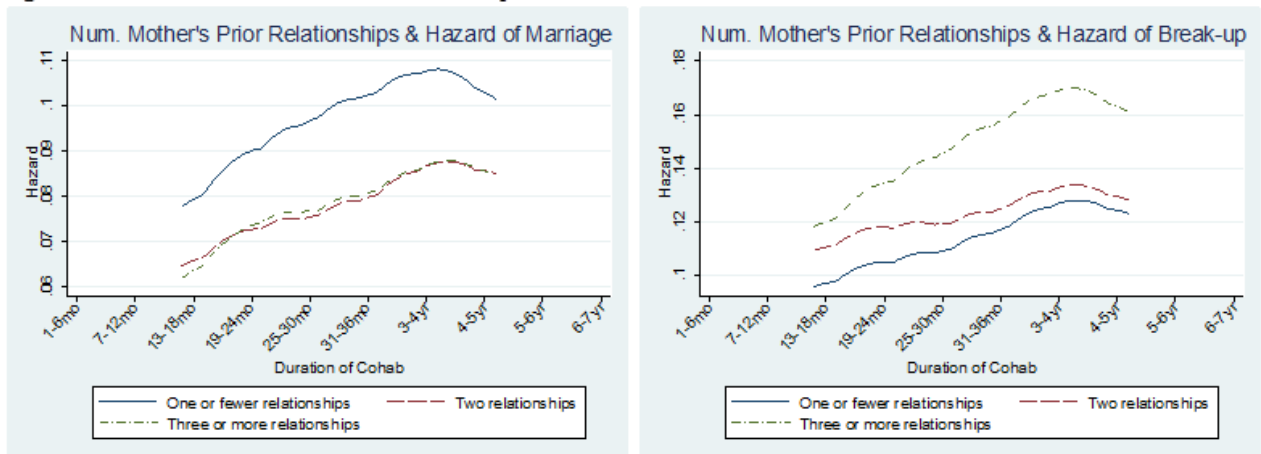
Respondents whose parents cohabited themselves had a lower hazard of transitioning to marriage and a higher hazard of breaking-up compared to respondents whose parents did not have cohabiting experiences (Figure 40).

**Figure 40: Parental Cohabitation & Hazard of Cohabitation Transition**



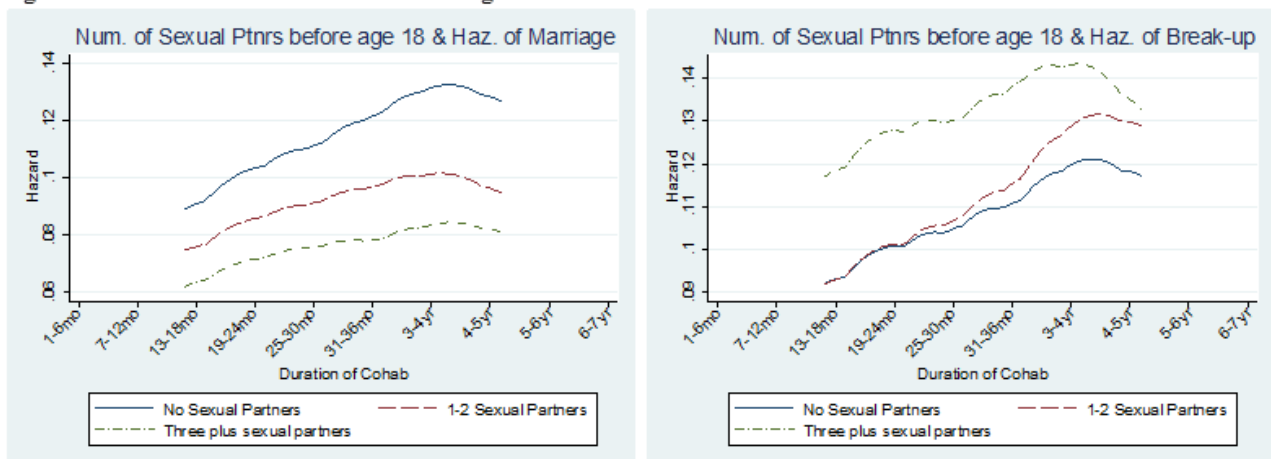
The hazard of exiting one's first cohabitation also appeared to vary by maternal romantic relationship history (see Figure 41). Individuals whose mother had only one or fewer coresidential romantic relationships during their youth had a higher hazard of transitioning to marriage compared to individuals whose mother had two or three plus relationships (left panel). Additionally, respondents whose mothers' had three or more romantic relationships during their youth had a higher hazard of breaking-up over the course of their first cohabitation, followed by those whose mother had two relationships and those whose mother had one or fewer coresidential relationships.

**Figure 41: Number of Mother's Prior Relationships & Hazard of Cohabitation Transition**



The sexual behavior of respondents during adolescence was also associated with the stability of their first cohabiting union (see Figure 42). Individuals who had no sexual partners before the age of 18 had a higher hazard of marrying their first cohabiting partner followed by individuals who had one or two sexual partners. Respondents who had three or more sexual partners during adolescence had a lower hazard of marrying across the duration of their cohabitation, but a higher hazard of breaking-up with their partner relative to their peers with fewer or no sexual partners during adolescence.

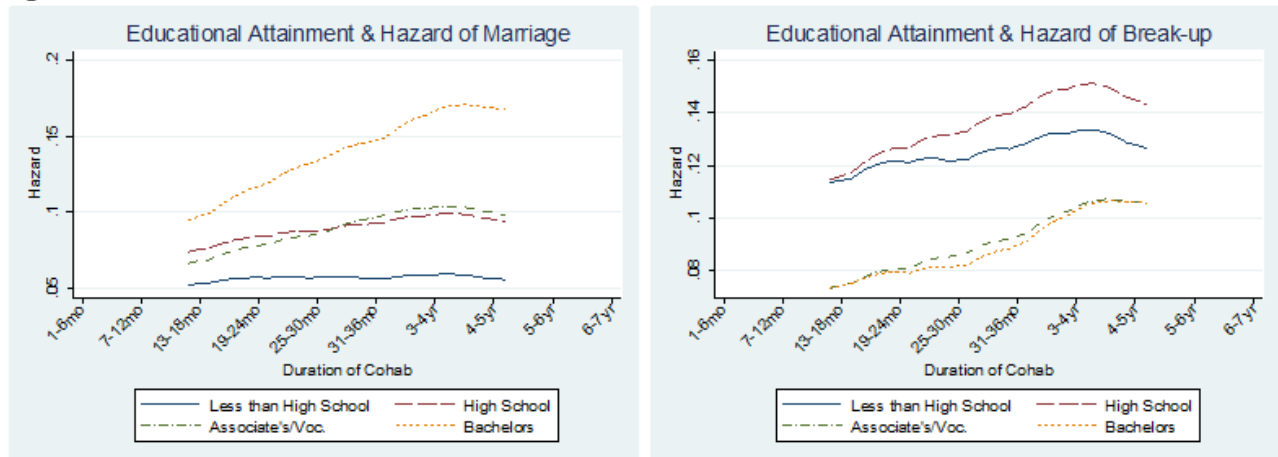
**Figure 42: Number of Sexual Partners before age 18 & Hazard of Cohabitation Transition**



The stability of respondents' first cohabiting unions also varied by their level of educational attainment (see Figure 43). Importantly, educational attainment in these graphs is measured as educational attainment at the time of cohabitation transition (or Wave IV among those who are still living

with their partner), which captures the educational experiences of individuals when they were at risk of exiting their cohabiting union, when they were still cohabiting. Individuals with a Bachelor's degree or more had significantly higher hazard of marrying their cohabiting partner that increased over time, compared to their peers with less education, with respondents who had less than a high school education with a very low risk of marrying their partner (left panel, Figure 43). The risk of dissolving ones' first cohabiting union also appears to vary by education level, with individuals who had less than a high school education or a high school degree having much higher hazards of breaking-up with their partner compared to individuals who had post-secondary education.

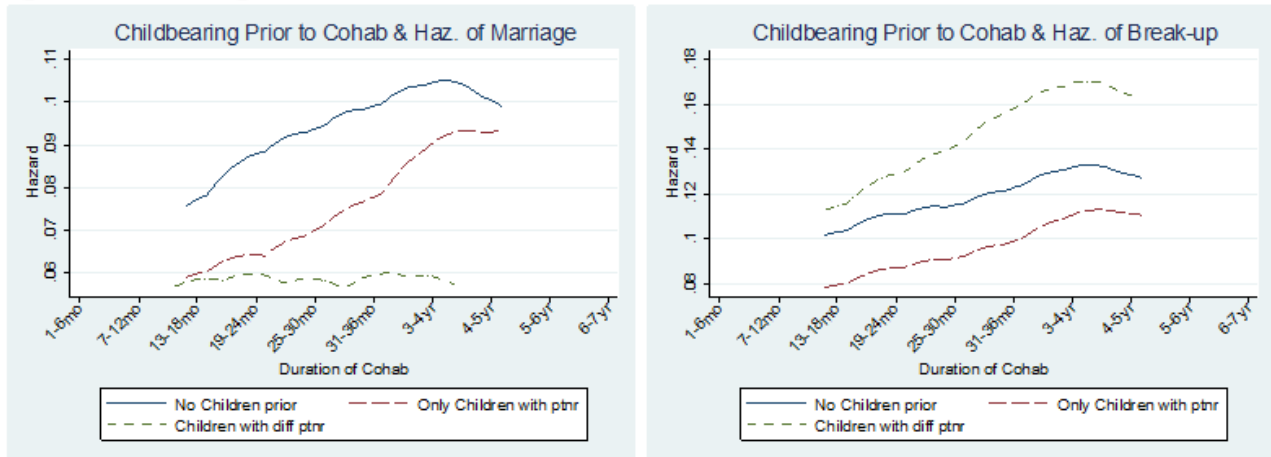
**Figure 43: Educational Attainment & Hazard of Cohabitation Transition**



Whether individuals bring children into their first cohabiting union, and whether that child or children are the biological children of their partner appears to be associated with the stability of that cohabiting union (see Figure 44). Individuals who did not have any children outside of a coresidential union prior to the start of their cohabiting relationship, had a higher hazard of marrying their partner than those who did have a child prior to the start of their union; respondents who had a child when they started cohabiting, but with their cohabiting partner, had a lower hazard of marriage that increased over the duration of the union. Having children with a different partner outside of a coresidential union, was associated with a very low likelihood of transitioning to marriage relative to both those with no children and individuals with children only with their first cohabiting partner. These same individuals who had

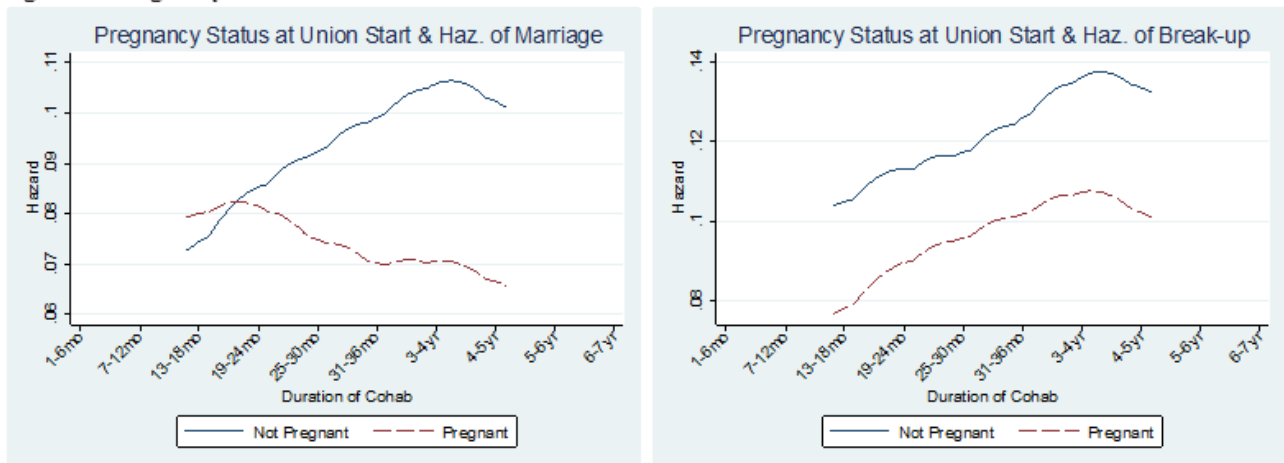
children with a different partner had a higher hazard of breaking-up that increased over the duration of their cohabitation (right panel, Figure 44). Individuals who had a child with their cohabiting partner prior to living together, on the other hand, had a relatively low likelihood of breaking up with their partner.

**Figure 44: Childbearing Prior to Cohabitation and Hazard of Cohabitation Transition**



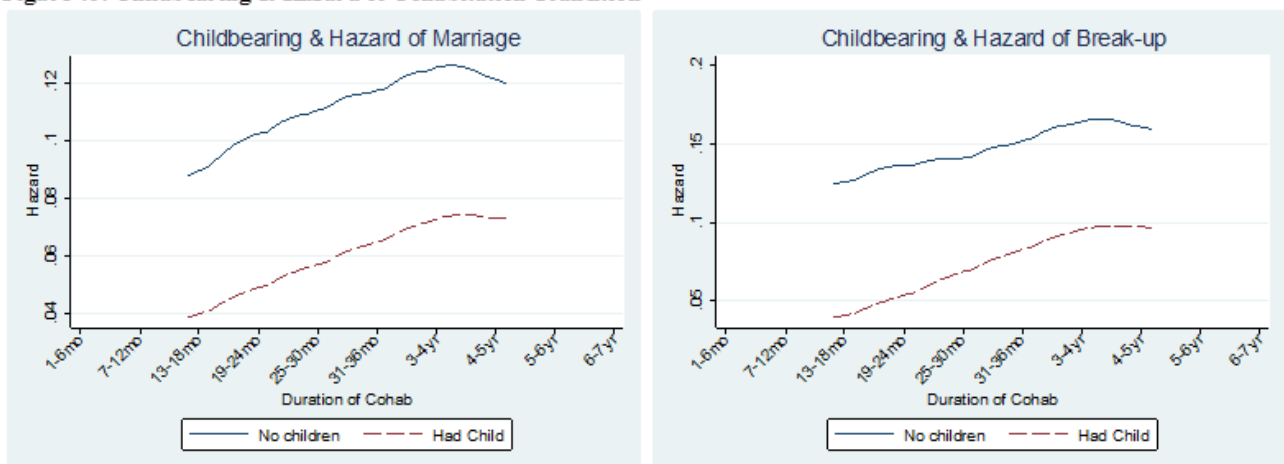
Whether an individual was pregnant, or had a pregnant partner, when they started cohabiting was also associated with their risk of exiting that cohabiting union (see Figure 45). Being pregnant at the start of a cohabiting union appears to be associated with a higher risk of transitioning to marriage, but only in the early part of that cohabiting union, the first year or so. After that point in time, individuals who were pregnant when they started cohabiting were less likely to marry their partner relative to those individuals who were not pregnant at the union start. Furthermore, being in a “shotgun cohabitation” (pregnant at the entrance) appears to be linked with a lower likelihood of dissolving that union, relative to individuals who were not pregnant at the start of their cohabitation.

**Figure 45: Pregnancy Status at Union Start and Hazard of Cohabitation Transition**



The childbearing and pregnancy experiences of individuals within their first cohabiting union were also linked with the stability and trajectory of that union thereafter (see Figures 46 & 47). As with the educational attainment variable, for these graphs childbearing and pregnancy are measured at the time of cohabitation transition (or at Wave IV if still cohabiting). This enables the graphing of a time-varying variable while capturing the experiences of respondents at the time of risk (when they are still cohabiting and about to make a transition). Figure 46 illustrates that individuals who had a child within their cohabiting union had a lower hazard of exiting their cohabitation, either through marriage or through a break-up.

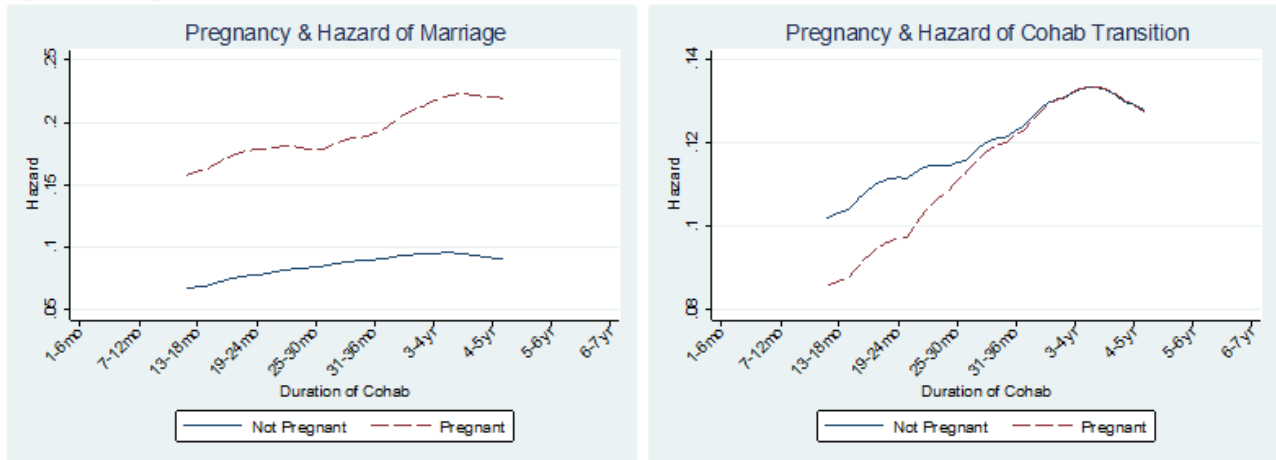
**Figure 46: Childbearing & Hazard of Cohabitation Transition**





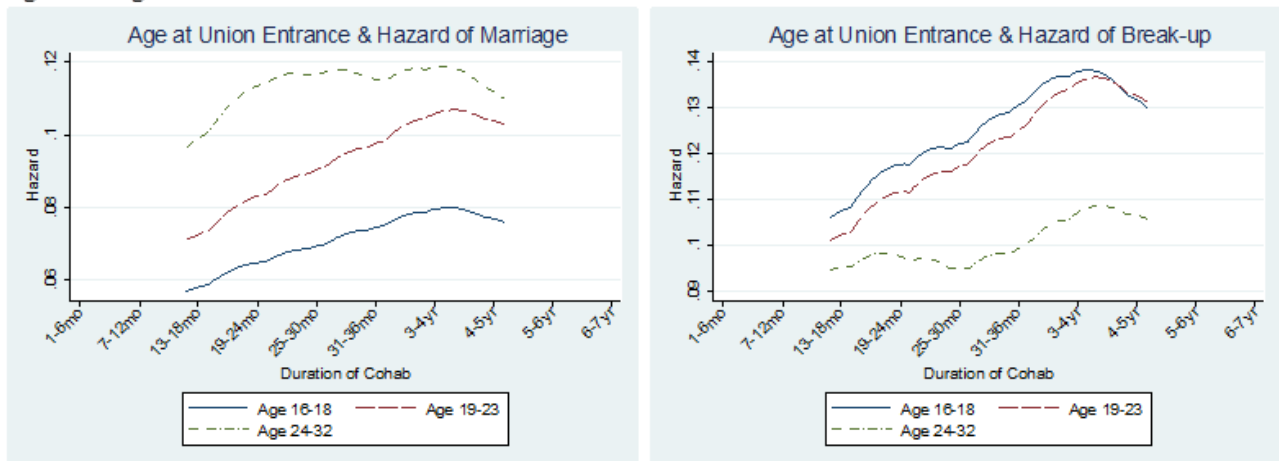
Being pregnant, or having a pregnant partner, was associated with a higher risk of marriage throughout the duration of the cohabitation (Figure 47, left panel). However, pregnancy appears to be linked with a lower hazard of breaking-up only if the pregnancy were to occur within the first few years of a cohabiting union.

**Figure 47: Pregnancy & Hazard of Cohabitation Transition**



Finally, the age when individuals started cohabiting with their partner was linked with the stability and trajectory of their unions. Figure 48 illustrates that individuals who were older at the time when they started cohabiting had a higher hazard of marrying their partner, and a lower hazard of breaking-up with their partner, relative to individuals who were younger at the start of their cohabitation. Individuals who were in adolescence at the start of their cohabitation appear to have a particularly low likelihood of marrying their partner, compared to individuals who were older at the start.

**Figure 48: Age at Union Entrance & Hazard of Cohabitation Transition**



These figures and tables highlight that the stability of cohabiting unions, whether and when individuals transitioned to marriage or break-up with their first cohabiting partner, varies across the duration of that union. Furthermore, the trajectory of these first cohabitations varies across different sociodemographic groups, by various adolescent family experiences, and by the sexual and childbearing behavior of individuals. The impact of some of these factors (particularly childbearing) on the hazard of marriage or break-up also appears to vary across the duration of these cohabiting unions; certain factors appear to impact the outcome of cohabitation more in the early years of living together. The next chapter discusses the results of multinomial logistic regression models and examines how adolescent family factors and sociodemographic characteristics are associated with the stability and trajectory of first cohabiting unions.

## *Chapter 7*

### **Results – Outcome of First Cohabiting Union**

Descriptive statistics from the preceding chapter suggest that, for many of the first time cohabiters in this sample, cohabitation is a temporary state. The majority of people either married their partner (35%) or broke-up with them (50%). The current analyses are focused on examining the influence that earlier experiences in the family may have on the stability and outcomes of these first time cohabitations, whether and when individuals break-up or marry their partner. Analyses also examine the role that other family building behavior, pregnancy and childbirth, may play for the stability of these unions. Additionally, the current analyses explore the moderating role of gender, race, and the age at union entrance, to see how the association between predictors and risk of cohabitation outcomes vary for men and women, individuals of different races, and by the age at which one enters their union. While several interactions with age at union entrance were tested to see whether the age at union formation acted as a moderator, few were significant in simple models and none remained significant in the final multivariate model, so they are not discussed here.

The risk of marrying or breaking up with one's partner, varies across the duration of the cohabitation. Likewise, the influence of family factors and sociodemographic behavior on the likelihood of making a transition may vary depending on how far into the union someone is. That is, some factors may be particularly salient early on in a relationship while other factors may become more important the longer people live together. This chapter presents results from discrete-time, competing-risk event history models which help to shed light on the link between adolescent family factors, behavior in young adulthood, and the stability of first cohabitations. First, simple models are introduced for all predictors, along with tests of the proportionality assumption. These tests use interactions between duration time and predictors to assess how the association between predictors and cohabitation stability may vary across the duration of the cohabitation. Next, results which explore gender and race differences are introduced.

Finally, results of multivariate models are presented along with a discussion of the impact that controlling for initial selection had on results.

### Simple Model Results

Simple models are presented in Table 25. Each model is a separate regression model which includes a single predictor of cohabitation outcome as well as a control for the baseline duration hazard (not shown). The metric used is log-odds. Results are weighted and adjust for clustering. The baseline hazard of exiting a cohabiting union by duration time is presented in Model 1. Results suggest that the longer people live together, the more likely they are to get married. But after a few years into the relationship, individuals have a similar risk of marrying their partner as they did when they first entered their union. Furthermore, the longer that people remain cohabiting, the less likely they are to break up versus remain cohabiting or marry.

**Table 25. Simple Models of Cohabitation Transitions**

	Married (Still together is reference)		Broken-up		Broken-up (Married is reference)	
	b	se	b	se	b	se
<i>Model 1</i> <b>Duration of Cohabitation</b> (1-6 months ref)						
7-12 months	0.285 ***	0.08	0.118 ^	0.06	-0.167	0.10
13-18 months	0.330 ***	0.08	-0.196 *	0.08	-0.525 ***	0.12
19-24 months	0.331 ***	0.09	-0.061	0.07	-0.392 **	0.13
25-30 months	0.345 ***	0.10	-0.248 **	0.09	-0.593 ***	0.13
31-36 months	0.297 **	0.09	-0.448 **	0.10	-0.744 ***	0.13
3rd-4th year	0.056	0.11	-0.407 ***	0.08	-0.463 **	0.14
4th-5th year	0.132	0.15	-0.321 ***	0.09	-0.463 **	0.17
5th-6th year	0.035	0.16	-0.304 *	0.13	-0.339	0.22
6th-7th year	0.114	0.22	-0.808 ***	0.18	-0.922 ***	0.16
<i>Model 2</i> <b>Gender</b> (male = 1)	-0.015	0.05	0.263 ***	0.04	0.279 ***	0.07
<i>Model 3</i> <b>Race</b> (black ref)						
White	0.819 ***	0.11	-0.026	0.06	-0.846 ***	0.12
Hispanic	0.479 ***	0.13	-0.192 *	0.09	-0.671 ***	0.13
Other	0.329	0.21	-0.115	0.11	-0.445	0.23
<i>Model 4</i> <b>Parental Education</b> (Less than High school ref)						
High school	0.171 *	0.07	0.132 *	0.06	-0.039	0.09
Some college	0.335 ***	0.08	0.139 *	0.07	-0.196	0.11
Bachelor's	0.383 ***	0.08	0.290 ***	0.07	-0.093	0.10

	<b>Family Structure</b>						
<i>Model 5</i>	(Bio-Married Parents, low distress ref)						
	Bio-Married Parents, high distress	-0.158	0.10	0.009	0.09	0.168	0.14
	Step parents, low-distress	-0.269 **	0.09	0.160 *	0.07	0.429 ***	0.12
	Step parents, high-distress	-0.170	0.19	0.081	0.13	0.251	0.21
	Single Parent	-0.537 ***	0.07	0.115 *	0.05	0.652 ***	0.08
	Other Family form	-0.385 ***	0.09	-0.033	0.08	0.352 **	0.12
<i>Model 6</i>	<b>Low Family Belonging</b>	-0.262 ***	0.07	0.130 **	0.05	0.392 ***	0.08
<i>Model 7</i>	<b>Parental Cohabitation</b>	-0.497 ***	0.09	0.038	0.05	0.535 ***	0.10
	<b>Number of Mother's Prior Relationships</b> (Three plus ref)						
<i>Model 8</i>	One or fewer	0.294 *	0.12	-0.233 **	0.08	-0.526 ***	0.15
	Two	0.091	0.12	-0.162	0.09	-0.253	0.15
	<b>Number of Sexual Partners before 18</b> (Three plus ref)						
<i>Model 9</i>	None	0.527 ***	0.06	-0.173 ***	0.05	-0.701 ***	0.08
	One or Two	0.301 ***	0.06	-0.196 ***	0.04	-0.497 ***	0.08
	<b>Educational Attainment</b>						
<i>Model 10</i>	(Less than High School ref)						
	High School	0.461 ***	0.09	0.022	0.06	-0.439 ***	0.12
	Associate's/Vocational	0.841 ***	0.10	-0.033	0.08	-0.873 ***	0.13
	Bachelor's	1.201 ***	0.10	-0.006	0.08	-1.207 ***	0.14
	<b>Childbearing Prior to Cohabitation</b>						
<i>Model 11</i>	(No children ref)						
	Children only with cohabiting ptrnr	-0.265	0.14	-0.246 *	0.10	0.018	0.16
	Children with different partner	-0.366 **	0.14	0.170 *	0.07	0.536 ***	0.16
<i>Model 12</i>	<b>Pregnant at Cohabitation Entrance</b>	-0.042	0.09	-0.298 ***	0.07	-0.256 *	0.11
<i>Model 13</i>	<b>Childbearing within Cohabitation</b>						
	Had a child	-0.193 *	0.09	-0.367 ***	0.08	-0.175	0.11
<i>Model 14</i>	<b>Pregnancy</b>	0.467 ***	0.07	-0.404 ***	0.08	-0.871 ***	0.11
<i>Model 15</i>	<b>Age at Cohabitation Start (years)</b>	0.083 ***	0.01	-0.001	0.01	-0.084 ***	0.11

Note: all bivariate models also control for the baseline duration hazard; coefficients are log-odds; results are weighted, adjust for clustering & based on multiply imputed data; ^ p < 0.10 \* p < 0.05 \*\* p < 0.01 \*\*\* p < 0.001

Results from the simple models presented in Table 25 indicate that there are a number of factors which are associated with the stability of first cohabitations, whether individuals remain together, break-up, or marry. However, the influence of these factors on the risk of making a transition may vary across the duration of the cohabitation; the results may not be proportional across time. To test this proportionality assumption a series of F-tests tests were again administered to assess the improvement of model fit when including interaction terms between predictors and dummy variables for cohabitation duration. Post-estimation Wald tests were also performed to test for the significance of predictors at

specific duration points (e.g. sum of coefficient tests). The importance of accounting for such variation is evident when comparing simple models and models which account for this non-proportionality across cohabitation duration. All results are weighted and adjust for sample clustering.

Several specifications of duration time were examined in order to best capture the manner in which predictors varied across duration. Graphical depictions of hazard rates by predictors were also used to help guide duration specification choices (see Chapter 6). Based on the results from preliminary models, a specification which captured duration by year increments for the first four years with a category of “within the fifth year and later” was determined to be the best fitting specification for most interactions with one exception (pregnancy at union start). Therefore, time interactions with predictors involved interactions with the following duration categories: within the first year (months 1-12; reference category), within the second year (13-24 months), within the third year (25-36 months), within the fourth year (37-48 months), and within the fifth year and later (49+ months). For the variable “pregnant at union start” a single interaction with duration after the first year fit the data best, (0 = within the first year, 1 = after the first year).

Respondents’ gender and race were found to be important predictors of the stability and trajectory of their first cohabiting union. Men were significantly more likely to break-up with their cohabiting partner rather than remain cohabiting compared to women, and were also more likely to break-up with their partner rather than marry them (Table 25, Model 2). Hispanics had significantly higher log-odds of marrying their partner and significantly lower log-odds of breaking-up with their partner rather than remaining cohabiting compared to Blacks. Rotating the reference groups we see that Hispanics are also significantly less likely to break-up with their partner versus remain cohabiting compared to Whites (Appendix Table 3, model 1). Results in model 3 also indicate that Whites had significantly higher log-odds of marrying their cohabiting partner rather than remain cohabiting compared to Blacks (Model 3). When the reference group is rotated results suggest that Whites had higher log-odds of marrying their first cohabiting partner rather than remaining cohabiting compared to all other racial and ethnic groups (see

Appendix Table 3, Model 1). Whites were also less likely to break-up with their partner rather than marry them compared to Blacks.

Tests of the proportionality assumption, however, indicate that the difference in cohabitation stability between Whites and individuals of other races varied across the duration of the cohabitation (Table 26). The fit of the model improves significantly with the inclusion of interaction terms between the dummy variable for Whites and duration time,  $F(8,112) = 2.70$ ,  $p < 0.01$ . The higher likelihood that Whites had of marrying their partner compared to individuals of other racial groups significantly increased over the duration of the cohabitation. That is, Whites became even more likely than non-Whites to marry their partner the longer they lived together. This effect is somewhat curvilinear. The higher likelihood that Whites marry increases in the second and third year, relative to the first year, but then the difference between Whites and Blacks shrinks to “first year” levels in the fourth and fifth plus years while the difference between Whites and Hispanics becomes non-significant in these later years (according to Wald tests of the sum of coefficients with rotated reference groups). Time interactions in the second column of Table 26 also suggest that in the second year of cohabiting whites are significantly less likely to break-up with their partner compared to Blacks ( $0.030 + -0.208 = -0.178$ ). These results highlight that the trajectory of cohabiting unions are very different for individuals of different racial groups. In particular, results suggest that cohabitation is much more commonly used as a route to marriage for Whites. Results later on in the chapter also explore how factors may influence the stability of these unions in different ways for individuals of different racial groups.

**Table 26. Race and First Cohabitation Stability - Variation across Duration**

	<b>Marriage</b>				<b>Break-up</b>				<b>Break-up</b>			
	(Model 1)		(Model 2)		(Model 1)		(Model 2)		(Model 1)		(Model 2)	
	b	se	b	se	b	se	b	se	b	se	b	se
<b>Duration of Cohabitation</b> (1-6 months ref)												
7-12 months	0.292 ***	0.08	0.290 ***	0.08	0.118	0.06	0.119	0.06	-0.174	0.10	-0.171	0.10
13-18 months	0.343 ***	0.08	-0.005	0.13	-0.195 *	0.08	-0.053	0.10	-0.538 ***	0.12	-0.048	0.16
19-24 months	0.353 ***	0.10	0.008	0.13	-0.059	0.07	0.080	0.10	-0.412 **	0.13	0.072	0.15
25-30 months	0.376 ***	0.10	-0.001	0.16	-0.245 **	0.08	-0.268 *	0.11	-0.621 ***	0.13	-0.267	0.22
31-36 months	0.336 ***	0.09	-0.037	0.17	-0.444 ***	0.10	-0.465 ***	0.11	-0.780 ***	0.13	-0.428 *	0.20
3rd-4th year	0.106	0.11	0.024	0.18	-0.403 ***	0.08	-0.261 *	0.11	-0.509 ***	0.14	-0.286	0.19
4th-5th year	0.196	0.15	0.041	0.22	-0.315 ***	0.09	-0.336 **	0.11	-0.511 **	0.18	-0.377	0.24
5th-6th year	0.109	0.17	-0.046	0.23	-0.298 *	0.13	-0.317	0.16	-0.407	0.23	-0.271	0.30
6th-7th year	0.198	0.21	0.042	0.19	-0.800 ***	0.18	-0.817 ***	0.21	-0.997 ***	0.26	-0.859 **	0.29
<b>Race</b> (black ref)												
White	0.819 ***	0.11	0.605 ***	0.14	-0.026	0.06	0.030	0.07	-0.846 ***	0.12	-0.575 ***	0.14
Hispanic	0.479 ***	0.13	0.479 ***	0.12	-0.192 *	0.09	-0.191 *	0.09	-0.671 ***	0.13	-0.670 ***	0.13
Other race	0.329	0.21	0.333	0.21	-0.115	0.11	-0.118	0.11	-0.445	0.23	-0.450	0.23
White X second year			0.435 **	0.14			-0.208 *	0.09			-0.643 ***	0.16
White X third year			0.478 **	0.17			0.039	0.13			-0.440	0.24
White X fourth year			0.093	0.21			-0.226	0.14			-0.319	0.24
White X fifth year plus			0.194	0.21			0.045	0.14			-0.149	0.27
Constant	-5.150 ***	0.12	-4.981 ***	0.13	-3.736 ***	0.06	-3.776 ***	0.07	1.414 ***	0.12	1.205 ***	0.13

Note: coefficients are log-odds; results are weighted & based on multiply imputed data; \* p < 0.05 \*\* p < 0.01 \*\*\* p < 0.001



Several dimensions of respondents' adolescent family environment were also associated with the stability and outcome of their first cohabiting unions. Individuals whose parent had more education had a higher likelihood of transitioning to marriage compared to those whose parents had less education (Table 25, Model 4). This positive association between parental education and risk of marriage was also evident when the reference group was rotated (Appendix Table 3, Models 3,4, & 5), with individuals whose parents had some college or a Bachelor's degree significantly more likely to marry compared to those whose parent had a high school degree or less. Interestingly, parental education was also positively associated with the risk of union dissolution, with individuals whose parent had more education significantly more likely to break up than to remain cohabiting (Table 25, Model 4). Again, rotating the reference group we see this positive association, with individuals whose parent had a Bachelor's degree significantly more likely to break-up with their partner rather than stay cohabiting with them compared to individuals whose parent had less education (Appendix Table 3, Model 5).

These results highlight that, for individuals from higher socioeconomic family backgrounds, cohabitation is more likely to lead to marriage. And, if it doesn't lead to marriage, individuals from higher SES backgrounds are more likely to get out of these relationships. Individuals with lower socioeconomic backgrounds on the other hand, are less likely to break up and more likely to stay cohabiting as a long term arrangement. Supplementary exploratory analyses support this conclusion, with significant mean level differences in average duration of cohabitation by parental education level. Individuals whose parent had less than a high school education lived in a cohabitation for the longest amount of time (31.64 months), followed by those whose parents had a high school degree (26.58 months) or some college education (24.95 months), and with individuals whose parent had a Bachelor's degree living in a cohabiting union for the shortest amount of time on average (21.62 months).

Adolescent family structure was also associated with the outcome of individuals' first cohabiting union. Compared to individuals from low-distress intact families, individuals who were in a low-distress stepfamily in adolescence were significantly less likely to marry (-0.269) and significantly more likely to

break-up with their partner (0.160) rather than remain cohabiting. Individuals who grew up a single family home were also significantly less likely to marry compared to individuals from low-distress intact families (-0.537), high-distress intact families (-0.379), and low-distress stepfamilies (-0.268; see Appendix Table 3, Model 12). Finally, individuals who grew up in other family forms were significantly less likely to marry (-0.385) compared to individuals from low-distress intact families. These results suggest that earlier experiences in the family may have an impact on behaviors in later relationships and the outcomes of offspring's cohabiting unions.

Other dimensions of the adolescent family environment were also associated with the stability of individuals' first cohabiting union. Respondents who reported feeling a low degree of family belonging during their adolescent years had significantly lower log-odds of marrying their cohabiting partner (-0.262) and significantly higher log-odds of breaking up with their partner (0.130) compared to their peers with average-to-high levels of family belonging (Table 25, Model 6). Individuals who reported these low levels of belonging during adolescence differed from their peers with a higher sense of family belonging, with a significantly higher likelihood of breaking-up with their first cohabiting partner rather than marrying them (0.392). This association between one's sense of support in their family environment growing up and the stability of their future unions may reflect something about the type of person who does not feel they belong within their family during a crucial period of development like adolescence, which might make it harder for them to establish a long-term committed relationship (either one that transitions to marriage or stays a stable cohabiting union). Alternatively, growing up in an environment where one does not feel they belong may make it more difficult for a person to establish trust and build a committed relationship.

Exposure to cohabiting parental relationships or to more family instability, through multiple maternal romantic relationships, was also associated with the trajectory of offspring's first cohabiting union. Individuals whose parent had a history of cohabiting themselves were not very likely to marry their first cohabiting partner, with lower log-odds of marrying their partner rather than remain cohabiting

with them (-0.497) and a higher log-odds of breaking-up with their partner rather than marrying them (0.535; Table 25, Model 7). Supplementary analyses also indicate that individuals who have been exposed to a parental cohabiting union live in cohabiting unions of significantly longer average duration (29.93 months) compared to individuals who were not exposed to a parental cohabitation growing up (24.92 months). These results suggest that being exposed to parents cohabiting may limit the likelihood that offspring's cohabitations lead to marriage, and perhaps lead individuals to be more likely to view cohabitation as an attractive, perhaps long-term relationship state.

Results also suggest that exposure to multiple maternal romantic relationships growing up may impact the stability of offspring's future relationships (Table 25, Model 8). Individuals whose mothers only had one or fewer coresidential romantic relationships while they were growing up, compared to three or more relationships or two relationships (Appendix Table 3, Model 14), were more likely to marry their cohabiting partner rather than continue cohabiting with them or break-up with them. These results suggest that exposure to family instability through multiple coresidential maternal relationships may shape the outcome of offspring's first foray into a coresidential union themselves, making them more hesitant to enter into the legally binding contract of marriage, given their exposure to the instability and impermanence of such relationships.

Another dimension of the adolescent experience, the number of sexual partners one had, was also associated with the trajectory and stability of individuals' first cohabiting union (Table 25, Model 9). Individuals who had no sexual partners before age 18 were significantly more likely to marry their first cohabiting partner and significantly less likely to break-up with their partner compared to individuals who had three or more sexual partners or one or two partners during adolescence (Appendix Table 3, Model 15). Additionally, individuals who had one or two sexual partners in adolescence were significantly more likely to marry their first cohabiting partner and less likely to break-up with them, compared to their peers who had more sexual partners during that period. These results suggest that adolescent sexual experiences are linked with future relationship outcomes. This association may reflect some latent

characteristic of individuals which has an impact on their choices about how to approach romantic partnerships, one that extends from adolescence into young adulthood.

The sociodemographic behavior of individuals, namely their educational attainment and childbearing behavior, was also associated with the outcomes of their first cohabiting unions. Educational attainment was positively associated with the risk of marriage, with individuals who had more education significantly more likely to marry their partner rather than remain cohabiting with them or dissolving the union (Table 25, Model 10). By rotating the reference group we see that each educational attainment group is significantly different from one another in terms of risk of marriage, with individuals who had a Bachelor's degree or more having the highest risk of marriage of any group (Appendix Table 3, Models 6-8). Tests of the proportionality assumption reveal that the positive association between having a Bachelor's degree and one's risk of marriage is not static over the course of cohabitation and increases at longer duration periods,  $F(8,121) = 3.04, p < 0.01$ . That is, the longer an individual with a Bachelor's degree remains cohabiting with their partner, the more likely they are to marry their partner, relative to their less-educated counterparts (Table 27). This increasing hazard of marriage is somewhat curvilinear across duration, increasing in the third and fourth year of cohabitation, but returning back to year one levels after the fifth year. Importantly, there were no educational attainment differences found in the risk of breaking-up with one's first cohabitation partner, although individuals with more education are more likely to marry their partner than break-up with them at all points in the cohabitation. These results highlight the educational attainment differences in marriage rates among cohabiters, and the role that cohabitation may play as a pre-cursor to marriage for those with more education. However, education is not protective against break-ups, with no differences in the risk of union dissolution by educational attainment.

**Table 27. Education and First Cohabitation Stability - Variation across Duration**

	<b>Marriage</b>				<b>Break-up</b>				<b>Break-up</b>			
	(Model 1)		(Model 2)		(Model 1)		(Model 2)		(Model 1)		(Model 2)	
	b	se	b	se	b	se	b	se	b	se	b	se
<b>Duration of Cohabitation</b> (1-6 months ref)												
7-12 months	0.276 ***	0.08	0.276 ***	0.08	0.118	0.06	0.118	0.06	-0.158	0.10	-0.158	0.10
13-18 months	0.322 ***	0.08	0.277 **	0.09	-0.195 *	0.08	-0.172 *	0.08	-0.518 ***	0.12	-0.449 ***	0.12
19-24 months	0.325 ***	0.10	0.280 **	0.10	-0.061	0.07	-0.037	0.07	-0.385 **	0.13	-0.317 *	0.13
25-30 months	0.344 ***	0.10	0.236 *	0.11	-0.247 **	0.09	-0.256 **	0.09	-0.591 ***	0.13	-0.492 ***	0.14
31-36 months	0.305 **	0.10	0.201 *	0.10	-0.447 ***	0.10	-0.454 ***	0.10	-0.752 ***	0.13	-0.656 ***	0.13
3rd-4th year	0.078	0.11	-0.118	0.12	-0.406 ***	0.08	-0.416 ***	0.08	-0.484 ***	0.14	-0.298 *	0.15
4th-5th year	0.179	0.15	0.093	0.16	-0.319 ***	0.09	-0.348 ***	0.09	-0.498 **	0.17	-0.441 *	0.18
5th-6th year	0.119	0.16	0.037	0.17	-0.302 *	0.13	-0.326 *	0.13	-0.421	0.22	-0.363	0.23
6th-7th year	0.222	0.22	0.144	0.23	-0.805 ***	0.18	-0.825 ***	0.18	-1.027 ***	0.26	-0.969 ***	0.27
<b>Education</b> (less than high school ref)												
High School	0.461 ***	0.09	0.459 ***	0.09	0.022	0.06	0.021	0.05	-0.439 ***	0.12	-0.438 ***	0.12
Associate's/Vocational	0.841 ***	0.10	0.847 ***	0.10	-0.033	0.08	-0.032	0.08	-0.873 ***	0.13	-0.880 ***	0.13
Bachelor's	1.201 ***	0.10	0.981 ***	0.12	-0.006	0.08	-0.001	0.10	-1.207 ***	0.14	-0.982 ***	0.19
Bachelor's X second year			0.180	0.13			-0.185	0.17			-0.365	0.24
Bachelor's X third year			0.422 *	0.18			0.062	0.11			-0.360	0.24
Bachelor's X fourth year			0.787 ***	0.21			0.100	0.27			-0.687	0.38
Bachelor's X fifth year plus			0.386	0.22			0.286	0.20			-0.100	0.28
Constant	-5.036 ***	0.10	-4.981 ***	0.10	-3.786 ***	0.06	-3.786 ***	0.06	1.250 ***	0.12	1.195 ***	-0.12

Note: coefficients are log-odds; results are weighted & based on multiply imputed data; \* p < 0.05 \*\* p < 0.01 \*\*\* p < 0.001

The age when a person first began cohabiting was also associated with the outcome of that union (Table 25, Model 15). The older a person was when they began living with their partner, the more likely they were to marry rather than remain cohabiting and the less likely they were to break-up rather than marry. This may indicate that for individuals who enter into their first coresidential union at an older age, their cohabiting union is a step on the path to marriage.

The current analysis considers two dimensions of childbearing and pregnancy, that which occurred prior to the start of the cohabiting union, and that which occurred within the union. Results suggest that both were influential on the stability of cohabitations, but in somewhat different ways. If the respondent has a child or children prior to entering their first cohabiting union, the stability of that union was impacted in different ways depending on whether the father or mother of their child was their cohabiting partner or if it was someone else (Table 25, Model 11). Individuals who had children with a different partner than their cohabiting partner had significantly lower log-odds of marrying their partner than individuals who had no children. Respondents who had children with their partner prior to entering the union were less likely to break up than those who had no children (-0.246) or who had children with a different partner (-0.416; Appendix Table 3, Model 16). Additionally, individuals who had a child with a different partner prior to living with their first cohabiting partner were significantly more likely to break-up with their partner than individuals who didn't have children (0.170). Overall, individuals who had children with a different partner were significantly more likely to break-up with their first cohabiting partner than marry them compared to the other groups. These results suggest that entering a cohabiting union with children impacts that stability of that union in different ways depending on who the biological parent of the child(ren) is.

Whether an individual, or their partner, was pregnant when they first started cohabiting was also associated with the stability and trajectory of their union (Table 25, Model 12). The influence of being pregnant at the start of one's cohabiting union, however, varied across the duration of one's union. Tests of the proportionality assumption indicated that the inclusion of an interaction term with a dummy

variable for duration time after the first year (0 = in the first year of cohabiting, 1 = after the first year of cohabiting) significantly improved model fit,  $F(8,121) = 10.67$ ,  $p < 0.001$ . Table 28 indicates that individuals who were pregnant when they started cohabiting were significantly more likely to marry their partner in the first year of their cohabitation (0.360) but significantly less likely to marry their partner if they continued cohabiting past the first year ( $0.360 + -0.677 = -0.317$ ) compared to individuals who were not pregnant at the start of their cohabitation. Wald tests of the sum of coefficients confirm this shift in the association across these duration points. Individuals who were pregnant when they started cohabiting were also less likely to break-up compared to individuals who weren't pregnant at the time union entrance (-0.442). Results also indicate that individuals in these "shotgun cohabitations" were less likely to break-up versus marry during their first year of cohabiting together (-0.802) but more likely to break-up versus marry their partner in the years after ( $-0.802 + 0.924 = 0.122$ ). These results suggest that there's a sort of threshold point, after the first year, where for people who entered their cohabitations while pregnant the trajectory of their unions changes and individuals risk of making the transition to marriage declines dramatically (see also Figure 45). So, if people start cohabiting while pregnant they were really likely to marry their partner soon into living together, but if they waited too long they were more likely to remain together in the form of a cohabiting union.

**Table 28. Pregnancy at Union Start and First Cohabitation Stability - Variation across Duration**

	<b>Marriage</b>				<b>Break-up</b>				<b>Break-up</b>			
	<b>(Model 1)</b>		<b>(Model 2)</b>		<b>(Model 1)</b>		<b>(Model 2)</b>		<b>(Model 1)</b>		<b>(Model 2)</b>	
	b	se	b	se	b	se	b	se	b	se	b	se
<b>Duration of Cohabitation</b>	<b>(1-6 months ref)</b>											
7-12 months	0.285 ***	0.08	0.284 ***	0.08	0.119	0.06	0.119	0.06	-0.166	0.10	-0.165	0.10
13-18 months	0.330 ***	0.08	0.394 ***	0.09	-0.194 *	0.08	-0.211 **	0.08	-0.524 ***	0.12	-0.604 ***	0.12
19-24 months	0.331 ***	0.10	0.397 ***	0.10	-0.057	0.07	-0.075	0.07	-0.388 **	0.13	-0.471 ***	0.13
25-30 months	0.346 ***	0.10	0.412 ***	0.10	-0.244 **	0.09	-0.261 **	0.09	-0.590 ***	0.13	-0.673 ***	0.13
31-36 months	0.297 **	0.09	0.363 ***	0.09	-0.444 ***	0.10	-0.461 ***	0.10	-0.741 ***	0.13	-0.824 ***	0.13
3rd-4th year	0.057	0.11	0.124	0.11	-0.402 ***	0.08	-0.420 ***	0.08	-0.459 **	0.14	-0.543 ***	0.15
4th-5th year	0.133	0.15	0.204	0.15	-0.312 ***	0.09	-0.331 ***	0.09	-0.445 **	0.17	-0.535 **	0.17
5th-6th year	0.038	0.16	0.115	0.16	-0.287 *	0.13	-0.309 *	0.13	-0.325	0.22	-0.424	0.22
6th-7th year	0.117	0.21	0.198	0.21	-0.787 ***	0.18	-0.810 ***	0.18	-0.904 ***	0.26	-1.008 ***	0.26
<b>Pregnant at Union Start</b>	-0.042	0.09	0.360 **	0.13	-0.298 ***	0.07	-0.442 ***	0.11	-0.256 *	0.11	-0.802 ***	0.17
Pregnant x After First Year			-0.677 ***	0.16			0.247	0.15			0.924 ***	0.21
Constant	-4.471 ***	0.06	-4.512 ***	0.06	-3.753 ***	0.04	-3.744 ***	0.04	0.718 ***	0.07	0.768 ***	0.07

Note: coefficients are log-odds; results are weighted & based on multiply imputed data; \* p < 0.05 \*\* p < 0.01 \*\*\* p < 0.001



While having a child prior to entering cohabitation or being pregnant at the start of that first cohabiting union was not a common occurrence, 10% and 9% of the sample respectively, about a fifth of first time cohabiters had a child while cohabiting (Table 24). Being pregnant and having a child while cohabiting, however, were associated with the stability and trajectory of first time cohabitations in slightly different ways. The influence of these factors on the risk of making a transition also varied across the duration of the cohabitation, with both pregnancy and childbearing being non-proportional over time. F-tests indicated that the inclusion of interaction terms with duration significantly improved the fit of both pregnancy ( $F(8,121) = 3.11, p < 0.01$ ) and childbearing models ( $F(8,121) = 2.50, p < 0.05$ ).

Results in Table 29 indicate that individuals who were pregnant, or who had a pregnant partner, in the first year of their cohabitation had higher log-odds of marrying their partner than those who were not pregnant (0.817). This difference converges over the duration of the cohabitation as the risk of marriage associated with pregnancy declines. In the second year of cohabiting, individuals who were pregnant had higher log-odds of marrying their partner ( $0.817 + -0.473 = 0.344$ ), but Wald tests of the sum of coefficients indicate that this difference converges and was no longer statistically significant in the third year and later. That is, at later points in the cohabitation, becoming pregnant does not significantly increase one's likelihood of marrying their cohabiting partner relative to not being pregnant (see also Figure 47 in Chapter 6). Results in Table 29 also indicate that, at all points in the duration of the cohabiting union, individuals who were pregnant were significantly less likely to break-up with their partner rather than remain cohabiting (-0.292) or marry their partner (-1.109) compared to individuals who were not pregnant. These results suggest that pregnancy can bring some stability to cohabiting unions, and protect from union dissolution. They also suggest that pregnancy is only associated with a greater risk of transitioning to marriage in the early years of the cohabitation. Part of this finding may reflect the trend that, the longer people lived together the more likely they were to transition to marriage regardless of pregnancy status.

**Table 29. Pregnancy within the Union and First Cohabitation Stability - Variation across Duration**

	Marriage				Break-up				Break-up			
	(Model 1)		(Model 2)		(Model 1)		(Model 2)		(Model 1)		(Model 2)	
	b	se	b	se	b	se	b	se	b	se	b	se
<b>Duration of Cohabitation</b>	(1-6 months ref)											
7-12 months	0.280 ***	0.08	0.275 **	0.08	0.121 *	0.06	0.120	0.06	-0.159	0.11	-0.155	0.11
13-18 months	0.330 ***	0.08	0.398 ***	0.09	-0.196 *	0.08	-0.175 *	0.08	-0.526 ***	0.12	-0.572 ***	0.13
19-24 months	0.332 ***	0.09	0.399 ***	0.10	-0.061	0.07	-0.040	0.08	-0.393 **	0.13	-0.439 **	0.13
25-30 months	0.351 ***	0.10	0.432 ***	0.10	-0.252 **	0.08	-0.246 **	9.00	-0.603 ***	0.13	-0.678 ***	0.14
31-36 months	0.298 **	0.09	0.381 ***	0.10	-0.449 ***	0.10	-0.443 ***	0.10	-0.747 ***	0.13	-0.825 ***	0.14
3rd-4th year	0.057	0.11	0.173	0.11	-0.408 ***	0.08	-0.390 ***	0.08	-0.465 **	0.14	-0.563 ***	0.15
4th-5th year	0.139	0.15	0.242	0.16	-0.326 ***	0.09	-0.321 ***	0.09	-0.465 **	0.17	-0.563 **	0.18
5th-6th year	0.035	0.16	0.147	0.17	-0.304 *	0.13	-0.299 *	0.13	-0.339	0.22	-0.446	0.23
6th-7th year	0.122	0.22	0.224	0.22	-0.812 ***	0.18	-0.807 ***	0.18	-0.934 ***	0.26	-1.031 ***	0.27
<b>Pregnancy</b>	0.467 ***	0.07	0.817 ***	0.11	-0.404 ***	0.08	-0.292 **	0.11	-0.871 ***	0.11	-1.109 ***	0.16
Pregnancy X second year			-0.473 *	0.21			-0.382	0.22			0.091	0.29
Pregnancy X third year			-0.618 **	0.24			-0.079	0.30			0.539	0.40
Pregnancy X fourth year			-0.992 **	0.31			-0.293	0.35			0.699	0.45
Pregnancy X fifth year plus			-0.919 **	0.32			-0.073	0.31			0.847	0.43
Constant	-4.525 ***	0.06	-4.578 ***	0.06	-3.747 ***	0.04	-3.755 ***	0.04	0.778 ***	0.07	0.823 ***	0.08

Note: coefficients are log-odds; results are weighted & based on multiply imputed data; \* p < 0.05 \*\* p < 0.01 \*\*\* p < 0.001

The association between having a child and the likelihood of breaking-up or marrying one's first cohabiting partner followed a similar pattern to being pregnant, with a few notable exceptions. Comparing Model 1 to Model 2 in Table 30 we see that, without accounting for interactions with duration time, individuals who had a child in a cohabiting union were less likely to marry their partner than individuals who did not have a child while cohabiting. However, this effect is clearly dependent on when in the relationship a person has that child. Individuals who had a child in the first year of cohabiting were more likely to marry their partner than those that didn't (0.362), but over time this trend reverses. Wald tests of the sum of coefficients suggest that having a child in the second year of cohabiting was not associated with any increased or decreased risk of marrying compared to individuals without children. But, in later years individuals were less likely to marry their partner if they had a child in the third year of cohabiting ( $0.362 + -0.804 = -0.442$ ), the fourth year of cohabiting ( $0.362 + -0.793 = -0.431$ ), or in the fifth year or later ( $0.362 + -0.685 = -0.323$ ).

These results may reflect several different things. They could indicate that the longer a person waits to marry after having had a child, the less likely they are to marry their partner. It could also reflect something about individuals who have children with a person after living together for several years; that such a union is considered a stable and viable context for raising children so there may be little motivation or desire to "get the piece of paper". Future research should continue to explore the meanings and motives of childbearing in these cohabiting union contexts.

**Table 30. Childbearing within the Union and First Cohabitation Stability - Variation across Duration**

	<b>Marriage</b>				<b>Break-up</b>				<b>Break-up</b>			
	<b>(Model 1)</b>		<b>(Model 2)</b>		<b>(Model 1)</b>		<b>(Model 2)</b>		<b>(Marriage is reference)</b>		<b>(Model 2)</b>	
	b	se	b	se	b	se	b	se	b	se	b	se
<b>Duration of Cohabitation</b>	<i>(1-6 months ref)</i>											
7-12 months	0.296 ***	0.08	0.259 **	0.08	0.137 *	0.06	0.142 *	0.06	-0.159	0.10	-0.117	0.10
13-18 months	0.352 ***	0.09	0.361 ***	0.09	-0.155 *	0.08	-0.171 *	0.08	-0.508 ***	0.12	-0.532 ***	0.12
19-24 months	0.364 ***	0.10	0.368 ***	0.10	-0.001	0.07	-0.022	0.08	-0.365 **	0.13	-0.390 **	0.13
25-30 months	0.390 ***	0.10	0.463 ***	0.10	-0.169	0.09	-0.162	0.09	-0.559 ***	0.13	-0.626 ***	0.14
31-36 months	0.350 ***	0.10	0.436 ***	0.11	-0.351 ***	0.10	-0.342 **	0.11	-0.701 ***	0.13	-0.778 ***	0.15
3rd-4th year	0.125	0.11	0.225	0.12	-0.282 ***	0.08	-0.337 **	0.10	-0.407 **	0.15	-0.562 ***	0.16
4th-5th year	0.219	0.16	0.296	0.18	-0.162	0.09	-0.124	0.10	-0.381 *	0.18	-0.420 *	0.19
5th-6th year	0.134	0.17	0.219	0.19	-0.123	0.13	-0.079	0.13	-0.257	0.22	-0.298	0.23
6th-7th year	0.224	0.22	0.317	0.20	-0.605 **	0.19	-0.555 **	0.19	-0.829 **	0.27	-0.872 ***	0.24
<b>Childbearing within Cohabitation</b>												
Had a child	-0.193 *	0.09	0.362 *	0.16	-0.367 ***	0.08	-0.489 **	0.16	-0.175	0.11	-0.851 ***	0.21
Had a child X second year			-0.477 *	0.19			0.230	0.20			0.707 **	0.26
Had a child X third year			-0.804 ***	0.23			0.079	0.19			0.884 **	0.28
Had a child X fourth year			-0.793 **	0.25			0.276	0.22			1.069 **	0.32
Had a child X fifth year plus			-0.685 **	0.25			0.022	0.20			0.707 *	0.32
Constant	-4.469 ***	0.06	-4.489 ***	0.06	-3.767 ***	0.04	-3.764 ***	0.04	0.703 ***	0.07	0.724 ***	0.07

Note: coefficients are log-odds; results are weighted & based on multiply imputed data; \* p < 0.05 \*\* p < 0.01 \*\*\* p < 0.001

Results from Table 30 also indicate that individuals who had a child had a significantly lower risk of breaking up with their partner than individuals who did not have children at all points in the cohabitation (-0.489). Supplementary analyses indicate that individuals who had a child within their cohabiting union were on average in cohabitations of significantly longer duration (49.10 months) compared to individuals who do not have children (20.33 months). Together these results suggest that individuals who had children in cohabiting unions were much more likely to stay together in these unions for longer periods of time as a cohabiting family and were only likely to transition to marriage if they give birth very early on in their cohabiting relationship, within the first year.

### **Gender Differences in the Stability of First Cohabiting Unions**

Results from Table 25 indicate that the stability of men and women's first cohabiting unions are significantly different, with men much more likely to break-up with their partner than women. One goal of the current analyses is to examine whether family and sociodemographic factors matter differently for men and women, in terms of their effect on the stability of their cohabiting unions. To assess whether gender moderated the association between predictors and cohabitation outcome a series of interaction terms were tested. Interactions that significantly improved the fit of models and remained significant in multivariate models are discussed below. The statistical significance of predictors by gender was also assessed using Wald tests of the sum of coefficients. Graphs of these interactions are presented to help illustrate trends. Results suggest that childbearing behavior, both prior to entering the union and within it, had different effects on the stability of cohabiting unions for men and women. Most adolescent family factors were shown to be associated with cohabitation outcomes in similar ways for men and women, save for some minor variation by family structure.

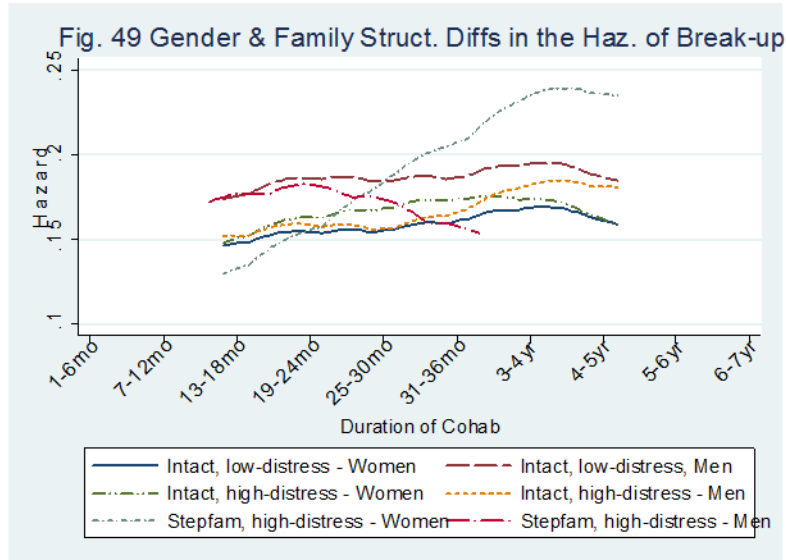
The association between certain adolescent family structures, namely coming from a high-distress stepfamily, and the stability of first cohabiting unions was significantly different for men and women. F-tests indicate that the inclusion of an interaction term between gender and coming from a high-distress

stepfamily (but no other family structure types) significantly improves the fit of the model,  $F(2,127) = 3.27, p < 0.05$ . Women who grew up in a high-distress stepfamily had significantly higher log-odds of breaking-up with their first cohabiting partner rather than remaining together compared to women from low-distress intact families (Table 31, Figure 49). Rotating the reference group also indicated that women from high-distress stepfamilies were significantly more likely to break-up with their partner compared to women from high-distress intact families. However, a sum of coefficients test indicated that among men there was no significant difference in the odds of breaking-up between those who grew up in a high-distress stepfamily and those who grew up in a low-distress intact family (or any other family form). This result suggests that for women, but not men, exposure to a stressful stepfamily environment while growing up increases one's likelihood of engaging in less stable relationships in the future.

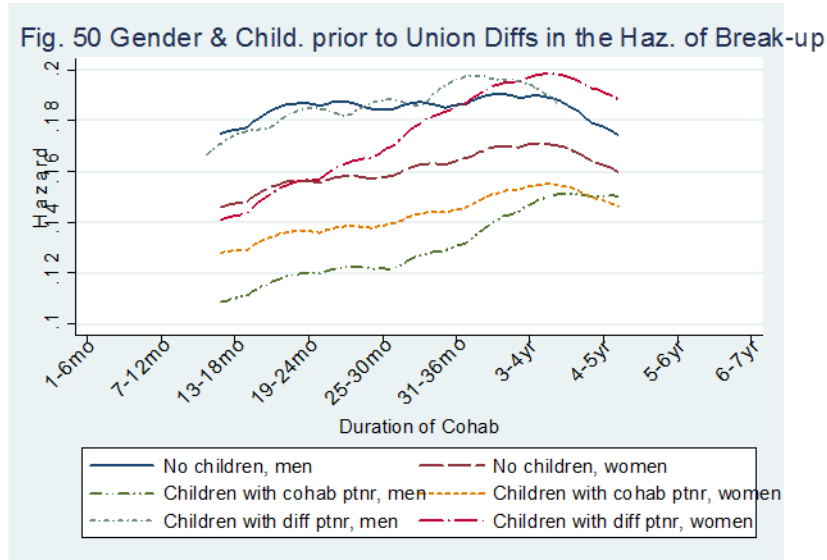
**Table 31. Gender Differences in Family Structure and First Cohabitation Stability**

	Marriage (Still together is reference)		Break-up		Break-up (Marriage is reference)	
	b	se	b	se	b	se
<b>Duration of Cohabitation</b> (1-6 months ref)						
7-12 months	0.288 ***	0.08	0.122 *	0.06	-0.166	0.10
13-18 months	0.338 ***	0.08	-0.189 *	0.08	-0.527 ***	0.12
19-24 months	0.343 ***	0.09	-0.052	0.07	-0.395 **	0.13
25-30 months	0.357 ***	0.10	-0.237 **	0.08	-0.595 ***	0.13
31-36 months	0.313 **	0.09	-0.434 ***	0.10	-0.748 ***	0.13
3rd-4th year	0.080	0.11	-0.390 ***	0.08	-0.470 **	0.14
4th-5th year	0.172	0.15	-0.305 ***	0.09	-0.477 **	0.17
5th-6th year	0.088	0.16	-0.288 *	0.13	-0.376	0.22
6th-7th year	0.180	0.22	-0.788 ***	0.18	-0.968 ***	0.27
<b>Gender</b> (male = 1)	-0.012	0.05	0.279 ***	0.04	0.290 ***	0.07
<b>Family Structure</b> (Bio-Married Parents, low distress ref)						
Bio-Married Parents, high distress	-0.158	0.10	0.014	0.09	0.173	0.14
Step parents, low-distress	-0.270 **	0.09	0.170 *	0.07	0.439 ***	0.12
Step parents, high-distress	0.064	0.23	0.373 *	0.16	0.309	0.29
Single Parent	-0.537 ***	0.07	0.121 *	0.05	0.658 ***	0.08
Other Family form	-0.385 ***	0.09	-0.034	0.08	0.351 **	0.12
Male X Step parents, high-distress	-0.437	0.34	-0.553 *	0.25	-0.116	0.41
Constant	-4.279 ***	0.06	-3.975 ***	0.05	0.304 ***	0.07

Note: coefficients are log-odds; results are weighted & based on multiply imputed data; \*  $p < 0.05$  \*\*  $p < 0.01$  \*\*\*  $p < 0.001$



Gender differences also emerged in the impact that childbearing behavior prior to entering the union had on the stability of these first-time cohabitations (Table 32, Figure 50). Tests of model fit indicated that the inclusion of interaction terms between gender and having a child with a different partner prior to cohabiting improved model fit,  $F(2,127) = 2.88, p < 0.06$ . Results from Table 32 indicate that, for women, having a child with a different partner prior to cohabiting was associated with an increased risk of breaking up with their first cohabiting partner compared to women who didn't have any children prior to cohabiting (or who only had children with their first cohabiting partner; supplementary analyses rotating the reference group). For men, there was no significant difference in the likelihood of breaking up with their first cohabiting partner if they had a child with a different partner prior to entering their union compared to entering a union without any children. Looking at Figure 50 we see that men who had children with a different partner and men who didn't have any children prior to cohabiting had a similarly high risk of breaking up with their partner.



**Table 32. Gender Differences in Childbearing Prior to Union Start and First Cohabitation Stability**

	Marriage (Still together is reference)		Break-up		Break-up (Marriage is reference)	
	b	se	b	se	b	se
<b>Duration of Cohabitation</b> (1-6 months ref)						
7-12 months	0.285 ***	0.08	0.123 *	0.06	-0.162	0.10
13-18 months	0.331 ***	0.08	-0.188 *	0.08	-0.519 ***	0.12
19-24 months	0.334 ***	0.09	-0.050	0.07	-0.384 **	0.13
25-30 months	0.349 ***	0.10	-0.235 **	0.09	-0.583 ***	0.13
31-36 months	0.301 **	0.09	-0.430 ***	0.10	-0.731 ***	0.13
3rd-4th year	0.061	0.11	-0.382 ***	0.08	-0.442 **	0.14
4th-5th year	0.137	0.15	-0.294 **	0.09	-0.431 *	0.17
5th-6th year	0.040	0.16	-0.274 *	0.13	-0.314	0.22
6th-7th year	0.117	0.22	-0.769 ***	0.18	-0.886 **	0.26
<b>Gender</b> (male = 1)	-0.030	0.05	0.294 ***	0.05	0.324 ***	0.07
<b>Childbearing Prior to Cohabitation</b> (No children ref)						
Children only with cohabiting partner	-0.265	0.14	-0.241 *	0.11	0.025	0.16
Children with different partner	-0.418 *	0.16	0.362 ***	0.09	0.780 ***	0.18
Male X child with different partner	0.144	0.27	-0.429 *	0.19	-0.573	0.30
Constant	-4.432 ***	0.06	-3.933 ***	0.05	0.500 ***	0.07

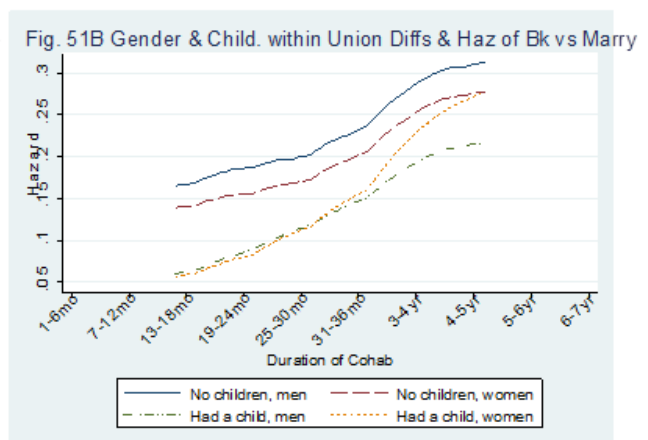
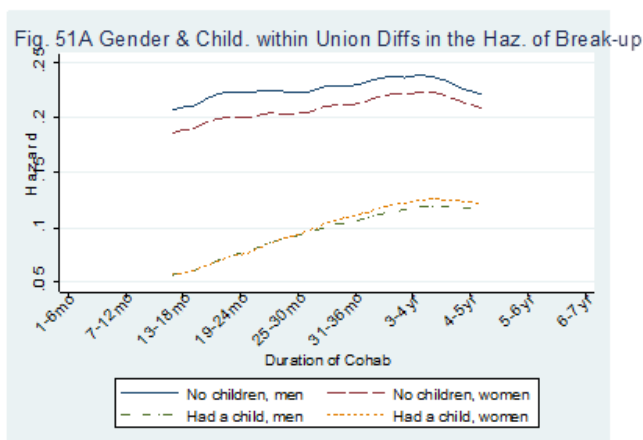
Note: coefficients are log-odds; results are weighted & based on multiply imputed data; \* p < 0.05 \*\* p < 0.01 \*\*\* p < 0.001

These results suggest that, for women, having a child with a different partner was linked with lower rates of union stability, with an increased risk of union dissolution and a lower likelihood that their relationship transitioned to marriage. For men, having a child with someone else prior to their first union



was not associated with an increased risk of breaking up, given that childless men also had a high risk of breaking-up. However, men who had children with a different partner were less likely to marry their partner. Part of this association is likely due to a higher likelihood that women had their children living with them, which may have contributed to higher instability in their relationships, while for many of these men their children might have been living outside of the household. Furthermore, the gendered nature of the risk of union dissolution places men at a higher risk of breaking-up with their partner, even when they didn't have children before cohabiting.

The association between having a child while cohabiting and the outcome of these first unions was significantly different for men and women (Table 33, Figures 51A & 51B). F-tests for the improvement in model fit suggested the inclusion of an interaction term between gender and having a child while cohabiting,  $F(2,127) = 5.95, p < 0.01$ . Results indicate that having a child within a cohabiting union was associated with a lower log-likelihood of breaking-up with one's partner among men, but not among women. Similarly, men who had a child while cohabiting were significantly less likely to break-up with their partner than marry them. These results suggest that having a child while cohabiting may be more protective against breaking-up with one's partner for men than for women. Again, this is also due to the relatively higher likelihood of breaking-up for men compared to women, so the "distance" in risk between men who have no children and men who have children is larger (and significant) than the "distance" between women by their childbearing experiences (see Figures 51A & 51B).



**Table 33. Gender Differences in Childbearing with the Union and First Cohabitation Stability**

	Marriage (Still together is reference)		Break-up		Break-up (Marriage is reference)	
	b	se	b	se	b	se
<b>Duration of Cohabitation</b> (1-6 months ref)						
7-12 months	0.258 **	0.08	0.146 *	0.06	-0.113	0.10
13-18 months	0.360 ***	0.09	-0.166 *	0.08	-0.526 ***	0.12
19-24 months	0.368 ***	0.10	-0.018	0.08	-0.386 **	0.13
25-30 months	0.462 ***	0.10	-0.155	0.09	-0.617 ***	0.14
31-36 months	0.434 ***	0.11	-0.333 **	0.11	-0.768 ***	0.15
3rd-4th year	0.223	0.12	-0.321 **	0.10	-0.544 **	0.16
4th-5th year	0.294	0.18	-0.107	0.10	-0.401 *	0.19
5th-6th year	0.216	0.19	-0.062	0.13	-0.278	0.23
6th-7th year	0.314	0.20	-0.531 **	0.19	-0.845 ***	0.25
<b>Gender</b> (male = 1)	-0.048	0.05	0.312 ***	0.05	0.360 ***	0.07
<b>Childbearing within Cohabitation</b>						
Had a child	0.298	0.17	-0.284	0.16	-0.582 *	0.23
Had a child X second year	-0.473 *	0.19	0.225	0.20	0.699 **	0.26
Had a child X third year	-0.801 ***	0.23	0.072	0.19	0.873 **	0.28
Had a child X fourth year	-0.788 **	0.25	0.259	0.22	1.047 **	0.32
Had a child X fifth year plus	-0.679 **	0.25	0.002	0.20	0.681 *	0.32
Male X Had a child	0.142	0.13	-0.411 **	0.12	-0.552 **	0.19
Constant	-4.465 ***	0.06	-3.931 ***	0.05	0.535 ***	0.07

Note: coefficients are log-odds; results are weighted & based on multiply imputed data; \* p < 0.05 \*\* p < 0.01 \*\*\* p < 0.001

### Race Differences in the Stability of First Cohabiting Unions

Results indicate that there is significant racial and ethnic variation in the stability and outcomes of first cohabiting unions, with Whites significantly more likely to make the transition to marriage (see Table 26). The influence of predictors on cohabitation outcomes, however, may also vary across racial groups. To test for whether race moderated the association between predictors and cohabitation outcome, a series of models with interaction terms were run. Interactions that significantly improved model fit and remained significant in the multivariate model are discussed. Again, Wald tests for the sum of coefficients were performed in order to assess the impact of predictors by racial groups. These

interactions were graphed to ease interpretation.<sup>5</sup> Results find that there was significant variation across racial groups in the association between education, childbearing, and age at union entrance and cohabitation outcomes, with the experience of Whites emerging as significantly different from other racial groups.

The impact of having a Bachelor's degree on the stability of one's first cohabiting union appears to be different for Whites than for individuals from other racial groups. F-tests suggest that the inclusion of an interaction between being White and having a Bachelor's degree or more significantly improves model fit,  $F(2,127) = 6.80, p < 0.05$ . Table 34 highlights that for non-Whites the likelihood of breaking-up with one's partner versus remaining together with them was higher among those who had a Bachelor's degree versus those who had less than a high school education (0.329; or other education categories). But among Whites, having a Bachelor's degree was associated with a lower likelihood of breaking-up relative to their less educated peers ( $0.329 + -0.449 = -0.120$ ). We also see this lower likelihood of Whites to break-up with their partner when looking at the risk of breaking-up versus marrying one's partner. While non-Whites who have a Bachelor's degree were significantly less likely to break up with their partner rather than marry them compared to those with less than a high school education ( $-0.689$ ; or other education categories), Whites with a Bachelor's degree are even less likely to break-up versus marry their partner ( $-0.689 + -0.332 = -1.021$ ). Looking at Figure 52A we see that, among non-Whites, the risk of breaking-up was similar among individuals who had a Bachelor's degree and those that didn't, while Whites who didn't have a Bachelor's degree had a much higher risk of breaking up compared to Whites that did have a degree. Figure 52B indicates that the difference in the risk of breaking-up versus marrying one's first cohabiting partner is greater between Whites with and without a Bachelor's degree than between non-Whites with and without a Bachelor's degree. These findings suggest that having a Bachelor's degree is even more beneficial for the union stability of Whites than it is for individuals of

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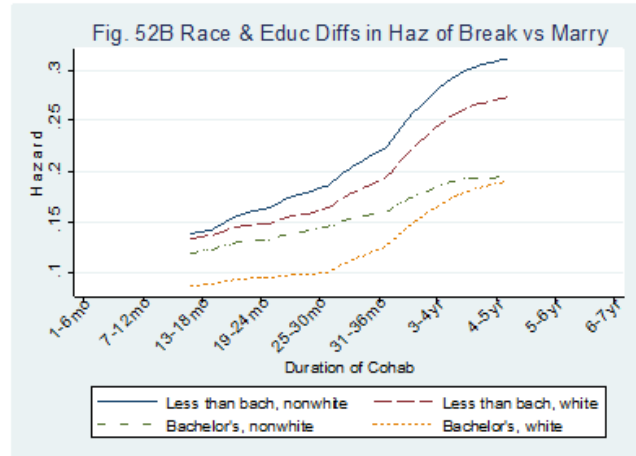
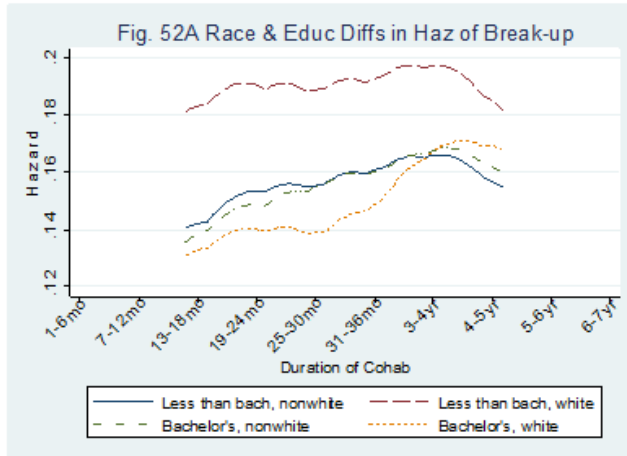
<sup>5</sup> However, the interaction between age at first union and race could not be easily graphed, given that it is a categorical by continuous interaction that is graphed across time (e.g. would have to be 3-dimensional to reflect the change in hazard across age at union entrance across time by race).

other racial groups. This greater “benefit” of higher education is due, in part, because Whites with lower levels of education have a greater risk of breaking up.

**Table 34. Racial Differences in Educational Attainment and First Cohabitation Stability**

	Marriage		Break-up		Break-up	
	(Still together is reference)				(Marriage is reference)	
	b	se	b	se	b	se
<b>Duration of Cohabitation</b> (1-6 months ref)						
7-12 months	0.281 ***	0.08	0.119	0.06	-0.162	0.10
13-18 months	-0.040	0.13	-0.031	0.10	0.009	0.16
19-24 months	-0.028	0.13	0.103	0.10	0.131	0.16
25-30 months	-0.082	0.16	-0.267 *	0.11	-0.186	0.22
31-36 months	-0.107	0.16	-0.463 ***	0.11	-0.355	0.20
3rd-4th year	-0.111	0.18	-0.258 *	0.10	-0.148	0.20
4th-5th year	-0.004	0.22	-0.343 **	0.11	-0.338	0.25
5th-6th year	-0.053	0.23	-0.321	0.17	-0.267	0.30
6th-7th year	0.057	0.20	-0.813 ***	0.21	-0.870 **	0.30
<b>Race</b> (black ref)						
White	0.530 ***	0.14	0.082	0.08	-0.449 **	0.15
Hispanic	0.474 ***	0.12	-0.191	0.09	-0.665 ***	0.13
Other	0.199	0.20	-0.146	0.11	-0.346	0.23
White X second year	0.420 **	0.14	-0.205 *	0.09	-0.625 ***	0.16
White X third year	0.451 **	0.17	0.031	0.13	-0.420	0.24
White X fourth year	0.032	0.20	-0.241	0.14	-0.273	0.24
White X fifth year plus	0.203	0.21	0.021	0.14	-0.182	0.27
<b>Education</b> (less than high school ref)						
High School	0.429 ***	0.09	0.010	0.06	-0.419 ***	0.12
Associate's/Vocational	0.791 ***	0.09	-0.038	0.08	-0.829 ***	0.13
Bachelor's	1.018 ***	0.15	0.329 *	0.13	-0.689 **	0.22
Bachelor's X second year	0.150	0.13	-0.190	0.17	-0.340	0.23
Bachelor's X third year	0.372 *	0.18	0.040	0.15	-0.332	0.24
Bachelor's X fourth year	0.763 ***	0.21	0.086	0.27	-0.677	0.38
Bachelor's X fifth year plus	0.336	0.23	0.241	0.20	-0.095	0.28
White X Bachelor's	-0.117	0.12	-0.449 ***	0.12	-0.332 *	0.16
Constant	-5.394 ***	0.15	-3.812 ***	0.08	1.582 ***	0.17

Note: coefficients are log-odds; results are weighted & based on multiply imputed data; \* p < 0.05 \*\* p < 0.01 \*\*\* p < 0.001



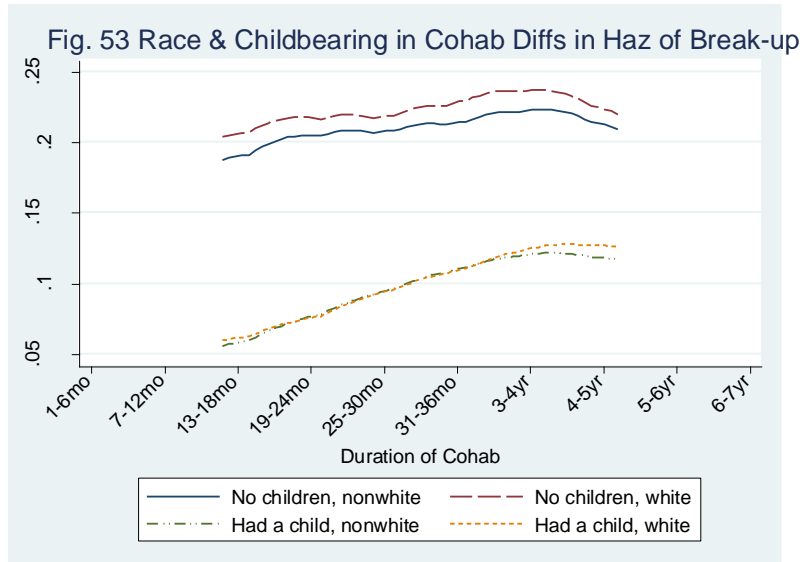
Racial differences also emerged in the association between childbearing while cohabiting and the outcome of that union. Model fit significantly improved with the inclusion of an interaction term between having a child within a cohabiting union and the dummy variable for being White,  $F(2,127) = 3.18, p < 0.05$ . Non-Whites who had a child while cohabiting had significantly lower log-odds of breaking-up with their partner versus remaining cohabiting compared to those who didn't have a child (-0.321; Table 35 & Figure 53). The likelihood of breaking up was even lower among Whites who had a child while cohabiting ( $-0.321 + -0.278 = -0.599$ ).

**Table 35. Racial Differences in Childbearing within the Union and First Cohabitation Stability**

	<b>Marriage</b>		<b>Break-up</b>		<b>Break-up</b>	
	(Still together is reference)				(Marriage is reference)	
	b	se	b	se	b	se
<b>Duration of Cohabitation</b> (1-6 months ref)						
7-12 months	0.261 **	0.08	0.141 *	0.06	-0.120	0.10
13-18 months	0.019	0.13	-0.041	0.11	-0.060	0.17
19-24 months	0.032	0.13	0.107	0.10	0.075	0.16
25-30 months	0.128	0.17	-0.205	0.12	-0.333	0.23
31-36 months	0.108	0.18	-0.383 **	0.13	-0.491 *	0.22
3rd-4th year	0.208	0.18	-0.233	0.14	-0.440	0.22
4th-5th year	0.191	0.27	-0.198	0.12	-0.389	0.27
5th-6th year	0.120	0.28	-0.152	0.16	-0.272	0.33
6th-7th year	0.223	0.21	-0.625 **	0.21	-0.848 **	0.28
<b>Race</b> (black ref)						
White	0.630 ***	0.14	0.027	0.07	-0.603 ***	0.14
Hispanic	0.476 ***	0.12	-0.189 *	0.09	-0.665 ***	0.13
Other	0.330	0.21	-0.136	0.11	-0.466	0.24
White X second year	0.424 **	0.14	-0.186	0.10	-0.610 ***	0.17
White X third year	0.432 *	0.17	0.064	0.14	-0.368	0.24
White X fourth year	0.045	0.21	-0.150	0.16	-0.194	0.26
White X fifth year plus	0.177	0.23	0.123	0.14	-0.053	0.28
<b>Childbearing within Cohabitation</b>						
Had a child	0.460 **	0.14	-0.321 *	0.15	-0.781 ***	0.21
Had a child X second year	-0.417 *	0.19	0.186	0.21	0.603 *	0.27
Had a child X third year	-0.749 **	0.23	0.084	0.20	0.832 **	0.29
Had a child X fourth year	-0.789 **	0.24	0.235	0.23	1.024 **	0.32
Had a child X fifth year plus	-0.676 **	0.25	0.026	0.21	0.702 *	0.33
White X Had a child	-0.071	0.15	-0.278 *	0.11	-0.207	0.19
Constant	-5.015 ***	0.13	-3.761 ***	0.07	1.254 ***	0.13

Note: coefficients are log-odds; results are weighted & based on multiply imputed data; \* p < 0.05 \*\* p < 0.01 \*\*\* p < 0.001

Looking at Figure 53 we see that Whites who didn't have any children had a higher risk of breaking-up relative to non-Whites, so there was a greater reduction in risk when Whites had a child than when non-Whites had a child (e.g. there is a bigger difference in risk). There were no racial differences in the positive association between having a child and the risk of marriage. For Whites, having a child while cohabiting was even more protective against union dissolution than it was for non-Whites.



Finally, the association between the age when one started cohabiting and their risk of breaking up significantly varied across racial groups, with the experience of Whites significantly different from other groups. The inclusion of an interaction term between the dummy variable for being White and age at union entrance significantly improved model fit,  $F(2,127) = 5.69$ ,  $p < 0.01$ . The results from Table 36 suggest that the impact of age at union entrance on risk of union dissolution was significantly different among Whites. Results indicate that Whites who started cohabiting at age 16 had significantly higher log-odds of breaking up with their partner in their first year of cohabiting compared to Blacks who started cohabiting at age 16 (0.329; also compared to Hispanics). However, when they entered their unions at older ages this higher likelihood of break-up in the first year was reduced; e.g. entered at age 18 ( $0.329 + .035(2) + -0.056(2) = 0.287$ ), entered at age 21 ( $0.329 + .035(5) + -0.056(5) = 0.224$ ), entered at age 25 ( $0.329 + .035(9) + -0.056(9) = 0.140$ ). [Additionally, the likelihood of breaking up decreased for whites the longer they were living together.] Conversely, among non-Whites in this simple model, the age when one first started cohabiting was positively associated with the likelihood of union dissolution, such that the older a non-White was when they began cohabiting, the higher likelihood they had of breaking-up with their partner. Results also suggest that the older Whites were when they started cohabiting, the lower likelihood they had of breaking-up with their first cohabiting partner rather than marrying them.

**Table 36. Racial Differences in Age at Union Entrance and First Cohabitation Stability**

	Marriage		Break-up		Break-up	
	(Still together is reference)				(Marriage is reference)	
	b	se	b	se	b	se
<b>Duration of Cohabitation</b> (1-6 months ref)						
7-12 months	0.309 ***	0.08	0.119	0.06	-0.190	0.10
13-18 months	0.031	0.12	-0.040	0.10	-0.070	0.15
19-24 months	0.061	0.13	0.094	0.09	0.033	0.15
25-30 months	0.059	0.16	-0.245 *	0.11	-0.305	0.22
31-36 months	0.038	0.17	-0.442 ***	0.11	-0.480 *	0.20
3rd-4th year	0.129	0.17	-0.225 *	0.11	-0.354	0.19
4th-5th year	0.172	0.22	-0.285 **	0.10	-0.456	0.25
5th-6th year	0.119	0.23	-0.263	0.16	-0.381	0.31
6th-7th year	0.241	0.20	-0.760 ***	0.21	-1.001 ***	0.29
<b>Race</b> (black ref)						
White	0.617 ***	0.18	0.329 **	0.11	-0.288	0.21
Hispanic	0.514 ***	0.12	-0.176	0.09	-0.690 ***	0.13
Other	0.364	0.20	-0.106	0.11	-0.470 *	0.23
White X second year	0.437 **	0.13	-0.229 *	0.09	-0.666 ***	0.16
White X third year	0.486 **	0.17	0.003	0.13	-0.483 *	0.24
White X fourth year	0.099	0.20	-0.283 *	0.14	-0.383	0.24
White X fifth year plus	0.208	0.22	-0.041	0.14	-0.249	0.28
<b>Age at Cohabitation Start (years)</b>	0.085 ***	0.02	0.035 **	0.01	-0.050 *	0.02
White X Age at Cohabitation start	0.001	0.02	-0.056 ***	0.02	-0.056 *	0.02
Constant	-5.476 ***	0.16	-3.969 ***	0.08	1.507 ***	0.18

Note: coefficients are log-odds; results are weighted & based on multiply imputed data; \* p < 0.05 \*\* p < 0.01 \*\*\* p < 0.001

Together these results suggest that, broadly speaking, for non-Whites the age when one entered into a union was positively associated with risk of break-up, but among Whites age at union was negatively associated with risk of union dissolution. At early ages Whites were significantly more likely to break-up with their partner compared to Blacks and Hispanics, but this difference converged when looking at individuals who entered their union at older ages; the hazard of breaking up for Whites decreases the older they were when they start cohabiting and the hazard of breaking up for non-Whites increases. This may indicate that entering into a cohabiting union at early ages was much less stable for Whites; but that this instability was reduced the older Whites were when they begin cohabiting.



## Multivariate Models of First Cohabitation Stability

The preceding simple models help illuminate how family experiences and demographic behavior are related to the stability of first cohabiting unions and the timing of various outcomes, whether and when individuals transition to marriage or break-up with their first cohabiting partner. These results also highlight that certain family and demographic factors are linked with cohabitation outcomes in ways that change across the duration of the cohabitation. Furthermore, results indicated that the influence of certain factors varied across gender and race. Multivariate models incorporate this information on how predictors were moderated by duration, gender, and race to provide a fuller picture of how family and sociodemographic factors contribute to the stability of first cohabiting unions. The final multivariate model is presented in Table 37.

To assess the extent to which the outcome of individuals' first cohabiting union was due to the selection of that individual into a cohabiting union, rather than remaining single or marrying directly, models were run with controls for this selection process. The final multivariate model presented in Table 37 includes the Dubin-McFadden selection controls. Appendix Table 4 presents the final multivariate model with and without the selection controls. Results were very similar for models that controlled for selection and those that did not, with a few exceptions.<sup>6</sup> Models in Table 37 show the log-odds coefficients and the odds ratios for all variables for the competing risk of transitioning to marriage versus

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<sup>6</sup> Two dimensions of the adolescent family environment were no longer statistically significant after controlling for selection, parental cohabitation and the number of maternal romantic partners (Appendix Table 4). This "mediation by selection" seems to indicate that both the lower likelihood of transitioning to marriage among individuals whose parents have cohabited and the higher likelihood of breaking-up among individuals whose mother's had three or more partners was explained by these individuals' higher likelihood of entering into a cohabiting union to start. A handful of other variables also appeared to be mediated by initial selection processes (including race, number of sexual partners in adolescence, and having children only with one's cohabiting partner prior to union entrance). These factors are discussed briefly in the text.

remaining cohabiting (column 1), breaking-up versus remaining cohabiting (column 2), and breaking up with the first cohabiting partner versus marrying them (column 3).

**Table 37. Multivariate Model of Cohabitation Stability**

	<b>Marriage</b> (Still together is reference)		<b>Break-up</b>		<b>Break-up</b> (Marriage is reference)	
	b	OR	b	OR	b	OR
<b>Duration of Cohabitation</b>						
(1-6 months ref)						
7-12 months	0.285 ***	1.33	0.144 *	1.15	-0.141	0.87
13-18 months	0.102	1.11	0.037	1.04	-0.065	0.94
19-24 months	0.118	1.13	0.191	1.21	0.073	1.08
25-30 months	0.100	1.11	-0.190	0.83	-0.290	0.75
31-36 months	0.071	1.07	-0.364 **	0.69	-0.435 *	0.65
3rd-4th year	0.117	1.12	-0.112	0.89	-0.229	0.80
4th-5th year	0.236	1.27	-0.184	0.83	-0.420	0.66
5th-6th year	0.207	1.23	-0.142	0.87	-0.349	0.71
6th-7th year	0.341	1.41	-0.617 **	0.54	-0.958 **	0.38
<b>Gender</b> (male = 1)	-0.034	0.97	0.476 ***	1.61	0.510 **	1.67
<b>Race</b> (black ref)						
White	0.744 *	2.10	0.091	1.10	-0.653	0.52
Hispanic	0.629 *	1.88	-0.350	0.70	-0.979 **	0.38
Other race	0.361	1.43	-0.353	0.70	-0.714	0.49
White X second year	0.373 **	1.45	-0.210 *	0.81	-0.582 ***	0.56
White X third year	0.383 *	1.47	0.055	1.06	-0.328	0.72
White X fourth year	-0.044	0.96	-0.221	0.80	-0.177	0.84
White X fifth year plus	0.141	1.15	0.046	1.05	-0.095	0.91
<b>Parental Education</b>						
(Less than High school ref)						
High school	-0.054	0.95	0.123	1.13	0.177	1.19
Some college	0.064	1.07	0.123	1.13	0.058	1.06
Bachelor's	-0.080	0.92	0.299 **	1.35	0.379 *	1.46
<b>Family Structure</b>						
(Bio-Married Parents, low distress ref)						
Bio-Married Parents, high distress	-0.099	0.91	0.063	1.07	0.162	1.18
Step parents, low-distress	-0.121	0.89	0.075	1.08	0.195	1.22
Step parents, high-distress	0.181	1.20	0.177	1.19	-0.004	1.00
Single Parent	-0.250 *	0.78	0.123	1.13	0.373 **	1.45
Other Family form	0.048	1.05	-0.036	0.96	-0.085	0.92
Male X Step parents, high-distress	-0.434	0.65	-0.504 *	0.60	-0.070	0.93
<b>Low Family Belonging</b>	-0.237 *	0.79	0.210 *	1.23	0.446 **	1.56
<b>Parental Cohabitation</b>	-0.350	0.70	0.054	1.06	0.404	1.50

<b>Number of Mother's Prior Relationships</b> (Three plus ref)						
One or fewer	-0.016	0.98	-0.234	0.79	-0.218	0.80
Two	-0.008	0.99	-0.156	0.86	-0.149	0.86
<b>Number of Sexual Partners before 18</b> (Three plus ref)						
None	0.506 ***	1.66	-0.135	0.87	-0.641 ***	0.53
One or Two	0.282 **	1.33	-0.195 *	0.82	-0.477 ***	0.62
<b>Educational Attainment</b> (Less than High School ref)						
High School	0.438 ***	1.55	-0.008	0.99	-0.446 **	0.64
Associate's/Vocational	0.838 ***	2.31	-0.037	0.96	-0.875 ***	0.42
Bachelor's	0.978 ***	2.66	0.361 *	1.43	-0.617 *	0.54
Bachelor's X second year	0.094	1.10	-0.269	0.76	-0.363	0.70
Bachelor's X third year	0.318	1.37	-0.070	0.93	-0.388	0.68
Bachelor's X fourth year	0.668 **	1.95	-0.076	0.93	-0.743	0.48
Bachelor's X fifth year plus	0.230	1.26	0.023	1.02	-0.207	0.81
White X Bachelor's	-0.031	0.97	-0.281 *	0.76	-0.250	0.78
<b>Age at Union Formation</b> (in years)	0.050 *	1.05	0.019	1.02	-0.030	0.97
White X Age at Union	-0.014	0.99	-0.053 **	0.95	-0.039	0.96
<b>Childbearing Prior to Cohabitation</b> (No children ref)						
Children only with cohabiting partner	0.139	1.15	-0.234	0.79	-0.373 *	0.69
Children with different partner	-0.059	0.94	0.376 ***	1.46	0.434 *	1.54
Male X Children with different partner	0.269	1.31	-0.452 *	0.64	-0.721 *	0.49
<b>Pregnant at Union Start</b>	0.233	1.26	-0.834	0.43	-1.066	0.34
Pregnant x After First Year	-0.290	0.75	0.215	1.24	0.505 *	1.66
<b>Childbearing within Cohabitation</b>						
Had a child	0.070	1.07	0.030	1.03	-0.040	0.96
Male X Had a child	0.108	1.11	-0.416 **	0.66	-0.524 **	0.59
White X Had a child	0.001	1.00	-0.363 **	0.70	-0.365	0.69
<b>Pregnancy in Cohabiting Union</b>	1.028 ***	2.80	-0.219	0.80	-1.246 ***	0.29
Pregnancy X second year	-0.330	0.72	-0.473 *	0.62	-0.144	0.87
Pregnancy X third year	-0.522 *	0.59	-0.101	0.90	0.421	1.52
Pregnancy X fourth year	-0.846 *	0.43	-0.310	0.73	0.536	1.71
Pregnancy X fifth year plus	-0.959 **	0.38	-0.079	0.92	0.880 *	2.41
Constant	-6.679 ***	0.00	-3.733 ***	0.02	2.946 **	19.03

Note: models control for selection; results are weighted, adjust for clustering, & based on multiply imputed data;

\* p < 0.05 \*\* p < 0.01 \*\*\* p < 0.001

Respondents' gender and race were significantly associated with their first cohabitation outcome, following the findings from simple models. Men had 61% higher odds of breaking up with their first cohabiting partner versus remaining together with them and 67% higher odds of breaking-up versus

marrying their partner, compared to women. Whites had 110% higher odds of marrying their first cohabiting partner compared to Blacks during the first year of their cohabiting union. Whites' higher odds of transitioning to marriage increased over the first few years of their cohabitation (205% higher odds in the second year, 208% higher odds in the third year) and remained higher across all possible duration periods. Hispanics were also significantly more likely to marry their cohabiting partner than Blacks, with 88% higher odds of marrying relative to remaining single and 62% lower odds of breaking up versus marrying their partner. In the multivariate model controlling for selection, the main effect of the risk of breaking-up versus marrying for Whites was no longer statistically significant. This suggests that, after accounting for the initial selection of Whites into a cohabiting union, they no longer had a higher risk of breaking-up with their partner relative to Blacks (see Appendix Table 4), at least in the first year and in the third year and later. Results from Table 37 and Wald tests of the sum of coefficients do indicate that during the second year of living with their partner, Whites had 11% lower odds of breaking-up with their partner versus remaining cohabiting and compared to Blacks. Overall, results suggest that men were more likely to break-up with their partner relative to women and Whites and Hispanics were more likely to marry their partner relative to Blacks, with Whites also more likely to marry their partner than Hispanics (according to models and tests with a rotated reference group).

Several dimensions of individuals' adolescent family environment were associated with the stability of their first cohabiting unions. Respondents whose parent had a Bachelor's degree or more had significantly higher odds of breaking up with their partner versus staying together with them or marrying them, compared to individuals whose parent had less education (less than high school, high school, or some college). These parental education results are, importantly, controlling for individual educational attainment. So, these results suggest that coming from a higher socioeconomic background, having a parent with a college education, is associated with a greater likelihood of dissolving one's cohabiting

union, possibly after a shorter amount of time.<sup>7</sup> Perhaps coming from a higher SES background may enable individuals to get out of cohabiting unions, and more quickly, regardless of one's own educational attainment. Additionally, after accounting for individual educational attainment, there was no longer a statistically significant positive association between parental education and the likelihood of marrying. This suggests that the main reason why individuals whose parent had more education were more likely to marry their cohabiting partner was because they themselves had higher levels of education.

In multivariate models only a few family structure differences in cohabitation stability remain, compared to earlier models. Supplementary analyses suggest that the association between coming from a stepfamily (either a low- or high-distress context) and the outcome of offspring's cohabiting union was largely mediated by exposure to multiple maternal romantic relationships and somewhat by exposure to parental cohabitation. That is, individuals from stepfamilies (particularly women in high-distress stepfamilies) were less likely to marry and more likely to break-up with their first cohabiting partner in large part because they were more likely to have been exposed to multiple maternal coresidential unions and parental cohabitation. Results from Table 37 indicate that, controlling for a number of family and sociodemographic factors and behavior, individuals who grew up in a single parent family had significantly lower odds of marrying their partner relative to remaining together and were significantly more likely to break-up with their partner rather than marry them, compared to individuals who grew up in a low-distress intact family.<sup>8</sup> In general these results suggest that growing up in a single parent family is associated with a particularly low likelihood of transitioning from a cohabiting union to marriage, compared to the higher likelihood that individuals who grew up in a low-distress intact family had of marrying their partner.

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<sup>7</sup> See earlier supplementary analyses that suggest the average length of cohabitations are shorter among individuals whose parent had a Bachelor's degree or more.

<sup>8</sup> Analyses rotating the reference group in the multivariate model indicate that this comparison between individuals from single parent families and low-distress intact families was the only statistically significant difference.

The degree of belongingness that one felt to their family during adolescence was also associated with the later stability of their cohabiting unions. Compared to individuals who reported average-to-high levels of family belonging, individuals who reported feeling a low level of belonging to their family during adolescence had 21% lower odds of marrying their partner versus remaining cohabiting, 23% higher odds of breaking up with their partner versus remaining cohabiting, and 56% higher odds of breaking-up with their partner versus marrying them. These results suggest that growing up in a family environment in which one doesn't feel like they belong may contribute to greater instability in future romantic relationships.

Adolescent sexual behavior, the number of sexual partners individuals had before age 18, was also associated with the likelihood of different outcomes to their first cohabiting unions. The fewer sexual partners that individuals had during adolescence, the more likely they were to marry their first cohabiting partner. Compared to individuals who had three or more sexual partners, individuals who had no sexual partners in adolescence had 66% higher odds of marrying their partner versus remaining single and 47% lower odds of breaking-up with their partner versus marrying them. Individuals who had one or two sexual partners had 33% higher odds of marrying their partner, 18% lower odds of breaking up with their partner versus remaining cohabiting, and 38% lower odds of breaking up with their partner versus marrying them. Prior to controlling for selection individuals who had no sexual partners were also significantly less likely to break-up with their first cohabiting partner (Appendix Table 4). Overall these results suggest a link between adolescent sexual behavior and future relationship behavior, with individuals who engaged in more risky sexual behavior during adolescence more likely to be involved in less stable relationships later on.

The level of educational attainment an individual had was also linked with the likelihood they experienced different outcomes to their first cohabiting union. Results from Table 37 indicate that the more education individuals had, the more likely they were to marry their cohabiting partner, with individuals who had a Bachelor's degree the most likely to marry. Having a Bachelor's degree, however,

was associated with significantly higher odds of breaking-up with one's partner rather than continuing to cohabit with them compared to individuals who had less education. This difference was significantly larger for non-Whites (1.43) than for Whites (1.08). Individuals who had higher levels of education were, however, significantly less likely to break-up with their partner than marry them. These results suggest that when individuals have more education it's more likely that their first cohabiting union is a step on the way to marriage. And for those that don't make the transition to marriage, having a college education is associated with a higher likelihood of breaking up, particularly among non-Whites, where a cohabiting union is not so much an alternative to marriage but more of a short-lived state.<sup>9</sup> This finding also complements results relating to parental education. Having more socioeconomic resources, in the form of parental education or personal educational attainment, was associated with a greater likelihood of exiting a cohabiting union perhaps because individuals do not treat these unions as more long-term endeavors.

The age when individuals first began cohabiting with their partner was linked with the outcome of their unions. The older a person was when they first began cohabiting with their partner, the more likely they were to transition to marriage, with every year after age 16 associated with a 5% increase in the odds of marriage. Among whites, the older individuals were when they began cohabiting, the less likely they were to break-up with their partner, with every year over age 16 associated with a 3% reduction in the odds of breaking-up. When individuals begin cohabiting at later ages they are more likely to make the transition to marriage, but only among Whites does a later age at union entrance contribute to more stability for that cohabiting union and a lower likelihood of dissolving the union.

### **Childbearing and the Stability of First Cohabitations**

Childbearing, both prior to entering a cohabitation and within it, was linked with the stability of that union. Multivariate results indicate that the outcomes of first cohabiting unions were associated with whether an individual had a child prior to the start of cohabiting, and who the parent of that child was.

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<sup>9</sup> See earlier supplementary analyses that found that the average cohabitation duration length of individuals with a Bachelor's degree was significantly shorter than other education groups.

This childbearing was also linked to cohabitation outcomes in different ways for men and women. For women, having a child prior to cohabiting who was not biologically related to one's first cohabiting partner was associated with a higher risk of breaking-up with one's partner rather than remaining cohabiting or marrying them, compared to women who did not have children prior to cohabiting or who only had children with their cohabiting partner. For men, on the other hand, having a child with someone who was not your first cohabiting partner was not associated with any elevated risk of breaking-up. For both men and women, individuals who had a child with their cohabiting partner prior to entering their union had 31% lower odds of breaking up with their partner versus marrying them compared to individuals who had no children prior to cohabiting (or who had children with a different partner). In multivariate models that did not control for selection, individuals who had a child with their first cohabiting partner prior to living together had lower odds of breaking up with their partner rather than remaining cohabiting, compared to individuals who had no children prior (Appendix Table 4). This association was no longer significant after controlling for selection, perhaps due to the higher likelihood of individuals who had children outside of a coresidential union to enter a cohabiting union (see Table 10).

Overall these results suggest that entering into a union with someone you already had a child with is associated with a higher likelihood of remaining together, but in a cohabiting state. For women, having a child with someone else before living with your partner may contribute to instability in your relationship, likely because that child or children live in the household. For men, having a child with someone else prior to cohabiting was not associated with an elevated risk of breaking up. This may be because the child or children don't live in the household. Future research should examine this gender difference by considering how the residential location of children influences the stability of cohabiting relationships.

In simple models, entering a union while pregnant, being pregnant while cohabiting, and having a child within a cohabiting union were all significantly associated with cohabitation stability, in ways that



varied across the duration of the cohabitation (see Tables 28, 29 & 30). Considering these factors together within the same multivariate model becomes challenging, however, due to moderately high correlations between constructs (see Appendix Table 5) and a shifting interpretation of their meaning when controlling for one another (e.g. the effect of having a child within a cohabiting union controlling for whether one was pregnant at the union start; the effect of being pregnant at the union start controlling for whether one had a child within the cohabiting union (which virtually all did)). Additionally, the time-varying interactions for having a child and being pregnant within the cohabiting union captured similar experiences, and models that included both ran into problems with multicollinearity. Multivariate models were run separately for these three factors (pregnancy at union start, pregnancy within the cohabiting union, and childbearing within the cohabiting union), and are presented in Appendix Tables 6-8. The final multivariate model in Table 37 presents results with all three factors in the model, but does not include the time interactions with childbearing in the union (which is no longer significant in the model with pregnancy time interactions).

Results from simple models suggest that being in a “shotgun cohabitation”, entering a cohabiting union while pregnant, was linked to the eventual outcome of that union. In the multivariate model presented in Table 37, however, being pregnant at the start of cohabiting was not associated with the risk of later union outcomes. In supplementary multivariate models that excluded other childbearing variables, the higher likelihood that individuals in “shotgun cohabitations” had of marrying their partner and the lower likelihood that they had of breaking up with their partner in the first year of their cohabitation was no longer significant in models that accounted for selection (see Appendix Table 6). These results point to a few things. First, part of the reason that individuals were more likely to marry their partner in the first year of living together if they were pregnant when they moved in was due to the fact that they moved in to a cohabiting union (rather than remained living apart or married one another) to begin with. Secondly, part of this “shotgun cohabitation” effect may also be seen when looking at the influence of childbearing within a cohabiting union, where births that occurred early in a cohabiting union

(in the first two years) were associated with a higher likelihood of transitioning to marriage but not so for later births (see Appendix Table 6). Generally, these results highlight that the impact of having a child or being pregnant on the stability of one's first cohabiting union shifts over the course of the cohabitation.

Results suggest that having a child within a cohabiting union was significantly associated with the stability of that union, but in different ways for men and women and for Whites and non-Whites. In the final multivariate model (Table 37), while the interaction terms between having a child and being male and having a child and being white were both significant, Wald tests of the sum of coefficients indicate that there were no significant associations between these terms and cohabitation outcomes. Comparing these models to the models in Appendix Table 8 that ran childbearing variables separately and their tests, it seems that controlling for pregnancy behavior eliminates the significant associations of these interactions. When considering these two interactions together in the childbearing only model (Appendix Table 8), it appears that having a child within a cohabiting union was not associated with the risk of breaking-up for non-White women, while White women who had a child had 33% lower odds of breaking-up compared to White women without children, non-White men who had a child had 38% lower odds of breaking-up compared to non-White men without children, and White men who had a child while cohabiting had 56% lower odds of breaking-up rather than remaining cohabiting compared to White men without children. For both men and women, having a child while cohabiting was associated with a lower likelihood of breaking-up versus marrying one's partner, but more so for men. However, after controlling for the influence of being pregnant on one's risk of making a union transition, these gender and race differences were no longer statistically significant. In conclusion, after comparing the results across these models it appears that while having a child may be associated with greater stability in cohabiting unions, and more so for men and whites, this effect largely reflects the stability that comes with pregnancy.

Getting pregnant, or having a pregnant partner, was associated with significantly higher odds of marrying one's partner (Table 37; Appendix Table 7). However, the higher likelihood of transitioning to marriage converged over the duration of the cohabiting union. Relative to their non-pregnant peers,

individuals who were pregnant in their first or second year of cohabiting had 180% higher odds of marrying their partner rather than continuing to cohabit, which dropped to only 66% higher odds of marrying their partner in the third year of their cohabitation. By the fourth year and later, individuals who got pregnant were no more likely to transition to marriage than individuals who were not pregnant at that time. Being pregnant in the second year of one's cohabitation was associated with 50% lower odds of breaking-up rather than remaining together compared to individuals who were not pregnant during this period. Finally, at all points in duration of cohabiting, except in the fifth year and later, individuals who were pregnant were significantly less likely to break-up versus marry their cohabiting partner compared to non-pregnant individuals. In the fifth year and later periods of duration there was no difference in the odds of breaking-up or marrying one's partner by pregnancy status. Overall these results highlight that getting pregnant may motivate a shift to a marital union, but more so in the early parts of a cohabiting union. It also appears that pregnancy contributes to union stability to a greater extent than childbearing.

## **Summary**

In general, the majority of first cohabitations observed in this sample were short lived, with only 15% remaining together by the end of observation. Several factors contributed to the stability of these unions and whether they ended in marriage or break-ups. Results from this chapter can be summarized under 6 main findings:

- 1) After accounting for selection, only a handful of adolescent family factors were associated with the outcomes of individuals' cohabiting unions. There were few family structure differences in the risk of different cohabitation outcomes. Individuals from single parent families were less likely to marry their partner. The heightened risk of individuals from stepfamilies to break-up with their first cohabiting partner was accounted for by exposure to family instability and parental cohabitation. Coming from a high-distress stepfamily was associated with a higher likelihood of union dissolution for women only. The initial selection of individuals into cohabiting unions

accounted for the impact that parental relationship history had on offspring's cohabitation stability. Reporting a low sense of family belonging during adolescence was associated with later relationship instability – a lower likelihood of marrying one's first cohabiting partner and a higher likelihood of breaking-up with them.

- 2) Higher socioeconomic status was linked with a higher likelihood of transitioning to marriage.

The longer people with higher education lived together, the greater likelihood that they transitioned to marriage. But, if unions did not end in marriage, they were more likely to dissolve. Remaining in a stable cohabiting union, not marrying or breaking-up, was a more common experience for individuals with less education or whose parent had less education.

- 3) The first cohabiting unions of Whites were somewhat distinct from those of other races. Whites were more likely to marry their partner, and this higher likelihood increased the longer they lived together. Whites with a Bachelor's degree were less likely to break-up than non-Whites with similar levels of education. The older Whites were when they began cohabiting, the less likely they were to break-up with their partner. Finally, having a child was associated with greater union stability for Whites than for non-whites.

- 4) Childbearing and pregnancy was more influential on the stability of cohabiting unions in the first few years of living together. Getting pregnant and having a child in the first few years of cohabiting was associated with an increased likelihood of marrying, however, at later durations getting pregnant and having a child was not associated with the likelihood of transitioning to marriage. After several years of living together without marrying or breaking-up if a couple gets pregnant and has a child, they are just as likely to remain cohabiting and not transition than if they didn't have a child.

- 5) It matters who the parent of your child is when you have them outside of a coresidential union, in terms of the stability of your next (first) coresidential union, especially for women. If you later live with the parent of a child you bore outside of a coresidential union, you are less likely to break-up with that person. But, for women, if you have a child with someone and then later begin

living with someone else, you are much more likely to break-up with that partner and stop living together.

- 6) In general, women are much more likely to remain cohabiting with a partner than men are. Men have a high likelihood of breaking-up with their partner.

In the final chapter we bring together what we've learned about union formation with what we've learned about the stability of first cohabiting unions and discuss how these findings inform our current understanding of the link between adolescent family experiences, behavior in adolescence and young adulthood, and the timing and stability of first coresidential romantic relationships in young adulthood.

## *Chapter 8*

### **Discussion**

While the symbolic importance of marriage remains strong in American culture, the practical role that marriage plays in organizing American family life has shifted (Cherlin, 2009). Marriage is now seen as the capstone experience of romantic relationships, one that may take place after the initiation of sexual relations, living together, and even childbearing (Cherlin, 2004; Carlson, McLanahan & England, 2004; Edin, Kefalas & Reed, 2004; Sassler, 2010). While individuals are waiting even longer to get married (Manning et al., 2014), non-marital cohabitation has emerged as a common experience in the American life course (Copen, et al., 2013). Most marriages begin as cohabitations and an increasing number of children are born within these unions (Copen et al, 2013; Kennedy & Bumpass, 2011; Lichter, 2012). With more individuals spending at least part of their lives in cohabiting unions, it is instructive to understand how both earlier experiences in the family and concurrent behavior influence whether and when people begin cohabiting and the stability of their unions. By examining the association between adolescent family experiences and the timing and stability of first cohabitations, this study adds insight into the ways that the family environment growing up contributes to the approaches offspring take within their romantic unions. This thesis addressed two main research questions: 1) what influences the timing of entrance into a first coresidential union (cohabitation or marriage), and 2) what factors influence whether and when first-time cohabiters break-up or marry?

Cohabitation was the most common form of a coresidential union, with about 66% of the sample cohabiting as their first union. A much smaller percentage of individuals married directly (16%), with the remaining 18% of the sample staying single throughout the observation. First-time cohabiters entered their unions on average at an earlier age (21) than individuals who married directly (22), with a larger percentage of adolescents aged 18 and under in cohabitations (14%) than in marriages (2%). About 50% of first-time cohabiters broke-up with their partner, after about 20 months on average. A little over a third

of first-time cohabiters married their partner (35%), after a little less than two years together on average. Individuals who remained cohabiting with their partner (15% of the sample) were observed living together for a significantly longer period of time, about 4 and ½ years on average (median duration 3.75 years). Most transitions to marriage or union dissolution occurred within the first few years of living together, with 38% of respondents who married their partner and 49% of respondents who broke-up with their partner doing so within the first year. These results confirm past research which finds that more individuals cohabit as their first union, that fewer cohabitations end in marriage, and that most cohabitations end in a break-up or marriage within the first few years (Cherlin, 2010).

The current study, however, goes beyond the traditional focus on women's experiences in romantic unions, and looks at the first cohabitation experiences of men as well. Women had a higher risk of entering into a marriage or a cohabitation during adolescence and early adulthood (ages 19-23). However, by their mid-twenties men and women had similar risks of entering into unions, reflecting the gendered nature of union formation with men entering unions at later ages (Manning et al, 2014). Women were much more likely to remain cohabiting than men, who had higher odds of breaking-up with their partner. Men who broke-up with their partner also did so at significantly earlier durations on average (18.5 months) than women (21.5 months). This gender difference in the stability of cohabiting unions may reflect gender differences in the perceived role that cohabitation plays in people's lives. Men tend to express greater concern over a loss of freedom within cohabitations (Huang, et al., 2011), and report less commitment to their partner than women (Pollard & Harris, 2013), which may reflect a greater openness among men to end their unions.

In addition to gender differences in cohabitation, several race differences arise in the current thesis and, as is discussed later, the intersection of race and gender appears to shape the link between childbearing and cohabitation experiences. When considering together the risk of entering a cohabiting union and the stability of that union thereafter, the experiences of Whites in particular emerge as somewhat distinct from other racial groups. Whites were more likely to marry directly compared to

individuals from other racial groups, and compared to Blacks they were more likely to cohabit. Blacks had a low likelihood of marrying compared to all other racial groups and were more likely to remain single; if they did enter a union it was much more likely to be a cohabitation. Among first-time cohabiters, Whites were significantly more likely to marry their partner than any other racial group, and this higher likelihood increased the longer they lived together. Factors which were associated with greater stability were also more advantageous for White cohabiters; including, having a Bachelor's degree, entering a union at older ages, or having a child within the union. These results suggest racial differences in first cohabitation experiences may lead to a more distinct "White" cohabitation pathway, one that is more likely to lead to marriage and is better able to capitalize on stabilizing factors.

The timing of union formation was associated with the outcome of cohabiting unions but, importantly, the impact of adolescent family factors and concurrent behavior for union outcomes did not vary by the age when individuals first began cohabiting. The older a person was when they began cohabiting, the more likely it was that their cohabitation transitioned to marriage. For Whites, the older a person was when they began cohabiting the less likely they were to break-up rather than remain cohabiting. These results suggest that the age when people first begin cohabiting is largely independent of how other factors impact union stability. That is, regardless of the age when people first begin cohabiting, family factors and concurrent behavior have a similar effect on the outcome of that union. This finding is important when we consider that earlier ages at union entrance are often linked with greater instability (Bramlett & Mosher, 2002), but these results suggest that is only the case for Whites. Results also suggest that regardless of when you start cohabiting, what are more important are the experiences and characteristics you bring with you or have within the cohabitation that shapes its outcome trajectory.

A major goal of the current thesis was to examine the link between an individual's family environment during adolescence and their experience within their first cohabiting union. A few key findings emerged. Consistent with prior research (Ryan, et al, 2009; Goldscheider & Goldscheider, 1998;



Amato & Kane, 2011), results indicate that individuals who were in a stepfamily or single-parent family during adolescence were more likely to cohabit than individuals from married biological parent families. There was limited evidence of differences in union formation behavior by parental marital quality (Amato & Kane, 2011). Much of the association between coming from a non-intact family and the heightened risk of cohabiting was mediated by exposure to high family instability (multiple maternal coresidential romantic unions) and parental cohabitation, especially for individuals from stepfamilies. This finding supports a modeling perspective; youth observe the ways that their parent(s) engage in romantic unions, by living in a cohabiting union or living with several different partners, and this in turn shapes the approaches they take in their own romantic unions.

The influence of family instability on offspring's cohabitation, however, appears to be concentrated on their early risk. That is, being exposed to multiple maternal romantic partnerships elevates individuals' risk of entering into cohabiting unions during adolescence and early adulthood, but this risk weakens as people age. Furthermore, the higher likelihood of cohabiting among individuals who were in more "stressful" family environments during adolescence – higher family instability, lower parental education, and low sense of family belonging – was concentrated in adolescence and early adulthood. These dimensions of family disadvantage (more instability, fewer socioeconomic resources, less emotional support) therefore elevate early risk during adolescence and early adulthood, but over time are less influential on the likelihood of entering cohabiting unions, conceivably as individuals from less disadvantaged backgrounds enter cohabiting unions at more "normative" ages. Additionally, individuals from more disadvantaged family environments may be using the movement into cohabiting unions as a way to escape the stress of these environments at ages when they likely have fewer resources of their own to pull on (e.g. personal income or educational attainment). These findings bring new insight to the literature on family influences on offspring union formation by highlighting that the influence of family factors on offspring union behavior shifts as individuals age.

An individual's adolescent family environment was linked not just with their likelihood of entering a cohabiting union, but also with the stability and outcome of their union. Results suggest that the degree of support and sense of belonging individuals felt towards their family during adolescence was more strongly associated with the outcome of their first cohabiting union than their parental relationship history or family structure. There were few family structure differences in the outcome of first cohabitations. The higher propensity of individuals from stepfamilies, particularly women from high-distress stepfamilies, and individuals from single-parent families to break-up with their partner was largely mediated by their higher likelihood to be exposed to more family instability (multiple maternal romantic relationships). This link between exposure to family instability growing up and risk of union dissolution, however, was largely mediated by the initial selection of individuals who were exposed to more maternal coresidential relationships to cohabit in the first place. While prior literature has found that individuals from single-parent families are less likely to make the transition to marriage (Manning, 2004), results from the current study add depth to the current understanding of this linkage and point to the role that exposure to family instability plays for the stability of offspring's cohabiting unions. Results also suggest that growing up in a high-distress stepfamily may be particularly impactful on the future relationship stability of women, a finding not previously found in the literature.

While family structure differences in the risk of breaking-up with one's partner were largely explained by exposure to family instability, initial family structure differences in the likelihood of marrying one's partner, with individuals from stepfamilies and single parent families less likely to marry, were largely mediated by educational attainment and exposure to parental cohabitation.<sup>10</sup> That is, after accounting for the lower levels of educational attainment and higher rates of parental cohabitation among individuals from non-intact families, family structure differences in the risk of marriage largely disappear.

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<sup>10</sup> For individuals from step-families education was the main mediating mechanism, with parental cohabitation playing a minor role. For individuals from single parent families both education and parental cohabitation were significant mediating mechanisms, but only in final models with all controls was the single parent effect no longer significant, which suggests that a number of other factors may also be important.

While prior literature confirms the higher likelihood of cohabiting women from intact families to marry (Bramlett & Mosher, 2002), findings from the current study illuminate some of the possible pathways that help to explain family structure differences in the likelihood that cohabiting unions transition to marriage. Overall, results suggest that family structure and parental relationship history is more influential on the risk that offspring enter into cohabiting unions, particularly during adolescence and early adulthood. But these family factors are less influential on what happens within offspring's unions above and beyond the influence of other experiences and characteristics.

While exposure to different family structures and parental relationship experiences growing up was not strongly linked with cohabitation outcomes, the sense of support and belonging individuals felt during adolescence was significantly linked with the stability of their first unions. Individuals who reported feeling a low sense of belonging to their family during adolescence were significantly more likely to enter cohabiting unions during adolescence and young adulthood, and they were also significantly less likely to see their cohabiting union result in a marriage and more likely to see it dissolve. These results illuminate the enduring role that emotional support from the family during adolescence can play for later functioning in romantic relationships (Collins & van Dulmen, 2006). Adolescents who have more supportive relationships with their parents tend to have higher quality and less conflictual relationships with romantic partners in young adulthood (Collins et al 2009; Conger, et al., 2000). Additionally, youth's sense of attachment and commitment to their parents has been found to be associated with their level of commitment in later romantic unions (De Goede, et al., 2011) and individuals' sense of cohesion or belonging to their family during adolescence has been linked with their sense of intimacy in romantic relationships in young adulthood (Feldman, et al., 1998). Therefore, feeling a sense of belonging to one's family during adolescence may contribute to the development of positive relationship skills that help to contribute to greater stability and commitment in future unions (Conger, et al., 2000). On the other hand, individuals who did not feel a sense belonging to their family during adolescence, who did not feel supported or understood, may have a more difficult time maintaining

intimate relationships. They may have developed fewer relationship skills or their proclivity to feel they don't belong may reflect some latent dimension of their personality that may contribute to greater instability in their social relationships. The finding of a linkage between adolescent family belonging and the stability of first cohabitations in this thesis adds new insight to the literature on the linkage between earlier family relations and later romantic unions.

While the primary aim of the current thesis was to examine the linkages between the adolescent family environment and experiences in first cohabiting unions, a secondary aim was to examine how concurrent behavior across the transition to adulthood was associated with the formation and stability of cohabiting unions. Three dimensions of behavior were examined: sexual behavior during adolescence (number of sexual partners before age 18), educational attainment, and childbearing and pregnancy.

The level of sexual activity a person engaged in during adolescence was associated with whether and when they entered a cohabiting union and the likely outcome of that union. Results suggest that individuals who had more sexual partners in adolescence were more likely to enter cohabiting unions during adolescence and early adulthood, but by the mid-twenties and late-twenties/early-thirties their less sexually experienced peers had caught up with them, with similar rates of cohabiting. This result confirms and extends past research on the association between adolescent sexual behavior and risk of cohabiting (e.g. Meier & Allen, 2009; Raley et al., 2007), finding that the impact of adolescent sexual behavior on cohabitation risk is limited to earlier cohabitation. Having more sexual partners during adolescence also helped to mediate family structure differences in the risk of cohabiting, following earlier research by Kiernan & Hobcraft (1997). Individuals who had more sexual partners during adolescence were also less likely to marry their cohabiting partner and more likely to break-up with them. Part of this greater likelihood of individuals with more adolescent sexual partners to break-up with their first cohabiting partner was mediated by their initial selection into a cohabiting union. These results add new insight to the literature on the link between the sexual behavior of adolescents and their later experiences in romantic unions.

Results from this thesis also highlight the pervasive educational attainment gradients in union formation behavior (Cherlin, 2010). Individuals with more education were more likely to marry directly rather than remain single throughout young adulthood. There were few differences in the likelihood of cohabiting by education, with slight variation across gender. Women who had a high school degree were more likely to cohabit than women with less education, while men with a Bachelor's degree were less likely to cohabit than men with less education. While having a more highly educated parent was associated with lower risk of cohabiting, and particularly cohabiting at early ages, having more education oneself was not as strongly associated with one's risk of entering into a cohabitation.

While there was limited evidence of educational attainment differences in the risk of cohabiting, the outcomes of these first cohabitations varied significantly by education level. People with higher education were more likely to transition to marriage, and the longer they lived together the greater likelihood that they would make the transition. However, if unions did not end in marriage, individuals with more education were more likely to see their union dissolve, and after a shorter period of time. These results suggest that for some highly-educated individuals cohabitation acts as a step in the marriage process, but for others these unions are much less stable. People with more education appear to be more likely to "get in & get out" of a cohabiting union if it isn't leading to marriage, while individuals with less education are more likely to remain in a stable cohabiting union that doesn't transition to marriage or break-up. Above and beyond personal educational attainment, coming from a higher SES background, having a parent with a college degree, was also associated with a higher likelihood of breaking-up with ones cohabiting partner and after a shorter period of time. These results make two important contributions to the current literature, finding that 1) educational differences in the likelihood of transitioning to marriage increase across cohabitation duration, and 2) there appear to be two different patterns of cohabitation experiences among the more highly educated.

Finally, this thesis highlights that childbearing and pregnancy experiences prior to and within cohabiting unions are significantly related to the timing and stability of these first unions, in ways that

vary across gender and race. Several salient findings emerge that contribute to our understanding of the link between childbearing and cohabitation.

First, being pregnant was associated with a higher likelihood of entering a coresidential union, particularly marriage, but this “pregnancy effect” was strongest during adolescence and declined as people aged, and was strongest among non-Blacks. These results confirm past research on the racial variation in how pregnancy influences relationship trajectories (Lichter et al., 2014), and adds new insight to the role that pregnancy plays at different ages. This finding may also reflect that at older ages individuals are more likely to enter a cohabiting union, and therefore pregnancy doesn’t have the same “pull” that it does at earlier ages. Furthermore, men who reported having a pregnant partner were especially likely to enter a cohabiting union, a result not previously found in the literature.

Second, non-coresidential childbearing is associated with both the likelihood of entering a cohabitation and the stability of that union afterwards; again with variation across gender and race. Having one child outside of a coresidential union was not associated with the risk of entering a cohabitation or marriage for White women or non-White men, however, having one child rather than no children was associated with an increased likelihood of both marriage and cohabitation for White men, and a decreased likelihood of marriage and increased likelihood of cohabitation among non-White women.<sup>11</sup> This finding suggests that having a child increases the likelihood of entering a union in ways that vary by gender and racial identity. Future research should continue to examine how non-coresidential childbearing shapes the union experiences of individuals across both race and gender lines.

Among cohabiters who entered their union with a child, the biological-relatedness of that child to their partner impacted the stability of their union, but in different ways for men and women. Both men and women who cohabited with their partner after already having had a child with them were less likely to break-up with their partner but also less likely to marry them, compared to individuals who didn’t have

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<sup>11</sup> Having two or more children was not associated with any increased or decreased likelihood of entering a coresidential union, compared to those who had no children.

any children prior to the start of their cohabitation. This suggests that if people cohabit with someone after having a child together they may be treating this union form as a context for raising their child, but are not likely to see this union transition to marriage. Among women, but not men, having a child with someone prior to cohabiting with a different partner was associated with an increased risk of breaking up with that partner. This finding may reflect the greater likelihood that children live with their mother rather than their father, which may contribute to greater instability for these cohabiting stepfamilies. Additionally, this finding may reflect the poorer romantic prospects that women with children have relative to men with children (e.g. Goldscheider & Sassler, 2006). These results give greater insight into how childbearing impacts the stability of cohabiting unions in different ways for men and women, something that is often missed when focusing on the experiences of women only.

Third, being pregnant at the start of one's cohabitation was associated with the stability of that union, in a way that varied across the duration of the cohabitation. Results point to a sort of "threshold effect", where the likelihood of transitioning to marriage is high after entering into a "shotgun cohabitation" but drops significantly after that first year of cohabiting. This finding adds new understanding to the research on post-conception cohabitation formation ("shotgun cohabitations") by highlighting that the period immediately following this initial transition is a particularly important time when individuals decide to further advance their relationship to a marriage, and if this transition does not happen then it is far less likely to happen later. This may also reflect something about the intentionality of these pregnancies, where cohabiting unions that are hastily arranged due to an unintended pregnancy are at the greatest risk of dissolution (Guzzo & Hayford, 2012).

Fourth, results highlight that the impact pregnancy and childbearing experiences within a cohabiting union on relationship outcomes varies across the duration of the union. Namely, pregnancy and childbearing is more influential on the stability of cohabiting unions in the first few years of living together. While getting pregnant and having a child in the first few years of cohabiting was associated with an increased likelihood of marrying one's partner, at later duration points getting pregnant and

having a child was not associated with the likelihood of transitioning to marriage. After several years of living together without marrying or breaking-up if a couple gets pregnant and has a child, they are just as likely to remain cohabiting and not transition than if they didn't have a child. These results contribute to the literature on cohabiting families and highlight that childbearing "motivates" transitions out of cohabiting unions and into marriages in different ways depending on how long people have been living together.

Finally, results suggest that the impact of having a child within a cohabiting union on the stability of that union varies across race and gender. Having a child within a cohabiting union was not associated with any risk of breaking-up among non-White women, but for White-women having a child was associated with lower odds of breaking-up relative to their childless peers. This "protective effect" of having a child was slightly stronger for non-White men and strongest among White men. Just as having a child while not coresiding with a partner was associated with a greater likelihood of entering a union for men and Whites, having a child while living with a partner appears to lead to greater union stability for men and Whites. Again, these results highlight that the role childbearing plays within cohabiting unions varies across intersecting gender and racial identities, in ways that may disadvantage minority women above other groups.

The results from this thesis make four important contributions to our understanding of cohabitation. First, the impact of certain predictors on the risk of entering a cohabitation are not constant across age (family instability, parental education, low family belonging, adolescent sexual behavior). Past research has often looked at predictors in an age-constant way; future research should continue to consider how various "push" and "pull" factors may be more or less important depending on one's age. Secondly, support and belonging in the earlier family environment continues to have an impact on the later stability of cohabiting unions, regardless of the age when individuals enter these cohabitations. Future research should continue to explore the link between the adolescent family environment and later behavior in romantic unions, and examine some of the possible mediating mechanisms which help to



account for the continuing influence of earlier family experiences. Third, the impact of pregnancy and childbearing on the stability of cohabiting unions is not constant across the duration of that union. Prior research has operated under the assumption that having a child or becoming pregnant will influence the likelihood of marriage or union dissolution in similar ways regardless of when in the union such childbearing events occur. These results suggest that that is an important oversight. We know that cohabiting unions are often short-lived states; however, future research should not treat the experiences within these unions as constant and should continue to be sensitive to the time-varying nature of these experiences. Finally, the impact of having a child both prior to entering a cohabiting union and within that union on the outcome of cohabiting unions varies for men and women, and for Whites and minorities. Future research should continue to examine the intersecting influence of both gender and race for these fragile families to better understand what factors may be leading to greater union stability for men and Whites. Furthermore, future research should consider how the residential location of children, both in and outside of the household, and ties to non-residential parents may impact the stability of cohabiting families.

While this study provides insight into the timing and stability of first cohabitations, there are some limitations. The measures used to capture family structure and dimensions of the family environment during adolescence are static and capture the experience of respondents at a single point in time. Given the sometimes fluid nature of family structure and the changing nature of family relations, it would be better to have measures of the family environment at more intervals throughout childhood and adolescence and into the transition to adulthood. Prior research on family formation often focuses on the fertility experiences of women only, due to concerns about the underreporting of births among men, particularly nonmarital ones or births from previous marriages (Rendall, Clarke, Peters, Ranjit, & Verropoulou, 1999). Therefore, our estimates of men's fertility in this sample may be downwardly biased and suffer from higher measurement error. Finally, the economic disadvantages and resources of individuals and their partners are often linked with their likelihood of moving in together and the stability

of their unions thereafter (Xie, Raymo, Goyette & Thornton, 2003; Wu & Pollard 2000; Smock & Manning 1997; Bramlett & Mosher 2002). However, due to data limitations we do not know about the earnings of individuals in our sample or their partners and how their income may change over time, which are likely associated with the entrance into and stability of their unions.

This study presents findings from competing risk discrete time event-history models that help advance our current understanding of the link between the adolescent family environment and concurrent behavior, and the timing and stability of first cohabiting unions. This research fills in several gaps in the literature by examining the cohabitation experiences of both men and women from adolescence further into young adulthood than most prior studies have looked. Additionally, this study carefully considers how the impact of predictors on cohabitation entrance may vary by age at union entrance as well as how the impact of predictors on cohabitation outcomes may vary across the duration of the union. This fills in an important gap in prior literature, which often makes the assumption that predictors have a static impact on the entrance and stability of cohabiting unions. Findings suggest that the impact of predictors do change across age and duration of the union, and highlight the need for future research to consider these experiences in a more dynamic fashion. Comparing models which adjust for the initial selection of individuals into first cohabiting unions to those that don't, we find that most results continue hold even after controlling for this initial selection process. Results also highlight that there is significant variation in cohabitation experiences by gender and race. With cohabitation an increasingly common union that many individuals will experience and with more children born into these unions than ever before (Copen et al, 2013; Kennedy & Bumpass, 2011), it is important to continue to examine how the family environment growing up as well as concurrent behavior contribute to the approaches individuals take in cohabiting unions and the stability of this growing family form.

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## Appendix

**Appendix Table 1. Simple Models of Union Formation (rotated reference groups)**

		Married (Still single is reference)		Cohabiting		Cohabiting (Married is reference)	
		b	se	b	se	b	se
<i>Model 1</i>	<b>Categorical Time</b> (age 19-23 ref)						
	Age 15-18	-1.716 ***	0.09	-1.188 ***	0.05	0.528 ***	0.10
	Age 24-28	0.332 ***	0.09	0.099 ^	0.05	-0.232 *	0.09
	Age 29 plus	-0.131	0.22	-0.513 ***	0.14	-0.383	0.25
<i>Model 1</i>	<b>Categorical Time</b> (age 24-28 ref)						
	Age 15-18	-2.047 ***	0.11	-1.288 ***	0.07	0.760 ***	0.12
	Age 19-23	-0.332 ***	0.09	-0.099 ^	0.05	0.232 *	0.09
	Age 29 plus	-0.462 *	0.22	-0.613 ***	0.13	-0.151	0.25
<i>Model 2</i>	<b>Race</b> (White ref)						
	Black	-0.910 ***	0.11	-0.165 *	0.07	0.745 ***	0.13
	Hispanic	0.150	0.15	-0.235 **	0.09	-0.384 *	0.17
	Other	-0.059	0.18	-0.511 ***	0.15	-0.453 ^	0.27
<i>Model 2</i>	<b>Race</b> (Hispanic ref)						
	Black	-1.060 ***	0.17	0.070	0.10	1.130 ***	0.19
	Other race	-0.209	0.21	-0.277	0.17	-0.068	0.28
	White	-0.150	0.15	0.235 **	0.09	0.384 *	0.17
<i>Model 3</i>	<b>Parental Education</b> (High school ref)						
	Less than High school	0.356 **	0.11	0.088	0.07	-0.268 *	0.12
	Some college	0.049	0.09	-0.091 *	0.04	-0.140	0.09
	Bachelor's	-0.185 ^	0.10	-0.347 ***	0.06	-0.162	0.10
<i>Model 3</i>	<b>Parental Education</b> (Bachelor's ref)						
	Less than High school	0.541 ***	0.12	0.435 ***	0.06	-0.106	0.14
	High school	0.185 ^	0.10	0.347 ***	0.06	0.162	0.1
	Some College	0.234 *	0.09	0.255 ***	0.05	0.022	0.09
<i>Model 4</i>	<b>Family Structure</b> (Bio-Married Parents, high distress ref)						
	Bio-Married Parents, low distress	0.143	0.14	-0.044	0.08	-0.186	0.14
	Step parents, low-distress	0.212	0.14	0.374 ***	0.08	0.163	0.16
	Step parents, high-distress	0.193	0.25	0.411 ***	0.11	0.218	0.25
	Single Parent	-0.204	0.15	0.270 **	0.09	0.473 **	0.14
	Other Family form	-0.130	0.20	0.475 ***	0.10	0.605 **	0.21
<i>Model 4</i>	<b>Family Structure</b> (Step Parents, low distress ref)						
	Bio-Married Parents, low distress	-0.069	0.09	-0.418 ***	0.06	-0.349 ***	0.10
	Bio-Married Parents, high distress	-0.212	0.14	-0.374 ***	0.08	-0.163	0.16
	Step parents, high-distress	-0.018	0.24	0.037	0.10	0.055	0.25
	Single Parent	-0.415 ***	0.12	-0.105	0.07	0.311 *	0.12
	Other Family form	-0.342 *	0.17	0.101	0.08	0.442 *	0.17
<i>Model 4</i>	<b>Family Structure</b> (Step Parents, high distress ref)						
	Bio-Married Parents, low distress	-0.051	0.22	-0.455 ***	0.09	-0.405 ^	0.24
	Bio-Married Parents, high distress	-0.193	0.25	-0.411 ***	0.11	-0.218	0.25
	Step parents, low-distress	0.018	0.24	-0.037	0.10	-0.055	0.25
	Single Parent	-0.397 ^	0.22	-0.142	0.09	0.255	0.24
	Other Family form	-0.323	0.28	0.064	0.11	0.387	0.29

<i>Model 4</i>	<b>Family Structure</b> (Single parent ref)						
	Bio-Married Parents, low distress	0.346 ***	0.09	-0.313 ***	0.04	-0.660 ***	0.11
	Bio-Married Parents, high distress	0.204	0.15	-0.270 **	0.09	-0.473 **	0.14
	Step parents, low-distress	0.415 ***	0.12	0.105	0.07	-0.311 *	0.12
	Step Parents, high distress	0.397 ^	0.22	0.142	0.09	-0.255	0.24
	Other Family form	0.074	0.15	0.206 **	0.08	0.132	0.16
<i>Model 5</i>	<b>Number of Mother's Prior Relationships</b> (Three plus ref)						
	One or fewer	0.144	0.17	-0.451 ***	0.07	-0.595 ***	0.17
	Two	0.136	0.18	-0.145 ^	0.08	-0.281	0.18
<i>Model 6</i>	<b>Number of Sexual Partners before 18</b> (None ref)						
	One or Two	0.254 **	0.09	0.682 ***	0.05	0.428 ***	0.09
	Three or more	0.055	0.10	1.023 ***	0.05	0.968 ***	0.11
<i>Model 7</i>	<b>Educational Attainment</b> (High School ref)						
	Less than High School	-0.492 ***	0.13	-0.004	0.08	0.488 ***	0.13
	Associate's/Vocational	0.526 ***	0.08	0.039	0.06	-0.487 ***	0.09
	Bachelor's	0.430 ***	0.09	-0.125 ^	0.07	-0.555 ***	0.09
<i>Model 7</i>	<b>Educational Attainment</b> (Associates' ref)						
	Less than High School	-0.559	0.45	0.219	0.30	0.778 ^	0.46
	High School	-0.013	0.45	0.227	0.28	0.240	0.46
	Bachelor's	0.377 ***	0.09	-0.130 ^	0.07	-0.507 ***	0.10
<i>Model 8</i>	<b>Number of children</b> (one ref)						
	No children	-0.587 ***	0.12	-0.785 ***	0.06	-0.198	0.12
	Two plus children	-0.539 *	0.27	-0.314 *	0.13	0.225	0.28

Note: all bivariate models also control for the baseline age hazard; coefficients are log-odds; results are weighted & based on multiply imputed data; ^ p < 0.10 \* p < 0.05 \*\* p < 0.01 \*\*\* p < 0.001

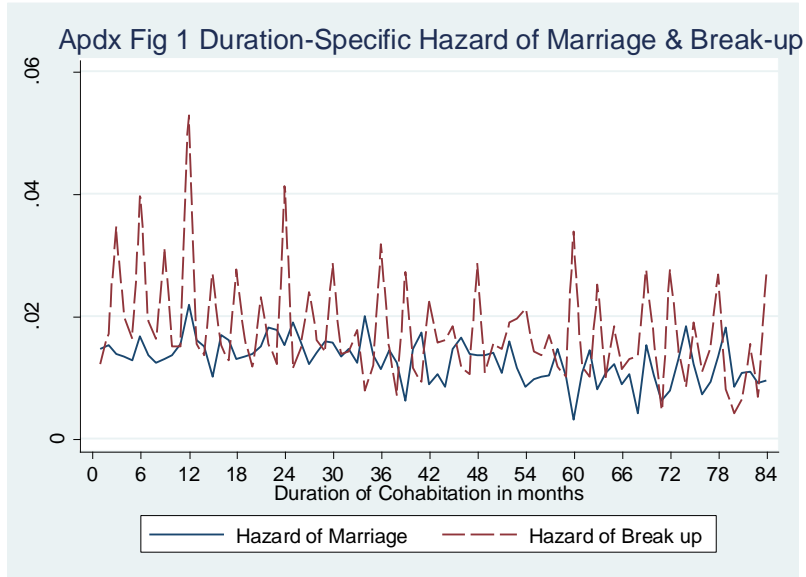
## Appendix Table 2. Future Relationship Behavior of First-Time Cohabitors

	Mean/%	SE	Range
<b>Number of Separate Cohabitations with First Cohabitation Partner</b>			
Overall Sample	1.22	0.02	1-20
Still together group	1.32 <sup>a</sup>	0.05	1-20
Married group	1.03 <sup>b</sup>	0.04	1-5
Break-up group	1.32 <sup>a</sup>	0.02	1-10
<b>Among Cohabitors who married, % divorced</b>	20%	0.01	0-1
<b>Average length of marriage (in months)</b>			
If divorced	44.58 <sup>a</sup>	1.58	1-140
If still married	57.86 <sup>b</sup>	1.43	1-165
<b>Total Number of Cohabiting Partners (including first partner)</b>			
Still together group	1.05 <sup>a</sup>	0.01	1-5
Married group	1.22 <sup>b</sup>	0.01	1-8
Break-up group	2.06 <sup>c</sup>	0.03	1-15

Notes: Results are weighted and based on multiply imputed data; Means with different subscripts are significantly different from one another at the p < 0.05 level;

Still together n = 1301, Married n = 3080, Break-up n = 4441





**Appendix Table 3. Simple Models of Cohabitation Transitions (rotated reference groups)**

	<b>Married</b> (Still together is reference)		<b>Broken-up</b>		<b>Broken-up</b> (Married is reference)		
	b	se	b	se	b	se	
<i>Model 1</i>	<b>Race</b> (white ref)						
	Black	-0.819 ***	0.11	0.026	0.06	0.846 ***	0.12
	Hispanic	-0.340 ***	0.09	-0.166 *	0.08	0.174	0.11
	Other	-0.490 **	0.18	-0.089	0.11	0.401	0.21
<i>Model 2</i>	<b>Race</b> (Hispanic ref)						
	Black	-0.479 ***	0.13	0.192 *	0.09	0.671 ***	0.13
	Other race	-0.150	0.02	0.077	0.12	0.227	0.23
	White	0.340 ***	0.09	0.166 *	0.08	-0.174	0.11
<i>Model 3</i>	<b>Parental Education</b> (High school ref)						
	Less than High school	-0.171 *	0.07	-0.132 *	0.06	0.039	0.09
	Some college	0.164 *	0.08	0.008	0.06	-0.157	0.09
	Bachelor's	0.212 **	0.06	0.158 **	0.05	-0.054	0.09
<i>Model 4</i>	<b>Parental Education</b> (Some college ref)						
	Less than High school	-0.335 ***	0.08	-0.139 *	0.07	0.196	0.11
	High school	-0.164 *	0.07	-0.008	0.06	0.157	0.09
	Bachelor's	0.048	0.08	0.151 *	0.06	0.103	0.09
<i>Model 5</i>	<b>Parental Education</b> (Bachelor's ref)						
	Less than High school	-0.383 ***	0.08	-0.290 ***	0.06	0.093	0.10
	High school	-0.212 **	0.06	-0.158 **	0.05	0.054	0.09
	Some College	-0.048	0.07	-0.151 *	0.06	-0.103	0.09
<i>Model 6</i>	<b>Educational Attainment</b> (High School ref)						
	Less than High School	-0.461 ***	0.09	-0.022	0.06	0.439 ***	0.12
	Associate's/Vocational	0.380 ***	0.07	-0.054	0.08	-0.434 ***	0.12
	Bachelor's	0.740 ***	0.07	-0.028	0.06	-0.768 ***	0.09

<i>Model 7</i>	<b>Educational Attainment</b> (Associates' ref)						
	Less than High School	-0.841 ***	0.10	0.033	0.08	0.873 ***	0.13
	High School	-0.380 ***	0.07	0.054	0.08	0.434 ***	0.12
	Bachelor's	0.360 ***	0.08	0.027	0.09	-0.334 *	0.14
<i>Model 8</i>	<b>Educational Attainment</b> (Bachelor's ref)						
	Less than High School	-1.201 ***	0.10	0.006	0.08	1.207 ***	0.14
	High School	-0.740 ***	0.07	0.028	0.06	0.768 ***	0.09
	Associate's/Vocational	-0.360 ***	0.08	-0.027	0.09	0.334 *	0.14
<i>Model 9</i>	<b>Family Structure</b> (Bio-Married Parents, high distress ref)						
	Bio-Married Parents, low distress	0.158	0.10	-0.009	0.09	-0.168	0.14
	Step parents, low-distress	-0.111	0.13	0.150	0.11	0.261	0.19
	Step parents, high-distress	-0.012	0.19	0.072	0.15	0.083	0.22
	Single Parent	-0.379 **	0.12	0.106	0.09	0.484 **	0.15
	Other Family form	-0.227	0.12	-0.042	0.11	0.184	0.17
<i>Model 10</i>	<b>Family Structure</b> (Step Parents, low distress ref)						
	Bio-Married Parents, low distress	0.269 **	0.09	-0.160 *	0.07	-0.429 ***	0.12
	Bio-Married Parents, high distress	0.111	0.13	-0.150	0.11	-0.261	0.19
	Step parents, high-distress	0.099	0.20	-0.079	0.15	-0.178	0.23
	Single Parent	-0.268 **	0.10	-0.045	0.08	0.223	0.11
	Other Family form	-0.116	0.12	-0.193 *	0.09	-0.077	0.15
<i>Model 11</i>	<b>Family Structure</b> (Step Parents, high distress ref)						
	Bio-Married Parents, low distress	0.170	0.19	-0.081	0.13	-0.251	0.21
	Bio-Married Parents, high distress	0.012	0.19	-0.072	0.15	-0.083	0.22
	Step parents, low-distress	-0.099	0.20	0.079	0.15	0.178	0.23
	Single Parent	-0.367	0.19	0.034	0.14	0.401	0.21
	Other Family form	-0.215	0.20	-0.114	0.16	0.101	0.24
<i>Model 12</i>	<b>Family Structure</b> (Single parent ref)						
	Bio-Married Parents, low distress	0.537 ***	0.07	-0.115 *	0.05	-0.652 ***	0.08
	Bio-Married Parents, high distress	0.379 **	0.12	-0.106	0.09	-0.484 **	0.15
	Step parents, low-distress	0.268 **	0.10	0.045	0.08	-0.223	0.11
	Step Parents, high distress	0.367	0.19	-0.034	0.14	-0.401	0.21
	Other Family form	0.152	0.11	-0.148	0.09	-0.300 *	0.14
<i>Model 13</i>	<b>Number of Mother's Prior Relationships</b> (One or fewer ref)						
	Two	-0.202 **	0.06	0.071	0.06	0.273 **	0.09
	Three or more	-0.294 *	0.12	0.233 **	0.08	0.526 ***	0.15
<i>Model 14</i>	<b>Number of Sexual Partners before 18</b> (None ref)						
	One or Two	-0.226 ***	0.06	-0.023	0.05	0.204 *	0.09
	Three or more	-0.527 ***	0.06	0.173 ***	0.05	0.701 ***	0.08
<i>Model 15</i>	<b>Childbearing Prior to Cohabitation</b> (Children with different partner ref)						
	Children only with cohabiting partner	0.101	0.19	-0.416 ***	0.12	-0.518 *	0.22
	No children	0.366 **	0.14	-0.170 *	0.07	-0.536 ***	0.16

Note: all bivariate models also control for the baseline duration hazard; coefficients are log-odds; results are weighted & based on multiply imputed data; ^ p < 0.10 \* p < 0.05 \*\* p < 0.01 \*\*\* p < 0.001

**Appendix Table 4. Multivariate Models of Cohabitation Stability - comparing models controlling for selection to those that don't**

	<b>Marriage</b> (Still together is reference)				<b>Break-up</b> (Still together is reference)				<b>Break-up</b> (Marriage is reference)			
	(Model 1, no selection)		(Model 2, selection)		(Model 1, no selection)		(Model 2, selection)		(Model 1, no selection)		(Model 2, selection)	
	b	OR	b	OR	b	OR	b	OR	b	OR	b	OR
<b>Duration of Cohabitation</b> (1-6 months ref)												
7-12 months	0.289 ***	1.34	0.285 ***	1.33	0.145 *	1.16	0.144 *	1.15	-0.144	0.87	-0.141	0.87
13-18 months	0.108	1.11	0.102	1.11	0.037	1.04	0.037	1.04	-0.071	0.93	-0.065	0.94
19-24 months	0.127	1.14	0.118	1.13	0.191	1.21	0.191	1.21	0.064	1.07	0.073	1.08
25-30 months	0.111	1.12	0.100	1.11	-0.192	0.83	-0.190	0.83	-0.303	0.74	-0.290	0.75
31-36 months	0.086	1.09	0.071	1.07	-0.365 **	0.69	-0.364 **	0.69	-0.450 *	0.64	-0.435 *	0.65
3rd-4th year	0.130	1.14	0.117	1.12	-0.114	0.89	-0.112	0.89	-0.244	0.78	-0.229	0.80
4th-5th year	0.249	1.28	0.236	1.27	-0.188	0.83	-0.184	0.83	-0.437	0.65	-0.420	0.66
5th-6th year	0.224	1.25	0.207	1.23	-0.146	0.86	-0.142	0.87	-0.370	0.69	-0.349	0.71
6th-7th year	0.362	1.44	0.341	1.41	-0.621 **	0.54	-0.617 **	0.54	-0.984 **	0.37	-0.958 **	0.38
<b>Gender</b> (male = 1)	-0.003	1.00	-0.034	0.97	0.372 ***	1.45	0.476 ***	1.61	0.375 ***	1.45	0.510 **	1.67
<b>Race</b> (black ref)												
White	0.639 ***	1.89	0.744 *	2.10	0.338 **	1.40	0.091	1.10	-0.301	0.74	-0.653	0.52
Hispanic	0.428 ***	1.53	0.629 *	1.88	-0.144	0.87	-0.350	0.70	-0.572 ***	0.56	-0.979 **	0.38
Other race	0.177	1.19	0.361	1.43	-0.139	0.87	-0.353	0.70	-0.316	0.73	-0.714	0.49
White X second year	0.373 **	1.45	0.373 **	1.45	-0.210 *	0.81	-0.210 *	0.81	-0.583 ***	0.56	-0.582 ***	0.56
White X third year	0.382 *	1.47	0.383 *	1.47	0.056	1.06	0.055	1.06	-0.326	0.72	-0.328	0.72
White X fourth year	-0.042	0.96	-0.044	0.96	-0.219	0.80	-0.221	0.80	-0.177	0.84	-0.177	0.84
White X fifth year plus	0.148	1.16	0.141	1.15	0.049	1.05	0.046	1.05	-0.099	0.91	-0.095	0.91
<b>Parental Education</b> (Less than High school ref)												
High school	0.016	1.02	-0.054	0.95	0.075	1.08	0.123	1.13	0.059	1.06	0.177	1.19
Some college	0.115	1.12	0.064	1.07	0.095	1.10	0.123	1.13	-0.020	0.98	0.058	1.06
Bachelor's	0.001	1.00	-0.080	0.92	0.237 ***	1.27	0.299 **	1.35	0.236 *	1.27	0.379 *	1.46
<b>Family Structure</b> (Bio-Married Parents, low distress ref)												
Bio-Married Parents, high distress	-0.063	0.94	-0.099	0.91	-0.004	1.00	0.063	1.07	0.059	1.06	0.162	1.18
Step parents, low-distress	-0.105	0.90	-0.121	0.89	0.084	1.09	0.075	1.08	0.188	1.21	0.195	1.22
Step parents, high-distress	0.217	1.24	0.181	1.20	0.277	1.32	0.177	1.19	0.060	1.06	-0.004	1.00
Single Parent	-0.196 *	0.82	-0.250 *	0.78	0.063	1.07	0.123	1.13	0.260 *	1.30	0.373 **	1.45
Other Family form	0.074	1.08	0.048	1.05	-0.079	0.92	-0.036	0.96	-0.153	0.86	-0.085	0.92
Male X Step parents, high-distress	-0.431	0.65	-0.434	0.65	-0.515 *	0.60	-0.504 *	0.60	-0.083	0.92	-0.070	0.93
<b>Low Family Belonging</b>	-0.149 *	0.86	-0.237 *	0.79	0.145 **	1.16	0.210 *	1.23	0.294 ***	1.34	0.446 **	1.56
<b>Parental Cohabitation</b>	-0.213 *	0.81	-0.350	0.70	-0.036	0.96	0.054	1.06	0.176	1.19	0.404	1.50

<b>Number of Mother's Prior Relationships</b> (Three plus ref)													
One or fewer	-0.040	0.96	-0.016	0.98	-0.238 *	0.79	-0.234	0.79	-0.198	0.82	-0.218	0.80	
Two	-0.027	0.97	-0.008	0.99	-0.171	0.84	-0.156	0.86	-0.144	0.87	-0.149	0.86	
<b>Number of Sexual Partners before 18</b> (Three plus ref)													
None	0.320 ***	1.38	0.506 ***	1.66	-0.159 **	0.85	-0.135	0.87	-0.479 ***	0.62	-0.641 ***	0.53	
One or Two	0.185 **	1.20	0.282 **	1.33	-0.166 ***	0.85	-0.195 *	0.82	-0.352 ***	0.70	-0.477 ***	0.62	
<b>Educational Attainment</b> (Less than High School ref)													
High School	0.356 ***	1.43	0.438 ***	1.55	0.030	1.03	-0.008	0.99	-0.326 **	0.72	-0.446 **	0.64	
Associate's/Vocational	0.686 ***	1.99	0.838 ***	2.31	-0.024	0.98	-0.037	0.96	-0.710 ***	0.49	-0.875 ***	0.42	
Bachelor's	0.796 ***	2.22	0.978 ***	2.66	0.329 *	1.39	0.361 *	1.43	-0.467 *	0.63	-0.617 *	0.54	
Bachelor's X second year	0.099	1.10	0.094	1.10	-0.254	0.78	-0.269	0.76	-0.353	0.70	-0.363	0.70	
Bachelor's X third year	0.329	1.39	0.318	1.37	-0.046	0.96	-0.070	0.93	-0.374	0.69	-0.388	0.68	
Bachelor's X fourth year	0.694 **	2.00	0.668 **	1.95	-0.033	0.97	-0.076	0.93	-0.728	0.48	-0.743	0.48	
Bachelor's X fifth year plus	0.281	1.32	0.230	1.26	0.092	1.10	0.023	1.02	-0.189	0.83	-0.207	0.81	
White X Bachelor's	-0.030	0.97	-0.031	0.97	-0.308 *	0.73	-0.281 *	0.76	-0.278	0.76	-0.250	0.78	
<b>Age at Union</b> (in years)													
White X Age at Union	-0.015	0.99	-0.014	0.99	-0.054 **	0.95	-0.053 **	0.95	-0.039	0.96	-0.039	0.96	
<b>Pregnant at Union Start</b>													
Pregnant x After First Year	-0.284	0.75	-0.290	0.75	0.216	1.24	0.215	1.24	0.500 *	1.65	0.505 *	1.66	
<b>Childbearing Prior to Cohabitation</b> (No children ref)													
Children only with cohabiting partner	0.106	1.11	0.139	1.15	-0.243 *	0.78	-0.234	0.79	-0.349 *	0.71	-0.373 *	0.69	
Children with different partner	-0.086	0.92	-0.059	0.94	0.362 ***	1.44	0.376 ***	1.46	0.447 *	1.56	0.434 *	1.54	
Male X Children with different partner	0.252	1.29	0.269	1.31	-0.484 *	0.62	-0.452 *	0.64	-0.736 *	0.48	-0.721 *	0.49	
<b>Pregnancy in Cohabiting Union</b>													
Pregnancy X second year	-0.330	0.72	-0.330	0.72	-0.474 *	0.62	-0.473 *	0.62	-0.143	0.87	-0.144	0.87	
Pregnancy X third year	-0.522 *	0.59	-0.522 *	0.59	-0.102	0.90	-0.101	0.90	0.419	1.52	0.421	1.52	
Pregnancy X fourth year	-0.841 *	0.43	-0.846 *	0.43	-0.314	0.73	-0.310	0.73	0.526	1.69	0.536	1.71	
Pregnancy X fifth year plus	-0.959 **	0.38	-0.959 **	0.38	-0.080	0.92	-0.079	0.92	0.879 *	2.41	0.880 *	2.41	
<b>Childbearing within Cohabitation</b>													
Had a child	0.066	1.07	0.070	1.07	0.030	1.03	0.030	1.03	-0.036	0.96	-0.040	0.96	
Male X Had a child	0.105	1.11	0.108	1.11	-0.422 **	0.66	-0.416 **	0.66	-0.527 **	0.59	-0.524 **	0.59	
White X Had a child	0.008	1.01	0.001	1.00	-0.354 **	0.70	-0.363 **	0.70	-0.362	0.70	-0.365	0.69	
IMR (cohab vs single)			-0.009				-0.059				-0.050		
IMR (cohab vs marry)			-0.091				0.080				0.171		
Constant	-5.790 ***	0.00	-6.679 ***	0.00	-3.948 ***	0.02	-3.733 ***	0.02	1.842 ***	6.31	2.946 **	19.03	

Note: results are weighted & based on multiply imputed data; \* p < 0.05 \*\* p < 0.01 \*\*\* p < 0.001

**Appendix Table 5. Correlations between Childbearing Predictors of Cohabitation Stability**

	1	2	3	4	5	6	7	8	9	10	11	12
<b>1. Pregnant at Union Start</b>	1.000											
2. Pregnant x After First Year	0.798	1.000										
<b>3. Pregnancy in Cohabiting Union</b>	0.142	0.018	1.000									
4. Pregnancy X second year	0.007	0.028	0.448	1.000								
5. Pregnancy X third year	0.016	0.035	0.344	-0.014	1.000							
6. Pregnancy X fourth year	0.009	0.023	0.273	-0.011	-0.009	1.000						
7. Pregnancy X fifth year plus	0.034	0.056	0.361	-0.015	-0.012	-0.009	1.000					
<b>8. Had a child within Cohabitation</b>	0.416	0.407	0.065	0.014	0.051	0.067	0.137	1.000				
9. Had a child X second year	0.211	0.283	0.028	0.161	-0.022	-0.017	-0.023	0.375	1.000			
10. Had a child X third year	0.126	0.181	0.023	-0.028	0.210	-0.017	-0.023	0.374	-0.042	1.000		
11. Had a child X fourth year	0.084	0.129	0.017	-0.026	-0.020	0.240	-0.021	0.350	-0.040	-0.040	1.000	
12. Had a child X fifth year plus	0.142	0.217	0.016	-0.043	-0.033	-0.026	0.254	0.579	-0.066	-0.065	-0.061	1.000

Note: correlations are based on multiply imputed data

**Appendix Table 6. Multivariate Models of Cohabitation Stability - Pregnancy at Union Entrance**

	<b>Marriage</b> (Still together is reference)				<b>Break-up</b> (Still together is reference)				<b>Break-up</b> (Marriage is reference)			
	(Model 1, no selection)		(Model 2, selection)		(Model 1, no selection)		(Model 2, selection)		(Model 1, no selection)		(Model 2, selection)	
	b	OR	b	OR	b	OR	b	OR	b	OR	b	OR
<b>Duration of Cohabitation</b> (1-6 months ref)												
7-12 months	0.292 ***	1.34	0.289 ***	1.34	0.125 *	1.13	0.125 *	1.13	-0.167	0.85	-0.164	0.85
13-18 months	0.089	1.09	0.084	1.09	-0.032	0.97	-0.031	0.97	-0.121	0.89	-0.115	0.89
19-24 months	0.112	1.12	0.104	1.11	0.108	1.11	0.108	1.11	-0.004	1.00	0.005	1.01
25-30 months	0.055	1.06	0.046	1.05	-0.247 *	0.78	-0.244 *	0.78	-0.302	0.74	-0.290	0.75
31-36 months	0.038	1.04	0.024	1.02	-0.438 ***	0.65	-0.437 ***	0.65	-0.476 *	0.62	-0.461 *	0.63
3rd-4th year	0.048	1.05	0.036	1.04	-0.217 *	0.80	-0.214 *	0.81	-0.264	0.77	-0.250	0.78
4th-5th year	0.159	1.17	0.150	1.16	-0.272 *	0.76	-0.267 *	0.77	-0.431	0.65	-0.417	0.66
5th-6th year	0.134	1.14	0.120	1.13	-0.246	0.78	-0.241	0.79	-0.380	0.68	-0.362	0.70
6th-7th year	0.272	1.31	0.254	1.29	-0.734 ***	0.48	-0.729 ***	0.48	-1.006 **	0.37	-0.983 **	0.37
<b>Gender</b> (male = 1)	0.000	1.00	-0.020	0.98	0.329 ***	1.39	0.425 ***	1.53	0.329 ***	1.39	0.445 **	1.56
<b>Race</b> (black ref)												
White	0.579 ***	1.78	0.660 *	1.93	0.315 **	1.37	0.088	1.09	-0.264	0.77	-0.572	0.56
Hispanic	0.410 ***	1.51	0.590 *	1.80	-0.134	0.87	-0.325	0.72	-0.544 ***	0.58	-0.916 *	0.40
Other race	0.131	1.14	0.293	1.34	-0.123	0.88	-0.321	0.73	-0.254	0.78	-0.614	0.54
White X second year	0.373 **	1.45	0.373 **	1.45	-0.215 *	0.81	-0.216 *	0.81	-0.589 ***	0.55	-0.589 ***	0.55
White X third year	0.408 *	1.50	0.408 *	1.50	0.009	1.01	0.007	1.01	-0.399	0.67	-0.401	0.67
White X fourth year	-0.007	0.99	-0.012	0.99	-0.282 *	0.75	-0.286 *	0.75	-0.275	0.76	-0.275	0.76
White X fifth year plus	0.186	1.20	0.176	1.19	-0.062	0.94	-0.068	0.93	-0.248	0.78	-0.244	0.78
<b>Parental Education</b> (Less than High school ref)												
High school	-0.001	1.00	-0.067	0.94	0.089	1.09	0.134	1.14	0.090	1.09	0.201	1.22
Some college	0.092	1.10	0.045	1.05	0.106	1.11	0.133	1.14	0.014	1.01	0.088	1.09
Bachelor's	-0.031	0.97	-0.106	0.90	0.264 ***	1.30	0.321 **	1.38	0.295 **	1.34	0.427 **	1.53
<b>Family Structure</b> (Bio-Married Parents, low distress ref)												
Bio-Married Parents, high distress	-0.068	0.93	-0.098	0.91	0.009	1.01	0.070	1.07	0.078	1.08	0.168	1.18
Step parents, low-distress	-0.091	0.91	-0.107	0.90	0.074	1.08	0.066	1.07	0.164	1.18	0.173	1.19
Step parents, high-distress	0.250	1.28	0.206	1.23	0.267	1.31	0.176	1.19	0.016	1.02	-0.030	0.97
Single Parent	-0.193 *	0.82	-0.242 *	0.79	0.065	1.07	0.120	1.13	0.258 **	1.29	0.361 **	1.43
Other Family form	0.111	1.12	0.087	1.09	-0.112	0.89	-0.074	0.93	-0.223	0.80	-0.161	0.85
Male X Step parents, high-distress	-0.408	0.66	-0.411	0.66	-0.549 *	0.58	-0.537 *	0.58	-0.141	0.87	-0.127	0.88
<b>Low Family Belonging</b>	-0.148 *	0.86	-0.230 *	0.79	0.147 **	1.16	0.207 *	1.23	0.295 ***	1.34	0.436 **	1.55
<b>Parental Cohabitation</b>	-0.222 *	0.80	-0.351	0.70	-0.031	0.97	0.054	1.06	0.191	1.21	0.405	1.50

<b>Number of Mother's Prior Relationships</b> (Three plus ref)													
One or fewer	-0.039	0.96	-0.015	0.99	-0.245 *	0.78	-0.242 *	0.79	-0.206	0.81	-0.227	0.80	
Two	-0.025	0.98	-0.005	1.00	-0.182	0.83	-0.168	0.85	-0.156	0.86	-0.163	0.85	
<b>Number of Sexual Partners before 18</b> (Three plus ref)													
None	0.295 ***	1.34	0.482 **	1.62	-0.131 *	0.88	-0.112	0.89	-0.426 ***	0.65	-0.594 **	0.55	
One or Two	0.161 *	1.17	0.255 *	1.29	-0.137 **	0.87	-0.164	0.85	-0.298 ***	0.74	-0.419 **	0.66	
<b>Educational Attainment</b> (Less than High School ref)													
High School	0.322 ***	1.38	0.400 **	1.49	0.047	1.05	0.011	1.01	-0.275 *	0.76	-0.390 *	0.68	
Associate's/Vocational	0.631 ***	1.88	0.781 ***	2.18	0.017	1.02	0.003	1.00	-0.614 ***	0.54	-0.778 ***	0.46	
Bachelor's	0.729 ***	2.07	0.912 ***	2.49	0.315 *	1.37	0.340	1.40	-0.414	0.66	-0.572	0.56	
Bachelor's X second year	0.110	1.12	0.104	1.11	-0.198	0.82	-0.211	0.81	-0.308	0.73	-0.315	0.73	
Bachelor's X third year	0.350	1.42	0.337	1.40	0.024	1.02	0.002	1.00	-0.326	0.72	-0.335	0.72	
Bachelor's X fourth year	0.727 ***	2.07	0.697 **	2.01	0.076	1.08	0.038	1.04	-0.651	0.52	-0.658	0.52	
Bachelor's X fifth year plus	0.314	1.37	0.257	1.29	0.219	1.24	0.160	1.17	-0.095	0.91	-0.097	0.91	
White X Bachelor's	-0.056	0.95	-0.054	0.95	-0.280 *	0.76	-0.254	0.78	-0.225	0.80	-0.201	0.82	
<b>Age at Union</b> (in years)													
White X Age at Union	-0.013	0.99	-0.012	0.99	-0.050 **	0.95	-0.049 **	0.95	-0.037	0.96	-0.037	0.96	
<b>Pregnant at Union Start</b>													
Pregnant x After First Year	-0.628 ***	0.53	-0.634 ***	0.53	0.241	1.27	0.240	1.27	0.869 ***	2.38	0.874 ***	2.40	
<b>Childbearing Prior to Cohabitation</b> (No children ref)													
Children only with cohabiting partner	0.041	1.04	0.074	1.08	-0.166	0.85	-0.159	0.85	-0.207	0.81	-0.232	0.79	
Children with different partner	-0.060	0.94	-0.032	0.97	0.382 ***	1.47	0.393 ***	1.48	0.442 *	1.56	0.425 *	1.53	
Male X Children with different partner	0.202	1.22	0.223	1.25	-0.471 *	0.62	-0.440 *	0.64	-0.674 *	0.51	-0.663 *	0.52	
IMR (cohab vs single)			-0.014				-0.053				-0.039		
IMR (cohab vs marry)			-0.083				0.074				0.157		
Constant	-5.555 ***	0.00	-6.417 ***	0.00	-3.963 ***	0.02	-3.754 ***	0.02	1.592 ***	4.91	2.663 *	14.34	

Note: results are weighted & based on multiply imputed data; \* p < 0.05 \*\* p < 0.01 \*\*\* p < 0.001

**Appendix Table 7. Multivariate Model of Cohabitation Stability - Pregnancy within Cohabitation**

	<b>Marriage</b> (Still together is reference)				<b>Break-up</b> (Still together is reference)				<b>Break-up</b> (Marriage is reference)			
	(Model 1, no selection)		(Model 2, selection)		(Model 1, no selection)		(Model 2, selection)		(Model 1, no selection)		(Model 2, selection)	
	b	OR	b	OR	b	OR	b	OR	b	OR	b	OR
<b>Duration of Cohabitation</b>												
(1-6 months ref)												
7-12 months	0.264 **	1.30	0.265 **	1.30	0.128 *	1.14	0.127 *	1.14	-0.136	0.87	-0.138	0.87
13-18 months	0.088	1.09	0.083	1.09	0.042	1.04	0.047	1.05	-0.045	0.96	-0.036	0.96
19-24 months	0.111	1.12	0.103	1.11	0.181	1.20	0.186	1.20	0.070	1.07	0.083	1.09
25-30 months	0.106	1.11	0.098	1.10	-0.209	0.81	-0.207	0.81	-0.315	0.73	-0.305	0.74
31-36 months	0.085	1.09	0.074	1.08	-0.398 ***	0.67	-0.397 ***	0.67	-0.483 *	0.62	-0.470 *	0.63
3rd-4th year	0.138	1.15	0.130	1.14	-0.157	0.85	-0.157	0.85	-0.295	0.74	-0.287	0.75
4th-5th year	0.267	1.31	0.259	1.30	-0.237 *	0.79	-0.236 *	0.79	-0.504	0.60	-0.494	0.61
5th-6th year	0.243	1.28	0.230	1.26	-0.211	0.81	-0.206	0.81	-0.455	0.63	-0.436	0.65
6th-7th year	0.385	1.47	0.366	1.44	-0.706 **	0.49	-0.700 **	0.50	-1.092 ***	0.34	-1.066 ***	0.34
<b>Gender</b> (male = 1)	0.013	1.01	0.007	1.01	0.325 ***	1.38	0.284 ***	1.33	0.313 ***	1.37	0.276 **	1.32
<b>Race</b> (black ref)												
White	0.634 ***	1.89	0.674 ***	1.96	0.314 **	1.37	0.418 ***	1.52	-0.320	0.73	-0.256	0.77
Hispanic	0.427 ***	1.53	0.558 ***	1.75	-0.144	0.87	-0.018	0.98	-0.572 ***	0.56	-0.576 **	0.56
Other race	0.176	1.19	0.292	1.34	-0.125	0.88	-0.013	0.99	-0.301	0.74	-0.305	0.74
White X second year	0.382 **	1.47	0.382 **	1.47	-0.247 **	0.78	-0.249 **	0.78	-0.629 ***	0.53	-0.631 ***	0.53
White X third year	0.388 *	1.47	0.387 *	1.47	-0.006	0.99	-0.005	1.00	-0.394	0.67	-0.392	0.68
White X fourth year	-0.037	0.96	-0.044	0.96	-0.303 *	0.74	-0.301 *	0.74	-0.266	0.77	-0.258	0.77
White X fifth year plus	0.153	1.17	0.141	1.15	-0.078	0.92	-0.076	0.93	-0.231	0.79	-0.216	0.81
<b>Parental Education</b>												
(Less than High school ref)												
High school	0.011	1.01	-0.040	0.96	0.092	1.10	0.053	1.05	0.081	1.08	0.093	1.10
Some college	0.111	1.12	0.073	1.08	0.106	1.11	0.082	1.09	-0.004	1.00	0.009	1.01
Bachelor's	-0.005	1.00	-0.062	0.94	0.264 ***	1.30	0.216 *	1.24	0.268 *	1.31	0.278 *	1.32
<b>Family Structure</b>												
(Bio-Married Parents, low distress ref)												
Bio-Married Parents, high distress	-0.065	0.94	-0.083	0.92	0.007	1.01	-0.024	0.98	0.073	1.08	0.059	1.06
Step parents, low-distress	-0.104	0.90	-0.121	0.89	0.076	1.08	0.075	1.08	0.180	1.20	0.195	1.22
Step parents, high-distress	0.216	1.24	0.160	1.17	0.265	1.30	0.299	1.35	0.049	1.05	0.139	1.15
Single Parent	-0.200 *	0.82	-0.237 **	0.79	0.061	1.06	0.034	1.03	0.261 **	1.30	0.271 *	1.31
Other Family form	0.079	1.08	0.061	1.06	-0.111	0.89	-0.126	0.88	-0.189	0.83	-0.187	0.83
Male X Step parents, high-distress	-0.421	0.66	-0.414	0.66	-0.535 *	0.59	-0.559 *	0.57	-0.114	0.89	-0.145	0.87
<b>Low Family Belonging</b>	-0.146 *	0.86	-0.210 *	0.81	0.146 **	1.16	0.102	1.11	0.292 ***	1.34	0.312 **	1.37
<b>Parental Cohabitation</b>	-0.215 *	0.81	-0.319 *	0.73	-0.030	0.97	-0.095	0.91	0.185	1.20	0.225	1.25



<b>Number of Mother's Prior Relationships</b> (Three plus ref)													
One or fewer	-0.039	0.96	-0.017	0.98	-0.242 *	0.79	-0.238 *	0.79	-0.203	0.82	-0.221	0.80	
Two	-0.022	0.98	-0.001	1.00	-0.180	0.84	-0.181	0.83	-0.159	0.85	-0.179	0.84	
<b>Number of Sexual Partners before 18</b> (Three plus ref)													
None	0.313 ***	1.37	0.485 ***	1.62	-0.134 *	0.87	-0.097	0.91	-0.447 ***	0.64	-0.582 **	0.56	
One or Two	0.181 **	1.20	0.261 **	1.30	-0.144 **	0.87	-0.109	0.90	-0.325 ***	0.72	-0.370 **	0.69	
<b>Educational Attainment</b> (Less than High School ref)													
High School	0.353 ***	1.42	0.420 ***	1.52	0.048	1.05	0.076	1.08	-0.305 *	0.74	-0.345 *	0.71	
Associate's/Vocational	0.675 ***	1.96	0.809 ***	2.25	0.012	1.01	0.054	1.06	-0.664 ***	0.51	-0.756 ***	0.47	
Bachelor's	0.794 ***	2.21	0.963 ***	2.62	0.321 *	1.38	0.361 *	1.43	-0.473 *	0.62	-0.602 *	0.55	
Bachelor's X second year	0.095	1.10	0.089	1.09	-0.233	0.79	-0.234	0.79	-0.328	0.72	-0.322	0.72	
Bachelor's X third year	0.314	1.37	0.302	1.35	0.006	1.01	0.005	1.01	-0.308	0.73	-0.297	0.74	
Bachelor's X fourth year	0.676 **	1.97	0.646 **	1.91	0.039	1.04	0.037	1.04	-0.636	0.53	-0.608	0.54	
Bachelor's X fifth year plus	0.252	1.29	0.198	1.22	0.210	1.23	0.201	1.22	-0.042	0.96	0.003	1.00	
White X Bachelor's	-0.031	0.97	-0.024	0.98	-0.277 *	0.76	-0.296 *	0.74	-0.247	0.78	-0.272	0.76	
<b>Age at Union</b> (in years)													
White X Age at Union	0.045 *	1.05	0.050 *	1.05	0.018	1.02	0.017	1.02	-0.027	0.97	-0.033	0.97	
	-0.016	0.98	-0.015	0.99	-0.049 **	0.95	-0.049 **	0.95	-0.034	0.97	-0.035	0.97	
<b>Childbearing Prior to Cohabitation</b> (No children ref)													
Children only with cohabiting partner	0.111	1.12	0.121	1.13	-0.231 *	0.79	-0.166	0.85	-0.342 *	0.71	-0.287	0.75	
Children with different partner	-0.084	0.92	-0.061	0.94	0.370 ***	1.45	0.386 ***	1.47	0.455 *	1.58	0.447 *	1.56	
Male X Children with different partner	0.254	1.29	0.268	1.31	-0.492 *	0.61	-0.484 *	0.62	-0.746 *	0.47	-0.752 *	0.47	
<b>Pregnancy in Cohabiting Union</b>													
Pregnancy X second year	1.187 ***	3.28	1.169 ***	3.22	-0.172	0.84	-0.124	0.88	-1.359 ***	0.26	-1.292 ***	0.27	
Pregnancy X third year	-0.483 *	0.62	-0.465 *	0.63	-0.529 *	0.59	-0.578 **	0.56	-0.046	0.96	-0.112	0.89	
Pregnancy X fourth year	-0.670 **	0.51	-0.655 **	0.52	-0.177	0.84	-0.220	0.80	0.493	1.64	0.435	1.54	
Pregnancy X fifth year plus	-0.981 **	0.37	-0.969 **	0.38	-0.420	0.66	-0.471	0.62	0.561	1.75	0.498	1.65	
	-1.105 ***	0.33	-1.093 **	0.34	-0.180	0.84	-0.220	0.80	0.925 *	2.52	0.873 *	2.39	
IMR (cohab vs single)			-0.020				0.017				0.037 *		
IMR (cohab vs marry)			-0.064				-0.049				0.015		
Constant	-5.764 ***	0.00	-6.513 ***	0.00	-3.976 ***	0.02	-4.243 ***	0.01	1.788 ***	5.98	2.270 **	9.68	

Note: results are weighted & based on multiply imputed data; \* p < 0.05 \*\* p < 0.01 \*\*\* p < 0.001

**Appendix Table 8. Multivariate Model of Cohabitation Stability - Childbearing within Cohabitation**

	<b>Marriage</b>				<b>Break-up</b>				<b>Break-up</b>			
	(Still together is reference)				(Still together is reference)				(Marriage is reference)			
	(Model 1, no selection)		(Model 2, selection)		(Model 1, no selection)		(Model 2, selection)		(Model 1, no selection)		(Model 2, selection)	
	b	OR	b	OR	b	OR	b	OR	b	OR	b	OR
<b>Duration of Cohabitation</b>												
(1-6 months ref)												
7-12 months	0.256 **	1.29	0.255 **	1.29	0.148 *	1.16	0.146 *	1.16	-0.108	0.90	-0.109	0.90
13-18 months	-0.023	0.98	-0.026	0.97	0.005	1.01	0.003	1.00	0.028	1.03	0.029	1.03
19-24 months	-0.011	0.99	-0.016	0.98	0.159	1.17	0.155	1.17	0.169	1.18	0.171	1.19
25-30 months	0.024	1.02	0.017	1.02	-0.160	0.85	-0.163	0.85	-0.184	0.83	-0.180	0.84
31-36 months	0.010	1.01	0.000	1.00	-0.332 *	0.72	-0.336 *	0.71	-0.342	0.71	-0.336	0.71
3rd-4th year	-0.004	1.00	-0.013	0.99	-0.165	0.85	-0.169	0.84	-0.162	0.85	-0.156	0.86
4th-5th year	0.113	1.12	0.104	1.11	-0.106	0.90	-0.109	0.90	-0.219	0.80	-0.213	0.81
5th-6th year	0.089	1.09	0.075	1.08	-0.060	0.94	-0.064	0.94	-0.150	0.86	-0.139	0.87
6th-7th year	0.227	1.25	0.208	1.23	-0.522 *	0.59	-0.525 *	0.59	-0.749 *	0.47	-0.734 *	0.48
<b>Gender (male = 1)</b>	-0.017	0.98	-0.026	0.97	0.378 ***	1.46	0.369 ***	1.45	0.395 ***	1.48	0.395 ***	1.48
<b>Race (black ref)</b>												
White	0.560 **	1.75	0.610 ***	1.84	0.359 **	1.43	0.387 **	1.47	-0.201	0.82	-0.223	0.80
Hispanic	0.412 ***	1.51	0.556 ***	1.74	-0.140	0.87	-0.094	0.91	-0.553 ***	0.58	-0.651 **	0.52
Other race	0.137	1.15	0.265	1.30	-0.129	0.88	-0.087	0.92	-0.266	0.77	-0.352	0.70
White X second year	0.413 **	1.51	0.413 **	1.51	-0.195 *	0.82	-0.195 *	0.82	-0.608 ***	0.54	-0.608 ***	0.54
White X third year	0.418 *	1.52	0.419 *	1.52	0.040	1.04	0.040	1.04	-0.378	0.69	-0.379	0.68
White X fourth year	0.009	1.01	0.006	1.01	-0.205	0.81	-0.206	0.81	-0.214	0.81	-0.212	0.81
White X fifth year plus	0.199	1.22	0.193	1.21	0.018	1.02	0.016	1.02	-0.181	0.83	-0.177	0.84
<b>Parental Education</b>												
(Less than High school ref)												
High school	0.000	1.00	-0.057	0.94	0.079	1.08	0.063	1.07	0.079	1.08	0.120	1.13
Some college	0.097	1.10	0.055	1.06	0.099	1.10	0.088	1.09	0.002	1.00	0.033	1.03
Bachelor's	-0.028	0.97	-0.092	0.91	0.246 ***	1.28	0.228 **	1.26	0.274 **	1.32	0.320 *	1.38
<b>Family Structure</b>												
(Bio-Married Parents, low distress ref)												
Bio-Married Parents, high distress	-0.065	0.94	-0.085	0.92	-0.001	1.00	-0.010	0.99	0.064	1.07	0.075	1.08
Step parents, low-distress	-0.089	0.91	-0.106	0.90	0.080	1.08	0.077	1.08	0.170	1.19	0.183	1.20
Step parents, high-distress	0.265	1.30	0.211	1.23	0.266	1.30	0.265	1.30	0.001	1.00	0.054	1.06
Single Parent	-0.195 *	0.82	-0.235 **	0.79	0.065	1.07	0.054	1.06	0.260 **	1.30	0.289 **	1.34
Other Family form	0.104	1.11	0.087	1.09	-0.082	0.92	-0.088	0.92	-0.186	0.83	-0.175	0.84
Male X Step parents, high-distress	-0.437	0.65	-0.430	0.65	-0.506 *	0.60	-0.510 *	0.60	-0.069	0.93	-0.080	0.92
<b>Low Family Belonging</b>	-0.144 *	0.87	-0.213 *	0.81	0.142 **	1.15	0.123	1.13	0.286 ***	1.33	0.337 **	1.40
<b>Parental Cohabitation</b>	-0.221 *	0.80	-0.334 *	0.72	-0.039	0.96	-0.068	0.93	0.183	1.20	0.266	1.30

<b>Number of Mother's Prior Relationships</b> (Three plus ref)													
One or fewer	-0.039	0.96	-0.017	0.98	-0.239 *	0.79	-0.235 *	0.79	-0.200	0.82	-0.218	0.80	
Two	-0.027	0.97	-0.006	0.99	-0.172	0.84	-0.169	0.84	-0.145	0.87	-0.163	0.85	
<b>Number of Sexual Partners before 18</b> (Three plus ref)													
None	0.297 ***	1.35	0.476 **	1.61	-0.152 **	0.86	-0.117	0.89	-0.449 ***	0.64	-0.593 **	0.55	
One or Two	0.162 *	1.18	0.246 **	1.28	-0.160 ***	0.85	-0.140	0.87	-0.322 ***	0.72	-0.385 ***	0.68	
<b>Educational Attainment</b> (Less than High School ref)													
High School	0.327 ***	1.39	0.398 ***	1.49	0.038	1.04	0.055	1.06	-0.289 *	0.75	-0.343 *	0.71	
Associate's/Vocational	0.640 ***	1.90	0.778 ***	2.18	-0.008	0.99	0.023	1.02	-0.648 ***	0.52	-0.755 ***	0.47	
Bachelor's	0.720 ***	2.05	0.897 ***	2.45	0.339 *	1.40	0.375 *	1.45	-0.380	0.68	-0.521	0.59	
Bachelor's X second year	0.158	1.17	0.149	1.16	-0.235	0.79	-0.236	0.79	-0.393	0.68	-0.385	0.68	
Bachelor's X third year	0.351	1.42	0.335	1.40	-0.057	0.94	-0.059	0.94	-0.408	0.66	-0.393	0.68	
Bachelor's X fourth year	0.739 **	2.09	0.705 **	2.02	0.009	1.01	0.004	1.00	-0.730	0.48	-0.701	0.50	
Bachelor's X fifth year plus	0.325	1.38	0.264	1.30	0.052	1.05	0.043	1.04	-0.273	0.76	-0.221	0.80	
White X Bachelor's	-0.057	0.94	-0.053	0.95	-0.301 *	0.74	-0.303 *	0.74	-0.244	0.78	-0.250	0.78	
<b>Age at Union</b> (in years)	0.038	1.04	0.044 *	1.04	0.021	1.02	0.022	1.02	-0.017	0.98	-0.022	0.98	
White X Age at Union	-0.012	0.99	-0.011	0.99	-0.055 **	0.95	-0.055 **	0.95	-0.043	0.96	-0.044	0.96	
<b>Childbearing Prior to Cohabitation</b> (No children ref)													
Children only with cohabiting partner	0.111	1.12	0.125	1.13	-0.252 *	0.78	-0.236	0.79	-0.363 *	0.70	-0.360 *	0.70	
Children with different partner	-0.037	0.96	-0.011	0.99	0.353 ***	1.42	0.361 ***	1.43	0.390 *	1.48	0.372 *	1.45	
Male X Children with different partner	0.217	1.24	0.231	1.26	-0.478 *	0.62	-0.474 *	0.62	-0.694 *	0.50	-0.706 *	0.49	
<b>Childbearing within Cohabitation</b>													
Had a child	0.519 ***	1.68	0.478 **	1.61	-0.076	0.93	-0.051	0.95	-0.596 **	0.55	-0.529 *	0.59	
Had a child X second year	-0.359	0.70	-0.338	0.71	0.152	1.16	0.138	1.15	0.512	1.67	0.476	1.61	
Had a child X third year	-0.654 **	0.52	-0.624 **	0.54	0.063	1.07	0.043	1.04	0.717 *	2.05	0.667 *	1.95	
Had a child X fourth year	-0.588 *	0.56	-0.551 *	0.58	0.214	1.24	0.193	1.21	0.802 *	2.23	0.744 *	2.10	
Had a child X fifth year plus	-0.591 *	0.55	-0.553 *	0.58	0.002	1.00	-0.020	0.98	0.593	1.81	0.534	1.71	
Male X Had a child	0.099	1.10	0.100	1.11	-0.423 ***	0.66	-0.420 **	0.66	-0.522 **	0.59	-0.520 **	0.59	
White X Had a child	0.015	1.02	0.002	1.00	-0.348 **	0.71	-0.346 **	0.71	-0.363	0.70	-0.348	0.71	
IMR (cohab vs single)			-0.020				0.000				0.020		
IMR (cohab vs marry)			-0.069				-0.019				0.050		
Constant	-5.504 ***	0.00	-6.290 ***	0.00	-4.011 ***	0.02	-4.181 ***	0.02	1.493 ***	4.45	2.109 *	8.24	

Note: results are weighted & based on multiply imputed data; \* p < 0.05 \*\* p < 0.01 \*\*\* p < 0.001

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Condensed *Curriculum Vitae*

EDUCATION

- Ph.D. 2014 Pennsylvania State University  
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- B.A. 2008 University of Massachusetts, Amherst  
Sociology & Political Science, Cum Laude

RESEARCH & TEACHING INTERESTS

Family, Adolescent Development & the Transition to Adulthood, Parent-Child Relationships, Family Formation, Gender, Mental Health

GRANTS & AWARDS

- 2011-2013 The Eunice Kennedy Shriver National Institute of Child Health and Human Development (NICHD) – Family Demography Training Predoctoral Fellow (Research, Travel, Tuition, Stipend)

PUBLICATIONS & MANUSCRIPTS IN PROGRESS

**Ledwell, M. & King, V.** (2013) Bullying and internalizing problems: Gender differences and the buffering role of parental communication, *Journal of Family Issues*

King, V., **Ledwell, M.**, Pearce-Morris, J. (2013) The influence of religion on ties between adult children and their parents, *Journal of Gerontology Series B: Psychological Sciences and Social Sciences*, 68(5):825-836

King, V., **Thorsen, M.L.**, & Amato, P.R. (2014) Factors associated with positive relationships between stepfathers and adolescents, *Social Science Research*, 47, 16-29

**Thorsen, M.L.** & Kim, B. (Forthcoming) Reflecting on the diverging destinies of American families: Policy approaches as we move forward, In A. Booth, P. Amato, & J. VanHook (Eds), *Diverging Destinies: Families in the Era of Increasing Inequality*

**Thorsen, M.L.** & King, V. “My mother’s husband: Factors associated with how adolescents label their stepfathers”

King, V., Boyd, L., & **Thorsen, M.L.** “Influences on adolescents’ perceptions of family belonging in stepfamilies”

SELECT CONFERENCE PRESENTATIONS

**Ledwell, M.** & King, V. (2012) “Gender differences in the impact of experiencing bullying: Who’s worse off?”, poster session, Population Association of America, San Francisco, CA

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King, V., **Ledwell, M.** & Amato, P.R. (2013) “Factors associated with positive relationships between stepfathers and adolescents”, paper presentation, American Sociological Association, New York, NY

**Thorsen, M.L.** & King, V. (2014) “My mother’s husband: Factors associated with how adolescents label their stepfathers”, paper presentation, Population Association of America, Boston, MA